

Exhibit A

Thomas M. Bryan Expert Report

Expert Demographic Report
of
Thomas M. Bryan

¶

*Michael Williams, José Ramírez-Garofalo, Aixa Torres, and
Melissa Carty v. Board of Elections of the State of New York, et
al.*

“Williams v. NYBOE”

December 8, 2025

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EXPERT QUALIFICATIONS

1. I am an expert in demography with 30 years of experience in demographic consulting and advanced analytic expertise in litigation support, state and local redistricting, and census data. I graduated with a Bachelor of Science in History from Portland State University in 1992 and obtained a Master's Degree in Urban Studies (MUS) from Portland State University in 1996. In 2002, I completed my second graduate degree in Management and Information Systems (MIS) from George Washington University and concurrently earned a Chief Information Officer certification from the General Services Administration. I recently served on the 2030 Census Advisory Committee.¹
2. My background and experience in demography, census data, and advanced analytics with statistics and population data began in 1996 with an analyst role for the Oregon State Data Center. I continued to accumulate my broad range of experience in 1998 when I began working as a statistician for the U.S. Census Bureau in the Population Division, developing population estimates and innovative demographic methods. In 2001, I joined the Environmental Systems Research Institute's (ESRI)² Business Information Solutions team, where I served as a professional demographer working with Geographic Information Systems (GIS) for population studies. Over the next 20 years, I continued developing extensive cross-industry experience serving in various advanced analytic and leadership roles as a demographer and data scientist for companies such as Altria and Microsoft.
3. In 2001, I founded my consultancy, BryanGeoDemographics (BGD), to meet the expanding demand for advanced analytic expertise in applied demographic research and analysis. My consultancy has broadened to include litigation support, state and local redistricting, school redistricting, and municipal infrastructure initiatives. Since 2001, I have undertaken over 160 such engagements in three broad areas:
 1. state and local redistricting,
 2. applied demographic studies, and
 3. school redistricting and municipal infrastructure analysis.
4. My expertise in redistricting began with McKibben Demographics, where I provided expert demographic and analytic support in over 120 separate school redistricting projects between 2004 and 2012. During this time, I informally consulted on redistricting projects with Dr. Peter

¹ <https://www.census.gov/newsroom/press-releases/2024/members-2030-census-advisory-committee.html>. My membership on this committee does not constitute an endorsement of BGD or this report by the Committee, the Census Bureau, the Department of Commerce, or the U.S. Government. The views expressed herein are my own and do not represent the views of the Committee, the Census Bureau, the Department of Commerce, or the U.S. Government.

² The global market leader in geographic information system (GIS) software, location intelligence, and mapping, see: <https://www.esri.com/en-us/about/about-esri/overview>

Morrison. In 2012, I formally began performing redistricting analytics, and I continue my collaboration with Dr. Morrison to this day. I have been involved in over 45 redistricting projects, serving in roles of increasing responsibility from population and statistical analyses to report writing, to directly advising and supervising redistricting initiatives. In many of these roles, I performed *Gingles* analyses, risk assessments, and Federal and State Voting Rights Act (VRA) analyses in state and local areas. In each of those cases, I personally built or supervised the building of one or more databases combining demographic data, local geographic data, and election data from sources including the 2000, the 2010, the 2020 Decennial Census, and numerous vintages of the American Community Survey.

5. In 1996, I began publicly presenting my work at professional conferences. I have presented on the Census, using Census data, measuring effective voting strength, developing demographic accounting models, measuring voting strength and voter registration, and turnout statistics. I have also led numerous presentations and tutorials on redistricting. My recent demographic and redistricting work includes:
 - Chairing the “Uses of Census Data and New Analytical Approaches for Redistricting” session at the 2023 Population Association of America meetings in Annapolis, MD.;
 - Chairing the “Population Projections” session at the 2024 Population Association of America meetings, February 2024 (remote conference);
 - Presenting “Uses of Demographic Data and Statistical Information Systems in Redistricting and Litigating Voting Rights Act Cases: Case studies of the CPS and CES, and the ACS and EAVS” at the 2024 Population Association of America Applied Demography Conference, February 2024 (remote conference).
 - Presenting “Use of Current Population Survey (CPS) and Cooperative Election Study (CES) in Analyzing Registered Voter Turnout” at the American Statistical Association Symposium on Data Science and Statistics (SDSS), Richmond, VA. June 2024
6. I have been published since 2004. My works include “Population Estimates” and “Internal and Short Distance Migration” in the definitive demographic reference “The Methods and Materials of Demography.” In 2015, I served alongside a team of advanced demographic experts in *Evenwel et al. v. Texas*. In *Evenwel*, I served in a leadership role in writing an Amicus Brief on the use of the American Community Survey (ACS) in measuring and assessing one person, one vote. In 2019, I co-authored “Redistricting: A Manual for Analysts, Practitioners, and Citizens,” which provides a comprehensive overview of U.S. Census data and demographic methods for redistricting applications.
7. I have significant expertise in the collection, management, analysis, and reporting of complex demographic, economic, voting, and electoral data, including the Decennial Census, the American Community Survey and associated Public Use Microdata (or “ACS PUMS” <https://www.census.gov/programs-surveys/acs/microdata.html>), the Current Population Survey Voting Supplement (or “CPS” [7 | Page Thomas M. Bryan](https://www.census.gov/topics/public-</div><div data-bbox=)

sector/voting.html), the Cooperative Election Study (or “CES” <https://cces.gov.harvard.edu/>), the Election Administration and Voting Survey (or “EAVS” <https://www.eac.gov/research-and-data/studies-and-reports>).

8. I have been previously retained to provide expert analytics of the Current Population Survey Voting Supplement and the Cooperative Election Study in the matter of *White et al. v. Mississippi State Board of Election Commissioners* (2022-2024) in support of Defendants’ demographic expert, Dr. David A. Swanson. These voter turnout analytics were used to rebut and correct erroneous analytics by the Plaintiffs’ expert - and were accepted by the court. I was also retained to use these election datasets to provide analytics of Arizona voter registration and turnout in *Swoboda v. Fontes* (2024) and analytics of North Carolina voter registration in *Green v. Bell* (2024).
9. In addition to my expert witness work in redistricting, I have a long history of developing expert applied demographic analyses, ranging from public health data analysis of mortality statistics related to opioid use and tobacco use, public housing discrimination, municipal infrastructure, and small-area population estimates and forecasts.
10. I have been deposed in the matter of *Harding v. County of Dallas* and have been deposed and/or testified in the matters of *Milligan v. Merrill*, *Thomas v. Merrill*, and *Singleton v. Merrill* over Alabama’s 2020 Congressional redistricting initiatives; *Robinson v. Ardoin* and *Galmon v. Ardoin* over Louisiana’s 2020 Congressional redistricting initiatives; *Christian Ministerial Alliance v. State of Arkansas* over their 2020 Congressional Redistricting Initiative, *Navajo Nation v. San Juan County Board of Commissioners* over San Juan County, New Mexico’s commissioner districts, *Petteway v. Galveston County, TX* over their county commissioner districts, and *Bautista v. Humble ISD* (2025) and *Jaso v. Angleton ISD* over their school district board of trustees.
11. I have provided bipartisan expert witness support of redistricting cases, including being retained by Democratic counsel as the demographic and redistricting expert for the State of Illinois in the matter of *McConchie v. State Board of Elections*.
12. I maintain affiliations with several professional demographic organizations, including:
 - American Statistical Association
 - Population Association of America
 - Southern Demographic Association
13. I, Thomas M. Bryan, affirm the conclusions I express in this report and that these opinions are provided to a reasonable degree of professional certainty. My compensation for my work on this case is not dependent on the substance of my opinions or the outcome of this case.

I. REPORT OVERVIEW

15. [Section II](#) provides the background 2020 redistricting in New York and an introduction to the *Williams v. NYBOE* case
16. [Section III](#) provides a summary of the report
17. [Section IV](#) provides major demographic concepts and the demographics of New York's congressional districts.
18. [Section V](#) provides an analysis of the compactness of each plan.
19. [Section VI](#) provides an analysis of New York City's Communities of Interest.
20. [Section VII](#) provides a Differential Core Retention Analysis (or "DCRA").
21. [Section VIII](#) provides political performance for the 2018, 2020, 2022, and 2024 elections.
22. [Section IX](#) provides conclusions
23. [Section X](#) provides references.
24. [Section XI](#) provides appendices.
25. [Section XII](#) provides my complete Vitae.
26. In forming my opinions, I have considered all materials cited in this report, as well as:
 1. Original Petition "Dkt.1 – Petition (35192942.1)" dated 10/27/25 and received from counsel on 11/18/2025.
 2. Plaintiffs' demographic expert witness report "Dkt. 62 - Aff Celli Ex. C (Expert Report of William S. Cooper)" dated 11/17/2025 and received from counsel on 11/18/2025.
 3. Report of the Special Master Jonathan Cervas from *Harkenrider v. Hochul* received from counsel on 11/18/2025
 4. New York City Board of Elections precinct shapefiles (<https://www.nyc.gov/content/planning/pages/resources/datasets/election-districts>)
 5. "The Dynamics of Racial/Hispanic Composition in NYC Neighborhoods" (<https://storymaps.arcgis.com/stories/46a91a58447d4024afd00771eec1dd23>)
 6. The 2024 U.S. Supreme Court decision in *Alexander v. South Carolina* (see https://www.supremecourt.gov/opinions/23pdf/22-807_3e04.pdf)
 7. *Schneider v. Rockefeller* opinion, 31 N.Y.2d420 (1972)
 8. *Bay Ridge Community Council, Inc. v. Carey*, 103 A.D.2d 280 (1984)
 9. *Clarke v Town of Newburgh*, 237 A.D.3d 14 (2025)
27. Morrison, P. and T. Bryan (2019). Redistricting: A Manual for Analysts, Practitioners, and Citizens. Springer. Cham, Switzerland
28. I reserve the right to further supplement my report and opinions.

II. N.Y. 2020 REDISTRICTING BACKGROUND and *WILLIAMS v. NYBOE*

INTRODUCTION

A. Redistricting Background

29. After the 2018 mid-term elections, the Democrats held a 21 to 6 edge in representation over the Republicans. The Democrats won the 11th, 19th, and 22nd in close races. Despite having a Black-Hispanic minority population of under 15%, a Black-Hispanic, Anthony Delgado, won the 19th with 51.4% of the vote. Two Democrats in other districts ran unopposed.

30. After the 2020 Census, New York lost one Congressional seat, going from 27 to 26 Congressional members. The Independent Redistricting Commission (I.R.C.), created in 2014 through a ballot initiative, was tasked to draw a new map. However, after the I.R.C. could not reach an agreement on the final map, the Democratic-controlled New York State Legislature adopted its own Congressional districts. In April 2022, the New York State Court of Appeals struck down the map as an unconstitutional partisan gerrymander, as it improperly superseded the authority of the I.R.C. in releasing a new map. An Independent Special Master, Jonathan Cervas, was then assigned by the court to draw a new map. In his report, Dr. Cervas wrote (Cervas Report of the Special Master, ¶1):

In *Harkenrider v. Hochul* (2022), the State of New York Supreme Court ruled that the congressional and state senate plan passed by the Legislature and signed by the Governor had bypassed the Redistricting Commission and thus were not enacted through a constitutionally valid process. For the congressional plan, the Court also held that the Respondents “engaged in prohibited gerrymandering when creating the districts” (2022.03.21 [243] *Harkenrider v. Hochul* DECISION and ORDER at 1). The findings that there were no constitutional maps for either New York’s Congressional delegation or for the New York State Senate triggered the new provision of the State Constitution that shifted the burden to state courts to specify a process for creating constitutional maps for each body. On April 18, 2022, I was asked by Judge and Acting Supreme Court Justice Patrick McAllister to serve as Special Master in preparing a remedial plan for the New York congressional delegation to be considered by the Court; after the State of New York Court of Appeals heard the case on appeal, my responsibilities were extended by Justice McAllister to include preparing a remedial plan for the state senate for the Court’s consideration on April 27, 2022.

31. Under these new districts, the Republican Party flipped three seats in the 2022 general election: the 3rd, the 17th, and the 19th, reducing the seat count of the Democrats to 15 and bringing their total to 11 seats. Two Hispanics, George Santos and Anthony D’Esposito, won the 3rd and 4th, respectively, running as Republicans. Nicole Malliotakis, a Cuban-American Hispanic, held her Republican seat in the 11th. The Democrats lost 4 races in which they received 48% of the vote or higher: the 4th, 17th, 19th, and 22nd.

32. In March 2023, New York Democrats challenged the 2022 map, claiming the Special Master had superseded the constitutional authority of the State Legislature and the I.R.C. in drawing the 2022 map. In July 2023, an intermediate appeals court ruled that the I.R.C. must draw a new map for the 2024 Congressional Elections. The New York State Republicans lost their challenge to the State Court of Appeals, and the 2022 map was to be redrawn by the I.R.C. or the State Legislature. On February 27, 2024, the State Legislature rejected the bipartisan I.R.C. map and drew a new map that favored the Democrats. On February 28, 2024, the state legislature passed the new map. As a result, the Democrats flipped four seats (one in a special election held on February 13, 2024, as a result of the resignation of Republican George Santos), bringing their total to 19 while the Republicans held just 7 seats. Democrats performed well in some low-minority districts, winning the 3rd, 12th, 19th, 20th, and 22nd. They also won 4 elections with under 55% of the vote: the 3rd, 4th, 19th, and 22nd. Two of the three Hispanic Republican incumbents, George Santos and Anthony D'Esposito, failed to retain their seats as Rep. Santos resigned and D'Esposito lost re-election. Republican Hispanic Nicole Malliotakis expanded her margin of victory for the third election in a row.

B. Williams v. NYBOE Introduction

33. Against this backdrop, even more litigation is now being brought under the N.Y. VRA over the only congressional district in or around New York City (NYC) that currently has an elected Republican representative: the 11th: [*Williams v. NYBOE*](#).

34. My assignment in this case was to assess the key features of the Plaintiffs' complaint in *Williams v. NYBOE*. To do so, I assess the demographic, geographic, and political performance characteristics of congressional districts in and around New York City (NYC) for:

- The plan *prior* to the 2020 census, which I refer to throughout as the pre-2020 Census, or “116th” plan,
- The first post-2020 Census plan (which I refer to throughout as the “2021 Plan” and “118th”),
- The second post-2020 Census plan (which I refer to throughout as the “2024 Plan” and “119th”), and
- The Plaintiffs' expert, William Cooper's proposed Congressional Districts 10 and 11

35. In their Petition, Plaintiffs state (10/27/25 Petition, ¶1):

Petitioners bring this action to challenge New York's congressional district map, SB S8653A, codified at New York State Law §§ 110-112 (McKinney 2024) (the “2024 Congressional Map”). Black and Latino Staten Islanders have less opportunity than other members of the electorate to elect a representative of their choice and influence elections in New York's 11th Congressional District (“CD-11”), in violation of the prohibition against racial vote dilution in Article III, Section 4(c)(1) of the New York Constitution.

36. As a legal framework for the case, Plaintiffs first cite the 2014 redistricting amendments N.Y. Const. Art. III, § 4(c)(1), which states (10/27/25 Petition, ¶1):
- expressly prohibit race discrimination and racial vote dilution in voting in state assembly, senate, and congressional elections. In particular, Article III, Section 4(c)(1) provides that: “districts shall not be drawn to have the purpose of, nor shall they result in, the denial or abridgement” of minority voting rights. N.Y. Const. Art. III, §4(c)(1). Further, “[d]istricts shall be drawn so that, based on the totality of the circumstances, racial or minority language groups do not have less opportunity to participate in the political process than other members of the electorate and to elect representatives of their choice.
37. Then, Plaintiffs pivoted to the John R. Lewis Voting Rights Act of New York, stating (10/27/25 Petition, ¶7):
- The language of the NY VRA mirrors the language of the constitutional prohibition against vote dilution in Article III, Section 4(c)(1): it provides that “[n]o voting qualification, prerequisite to voting, law, ordinance, standard, practice, procedure, regulation, or policy shall be enacted or implemented by any board of elections or political subdivision in a manner that results in a denial or abridgment of the right of members of a protected class to vote.
38. The N.Y. VRA is consistent with the N.Y. Constitution and the U.S. VRA in protecting against vote dilution. But it differs in other important regards, such as precluding the consideration of compactness and core retention in the development of a remedy. Unlike federal law, the N.Y. VRA allows any minority population of any size to claim dilution (the minority population does not need to be a majority). Further, different minority populations are not only *allowed* to be considered in combination to create influence or majority districts, but the N.Y. VRA *requires* these combinations to create coalitions (10/27/25 Petition, ¶46). See [Appendix B](#) for a detailed discussion comparing the U.S. VRA and N.Y. VRA.
39. Plaintiffs are quite right when they state (10/27/25 Petition, ¶48): “no court has yet ruled on what precisely constitutes impermissible vote dilution under that provision. This case thus presents an issue of first impression for New York courts.”
40. This report follows a model of investigation under the U.S. VRA and the aforementioned N.Y. Constitution, which reveals numerous differences from the N.Y. VRA. Through a rigorous investigation, the report documents the features, as well as the errors and consequences of the Illustrative Plan proposed by Plaintiffs’ expert William Cooper.

III. REPORT SUMMARY

A. Demographic Analysis

41. In this report, the area in and around New York City (NYC) is demographically assessed using total population and the citizen voting age population (CVAP). The total population is the metric used to balance the population, while CVAP is used to measure the universe of potential voting strength in each district. Within these metrics, I assess the White non-Hispanic (WNH), Any Part Black, non-Hispanic (APBNH), Asian non-Hispanic (ANH), and Hispanic (HISP)³ populations. Other populations, such as Native Hawaiian and Pacific Islander, American Indian, “other”, and multi-race (not including Black), are generally grouped in an “Other” (meaning all other) category or are not included.
42. Both of New York’s 2021 and 2024 redistricting plans rebalanced the total population from the pre-2020 Census plan to within one person (see [Table IV.E.1](#) and [Table IV.G.1](#)), in compliance with legal requirements. In both the 2021 and 2024 Plans, numerous enhancements were made beyond simply balancing the population.
43. Compared to the existing 2024 plan, Cooper’s Illustrative Plan *increases* the CVAP percentage of White, non-Hispanic (WNH) in D11 by +2.6PP⁴, from 59.7% to 62.3%. APBNH CVAP increases by +1.1PP from 7.3% to 8.4%. Hispanic CVAP increases by +0.9PP, from 15.3% to 16.3%. While Asian CVAP is reduced by -4.6PP, from 17.0% to 12.4%. That is, all of Cooper’s efforts to redraw a district benefitting APBNH and Hispanics result in significantly increased representation of WNH, a fractional increase for APBNH and Hispanics combined, and the slashing of the largest single minority CVAP in D11: Asians. See [Section IV: Demographic Analysis](#).

³ Throughout this report, “Hispanic” and “Latino” are used interchangeably. Demographically, “Hispanic” refers to people of Spanish-speaking origin or descent, while “Latino” refers to people from or descended from Latin America, encompassing a broader geographical area and including non-Spanish speakers such as Portuguese-speaking Brazilians. The Decennial Census form asks if persons are of “Hispanic, Latino, or Spanish origin” – and my analysis captures all of these reported populations by all definitions and characterizations.

⁴ PP represents “Percentage Points.”

B. Compactness

44. Compactness is a traditional redistricting criterion and is a requirement of the first Gingles precondition under the U.S. VRA, stating that a minority group must be able to demonstrate that it is sufficiently large and **geographically compact** to constitute a majority in a single-member district.⁵ [emphasis added] The New York Constitution closely parallels this guidance. N.Y. Const. Art. III, §4(c)(1)⁶ states, “**Each district shall be as compact in form as practicable.**”[emphasis added] And in N.Y. Const. Art. III, §5⁷ it states:

the body exercising the powers of a common council, shall assemble at such times as the legislature, making an apportionment, shall prescribe, and divide such counties into assembly districts as nearly equal in number of inhabitants, excluding aliens, as may be, of **convenient and contiguous territory in as compact form as practicable.** [emphasis added]

45. However, the N.Y VRA specifically instructs (Section 2(c)) “evidence concerning whether members of a protected class are geographically compact or concentrated shall not be considered.” Putting it in direct conflict with New York’s Constitution and the U.S. VRA.

46. What is compactness? The definition of “compact” has historically been elusive and difficult for courts. Little has been written about what compactness definitively “is” by a court until 2023, when, in the matter of *Alpha Phi Alpha v. Raffensperger* (Georgia, 2023), the court provided a clear and useful framework that included empirical compactness scores, added an “eyeball test,” and clarified that the U.S. VRA’s definition of compactness was really population compactness, not geographic compactness.⁸ While the case was not in New York, this opinion is valuable and relevant because it is the first comprehensive framework for compactness outlined by a court, and the illustrative districts drawn in that case (*APA*) were drawn by the same William Cooper as is the Plaintiffs’ expert in this case.

47. Analysis of Cooper’s D10 and D11 was conducted using empirical compactness scores. Cooper’s report contains numerous errors in the reporting of these statistics. When corrected, it is revealed that Cooper’s Illustrative Plan reduces the geographic compactness of the 10th and 11th *significantly*. Using a comparable illustrative district (D23) from the *APA* case, I conclude that Cooper’s Illustrative draw of D11 does not pass the “eyeball test”. The court described Cooper’s D23 as an “oddly shaped, sprawling district,” which is language that could easily be used to characterize Cooper’s Illustrative D11.

⁵ <https://supreme.justia.com/cases/federal/us/478/30/#F16>

⁶ Readjustments and reapportionments; when federal census to control

⁷ Apportionment of assembly members; creation of assembly districts

⁸ *Alpha Phi Alpha Fraternity, Inc., et al v. Secretary, State of Georgia*, 11th Cir., November 28, 2023

48. Further, Cooper's D11 does not exhibit population compactness. The populations Cooper connects in Manhattan are five miles away and are connected to Staten Island by Ferry – while the population under the existing 2024 plan is just one mile away and connected directly by the Verrazano Bridge. Therefore, Cooper's choice to join Staten Island with Lower Manhattan significantly dilutes geographic compactness (compared to the 2024 Plan) by multiple empirical measures. It does not pass the "eyeball test" and significantly reduces population compactness.
49. Further, Cooper's conclusion that his draw of D11 is compact because the two separate pieces of it (Staten Island and Lower Manhattan) are compact is a novel approach that I believe lacks precedent. If held under the N.Y. VRA, which directs map drawers to ignore compactness, this argument could easily be carried to the point of absurdity. Compact places with high minority populations hundreds of miles away (separated by water) could be considered fair game to be paired to create a district. See [Section V: Compactness](#).

C. Communities of Interest

50. A comprehensive dissertation on New York City's numerous and vast communities of interest is beyond the scope of this report.⁹ Communities of interest are assessed in three ways. First, voting precincts, or Voting Tabulation Districts splits.¹⁰ Second, neighborhood splits, as measured by NTAs. Third, by examining the impact of Cooper's proposed changes on the Asian, specifically the Chinese population.
51. Cooper assesses the political geography splits of his Illustrative Plan and the 2024 Plan by using antiquated VTDs from 2020. He concludes that the 2024 Plan splits four VTDs (see [Figure VI.A.1](#)) and that his Illustrative Plan splits 20 (see [Figure VI.A.2](#)). This is misleading, because VTDs are not the current political boundaries in NYC. Using *current* voting precinct

⁹ I note the *How Communities of Interest Are Evolving in New York City Today* document, produced by members of the CUNY Research Consortium on Communities of Interest, provided as an Appendix in Cooper's expert report.

¹⁰ Precincts commonly refer to the administrative electoral geography of a county and are typically contiguous areas within which all electors go to a single polling place to cast their ballots. VTDs are similar to precincts and are often identical. But there are two important distinctions. First, the term covers other commonly used electoral geography. The Census Bureau characterizes a VTD as "a generic term adopted by the Bureau of the Census to include the wide variety of small polling areas, such as election districts, precincts, or wards, that State and local governments create for the purpose of administering elections." VTDs can also differ from actual election precincts because precincts do not always follow census geography. Since these electoral geographies serve the purpose of bounding a group of eligible voters for the purpose of casting their ballots, they are typically small, with no more than 5,000 people.¹⁰ Both precincts and VTDs can and do change over time, along with changes in the population in an area and the availability of places that can effectively serve as a polling place. Finally, Census VTDs for some areas are an amalgamation of two or more electoral geographies. Conceptually, precincts are the geography that votes are collected in, and VTDs (tabulation districts) are geographies that voting data can be reported in that are consistent with Census geography and population data.

boundaries, I find that the 2021 and 2024 plans split no precincts, while Cooper's Illustrative Plan splits 12. Either way, the 2024 Plan complies with the traditional redistricting criteria by maintaining political geography, while Cooper's Illustrative Plan does not (see [Section VI.A](#)).

52. New York City is a vast tapestry of neighborhoods and local communities, each with a rich history, unique characteristics, and distinctive populations. Neighborhoods are measured here using Neighborhood Tabulation Areas, or "NTAs."¹¹ because they are a stable and reliable geography for statistical reporting and enable comparison with statistics that Cooper produces. Analysis shows that both the 2024 Plan and Cooper's Illustrative Plan have two NTA splits between D10 and D11 (see [Section VI.B](#)). There are numerous other neighborhood splits on the outer border of D10 and D11 with other districts, but these are not being considered because those districts are not litigated here.
53. As for racial and ethnic communities of interest, I focused on the population Cooper discusses in his report: Asians, and specifically the Chinese. Cooper's characterization of his Illustrative Plan being somehow unifying is significantly misleading. In Lower Manhattan, Cooper's draw may maintain the formal boundaries of Chinatown in D10 – but his draw structurally separates large numbers of contiguous Chinese population (see [Figure VI.C.2](#)) and unites parts of Lower Manhattan's Chinatown with discontinuous Sunset Park (which is majority Hispanic) and Bensonhurst (also known as Brooklyn's Little Italy and is majority White). These Asian neighborhoods in Brooklyn are not only separated by the East River, but also by neighborhoods such as Brooklyn Heights, Carroll Gardens, and Park Slope, with minimal Asian population, and Downtown Brooklyn, with a moderate Asian population. See [Section VI Communities of Interest](#).

D. Differential Core Retention

54. Differential Core Retention Analysis (DCRA) analyzes the size of population moves that were made, in total and by race and ethnicity, to rebalance population between a prior and new plan. While the total number of people moved as an outcome of balancing these principles is relevant, *who* was moved is also important. [Table VII.A.1](#) shows the core retention rates between the pre-2020 Census (116th) Plan and the 2024 Plan (119th) for the total population, white, non-Hispanic, Any Part Black, Asian, and Hispanic. District 10 (with 803,803 population) was overpopulated by nearly 27,000 people – making that draw an exercise in *decreasing* its footprint.

¹¹ New York City Planning reports that Neighborhood Tabulation Areas (or "NTAs") are "2020 and 2010 Neighborhood Tabulation Areas (NTAs) are medium-sized statistical geographies for reporting Decennial Census and American Community Survey (ACS)."

55. The 2024 Plan moved significant numbers of people from D10 – and this impact was relatively equally distributed by race and ethnicity. Since D11 needed to increase its population – its core retention was very high – approximately 90% and again well distributed between different population groups (see [Section VII.A](#)). As a result, Asians in D10 and D11 have nearly equal population (169K in D10 and 160K in D11), which makes them the largest single minority group in each district (see [Table IV.G.1](#)).
56. By comparison, Cooper’s Illustrative Plan moves large numbers of the population, and there are significant differences by race and ethnicity. The Asian population (the largest minority in D10 and D11) is moved far more than other racial and ethnic groups in Cooper’s Illustrative Plan ([Table VII.B.1](#)). In D11, 31.5% of CVAP were moved overall, but this is an average between 12.9% of APBNH being moved, compared to 57.1% of Asians.
57. As a result, the Asian population is significantly *increased* to 224K in D10, and significantly *decreased* to 105K in D11 (see [Table IV.I.2](#)). Cooper’s combination of Blacks and Hispanics to create a district that somehow benefits them comes at the cost of subordinating the strength of the Asian population in D11. In this regard, the significant dilution of the largest single minority population’s representational rights in Cooper’s Illustrative D11 would likely be a violation under the N.Y. VRA. See [Section VII Differential Core Retention](#).

E. Political Performance

58. The subjects of political performance and partisan benefit have been the subject of rich discussion and litigation in New York. While the New York Constitution expressly forbids partisan redistricting, stating N.Y. Const. Art. III, §4(c)(5)

Districts shall not be drawn to discourage competition or for the purpose of favoring or disfavoring incumbents or other particular candidates or political parties. The commission shall consider the maintenance of cores of existing districts, of pre-existing political subdivisions, including counties, cities, and towns, and of communities of interest.

59. Yet the post-2020 redistricting process has been partisan to an extreme. On Feb 26, 2024, the New York Times reported¹²

Democrats seized control over drawing New York’s congressional districts on Monday, rejecting a map proposed by the state’s bipartisan redistricting commission in favor of drafting new lines that could make key swing seats more Democratic.

On a day of high drama inside the State Capitol in Albany, party leaders argued that the Senate and Assembly had no choice but to reject [the commission map](#) in lopsided votes because it improperly split counties, broke up naturally occurring communities and favored incumbents.

¹² <https://www.nytimes.com/2024/02/26/nyregion/redistricting-maps-ny-congress.html>

But in private conversations, they made little effort to hide their true objective. With the battle for control of the House likely to run through New York this fall, Democrats here and in Washington are determined to use their supermajority in the State Legislature to tilt the playing field against Republicans from Long Island to Syracuse.

60. This followed a series of electoral events, where Democrats won every district in and around NYC in 2018, but lost one of these districts in each subsequent election: the 11th, being litigated here. Not only has a Republican won D11 in each successive election, but their Representative, Nicole Malliotakis, has done so by increasing margins:
61. In the 2020 election, Republican candidate Nicole Malliotakis (see [Figure VIII.B.3](#)) won with 53.1% of the votes, or a +6.5PP increase over Republican candidate Dan Donovan in 2018.
62. The new configuration of D11 under the 2021 Plan had 22.7% combined APBNH and Hispanic CVAP. In this election, candidate Nicole Malliotakis won 62.1% of the vote (see [Figure VIII.C.3](#)) – an increase of +9.0PP over 2020.

The new 2024 configuration of D11 also had 22.7% combined APBNH and Hispanic CVAP (see [Figure IV.H.1](#)). But in this election, candidate Nicole Malliotakis won 64.1% of the vote (see [Figure VIII.D.3](#)) – an increase of +11.0PP over 2020.

63. Cooper's Illustrative Plan significantly increases WNH CVAP representation in D11, fractionally increases APBNH and Hispanics, and significantly lowers Asian representation compared to the 2024 plan. Since the majority of the Cooper's population change is WNH, and the political characteristics of the precincts he moved skew heavily for Democrats in D11 - it is difficult to arrive at any other conclusion than Cooper's draw benefits Democrats because of an increase in White, non-Hispanic Democrats – and not because of the fractional changes to the two smaller minority populations in and around the district. See [Section VIII Political Performance](#).
64. The current landscape of the New York Congressional Delegation is diverse and heavily Democratic. In 26 districts, there are five Black / African American representatives – each representing a Black majority Democratic district. Two of these (Adriano Espailla and Ritchie Torres) are Black *and* Hispanic. There is one Asian representative, and three Hispanic alone representatives (all but one Democratic). One of these, Republican Nicole Malliotakis, represents the D11 being litigated here.
65. There are 11 White, non-Hispanic Representatives of Democratic districts, all of whom were elected to some degree from APBNH + Hispanic influence districts.
66. There are six remaining districts (1, 2, 17, 21, 23, and 24) that are represented by White Republicans and have a WNH majority. Four of these (1, 2, and 17) have enough APBNH + Hispanic minority representation to plausibly qualify as “influence”. Meaning that under the N.Y. VRA, only two U.S. House Republican districts (21, 23, and 24) have a sufficiently small

minority population (<10%) to have any chance of not being interrogated. And since under the N.Y. VRA, there is no lower limit on the size of the minority population that can claim relief, even these districts are exposed (see [Appendix A](#)).

67. I note for the record that I was both retained and provided Plaintiffs' petitions and expert reports on Monday, November 18, 2025, and was given a deadline of Monday, December 8, 2025. This represents three weeks exactly, including the Thanksgiving holiday. The content of this type of report typically takes several months to develop, not considering the incredible complexity of New York geography, demography, communities of interest, the New York political landscape, and the evolution of the N.Y. Voting Rights Act. Every effort was made to ensure the accuracy of the data and reliability of the conclusions herein under this extraordinary deadline, but I reserve the right to address and remediate errors identified between this delivery date of December 8, 2025, and the expected testimony dates of January 6 and 7, 2026.

IV. DEMOGRAPHIC ANALYSIS

68. In this section, I introduce the demographic measures of total population, voting age population (VAP), and citizen voting age population (CVAP). The use of each of these measures is important because they offer a different view of the populations and assess different parts of the Plaintiffs' complaint. Total population is used for determining apportionment and representation. VAP is used to assess the population who could be eligible to vote, and CVAP is used to measure who is currently eligible to vote. Using these metrics, I measure New York's U.S. House districts under the different plans and assess the differences between them.

A. Decennial Census

69. The Decennial Census counts people in the United States on a De Jure basis¹³ (Wilmoth, 2004: 65) and the U.S. Census Bureau attempts to count everybody once, only once, and in the right place (Cork and Voss, 2006). It is mandated by the U.S. Constitution to occur every 10 years, in years ending in zero, to provide the numbers needed to reapportion the House of Representatives, which also results in a reapportionment of the Electoral College. The decennial census numbers are also used by state governments to redraw legislative districts, and the federal government uses the numbers in various funding formulas to distribute some \$2.8 trillion in funding for highways, hospitals, schools, and many other purposes.¹⁴

70. In order for states to redraw legislative and other districts, the U.S. Census Bureau issues the PL 94-171 redistricting data file.¹⁵ Because the decennial census itself does not ask a "citizenship" question or questions about voting activities, other sources of data produced by the U.S. Census Bureau are often used in redistricting activities to include the American Community Survey (ACS) and the Current Population Survey (Morrison and Bryan, 2019).

B. ACS Citizen Voting Age Population

71. The American Community Survey (ACS) is the national source of record for CVAP data. The ACS is a set of "rolling" annual sample surveys conducted by the U.S. Census Bureau (Morrison and Bryan, 2019; U.S. Census Bureau, 2020a). It is distinct and different from the decennial census and the Current Population Survey, which are also conducted by the U.S. Census Bureau. While the American Community Survey CVAP data are not commonly used to draw districts as part of decennial redistricting, they are used in redistricting litigation to determine voting strength – particularly among minority populations.

¹³ all of its usual residents, regardless of whether they are present or legal.

¹⁴ <https://www.census.gov/newsroom/press-releases/2023/decennial-census-federal-funds-distribution.html#:~:text=The%20Census%20Bureau%20does%20not,census%2C%20ACS%20and%20other%20surveys>

¹⁵ <https://www.census.gov/programs-surveys/decennial-census/about/rdo/summary-files.html>

72. The U.S. DOJ provides guidance to use CVAP to quantify voting strength for the purposes of Section 2 cases.¹⁶ That guidance states: “Section 2 prohibits both voting practices that result in *citizens* being denied equal access to the political process on account of race, color, or membership in a language minority group, and voting practices adopted or maintained for the purpose of discriminating on those bases.”¹⁷ That is – the DOJ states explicitly that Section 2 assesses the concern of the *eligible* voting age population (that is: eligible citizens), not just the voting age population. To that end, the DOJ requests a “special tabulation” of the U.S. Census Bureau’s American Community Survey(ACS), which includes a question on citizenship (the decennial census does not).¹⁸ For the purpose of evaluating districting plans’ compliance under Section 2 of the Voting Rights Act, the DOJ provides specific guidance on how to measure minority populations:¹⁹

The Department of Justice will follow both aggregation methods defined in Part II of the Bulletin. The Department’s initial review will be based upon allocating any response that includes White and one of the five other race categories identified in the response. Thus, the total numbers for “Black/African American,” “Asian,” “American Indian/Alaska Native,” “Native Hawaiian or Other Pacific Islander,” and “Some other race” reflect the total of the single-race responses and the multiple responses in which an individual selected a minority race and White race.

The Department will then move to the second step in its application of the census data by reviewing the other multiple-race category, which is comprised of all multiple-race responses consisting of more than one minority race. Where there are significant numbers of such responses, the Department will, as required by both the OMB guidance and judicial opinions, allocate these responses on an iterative basis to each of the component single-race categories for analysis. *Georgia v. Ashcroft*, 539 U.S. 461, 473, n.1 (2003)

73. In response to this guidance, the U.S. Census Bureau reports CVAP statistics for race and ethnicity alone (non-Hispanic) and select non-Hispanic races in combination (non-Hispanic), as seen in [Figure IV.B.1](#):

¹⁶ Refining a CVAP estimate to a VEP by removing felons, those judged mentally incapacitated or incarcerated (who are all included in the DOJ CVAP estimates) is a difficult exercise not commonly undertaken and is not required by the DOJ.

¹⁷ <https://www.justice.gov/opa/press-release/file/1429486/download>

¹⁸ <https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.2021.html#list-tab-1518558936>

¹⁹ [https://www.justice.gov/opa/press-release/file/1429486/dl#:~:text=§%2010303\(f\),\(of%20discriminating%20on%20those%20bases.](https://www.justice.gov/opa/press-release/file/1429486/dl#:~:text=§%2010303(f),(of%20discriminating%20on%20those%20bases.)

Figure IV.B.1 American Community Survey DOJ VRA Race and Ethnicity Reporting Classifications

1	Total CVAP
2	Not Hispanic or Latino (NH)
3	American Indian or Alaska Native Alone (NH)
4	Asian Alone (NH)
5	Black or African American Alone (NH)
6	Native Hawaiian or Other Pacific Islander Alone (NH)
7	White Alone (NH)
8	American Indian or Alaska Native and White (NH)
9	Asian and White (NH)
10	Black or African American and White (NH)
11	American Indian or Alaska Native and Black or African American (NH)
12	Remainder of Two or More Race Responses (NH)
13	Hispanic or Latino

Source: https://www2.census.gov/programs-surveys/decennial/rdo/technical-documentation/special-tabulation/CVAP_2016-2020_ACS_documentation_v3.pdf.

74. The DOJ directs that two levels of minority population be produced. In order to create the first-level required DOJ estimate of the Black or African American population alone or in combination with white, the following groups are aggregated:

- Group 5 Black or African American Alone; and
- Group 10 Black or African American alone and White (NH – or “Not Hispanic”).

75. In recent cases, this first level has proven just to be a demographic exercise. Plaintiffs in cases such as these are commonly going straight to the second-level “any part” definition (see *Robinson v. Ardoin* in Louisiana, for example). In order to create the second-level “any part” estimate of the Black or African American population, the following groups are aggregated:

- Group 5 Black or African American alone,
- Group 10 Black or African American alone and White (NH); and
- Group 11 American Indian or Alaska Native and Black or African American (NH).

The addition of Group 11 (adding American Indian or Alaska Natives) frequently adds little to no population to the first-level estimate of Black alone or in combination with white. Since these groups do not capture all of the possible Black or African American multi-race combinations, and do not include Black Hispanics, this aggregation can be thought of as a lower bound of the actual any-part Black or African American CVAP. The Census Bureau does not provide a true “Any Part Black” CVAP estimate.

76. Again, we have two sources of population data: (1) the decennial census from 2020 provides the total and Voting Age Population, or “VAP” and separately (2) the most recent ACS provides Citizen Voting Age Population, or “CVAP”.²⁰ Here, I will analyze and compare the total population and Citizen Voting Age Population (CVAP) for:

- The plan *prior* to the 2020 census, which I refer to throughout as the pre-2020 Census, or “116th” plan,
- The first post-2020 Census plan (which I refer to throughout as the “2021 Plan” and “118th”),
- The second post-2020 Census plan (which I refer to throughout as the “2024 Plan” and “119th”), and
- The Plaintiffs’ expert, William Cooper’s proposed Congressional Districts 10 and 11

C. Pre-2020 Census Plan Total Population

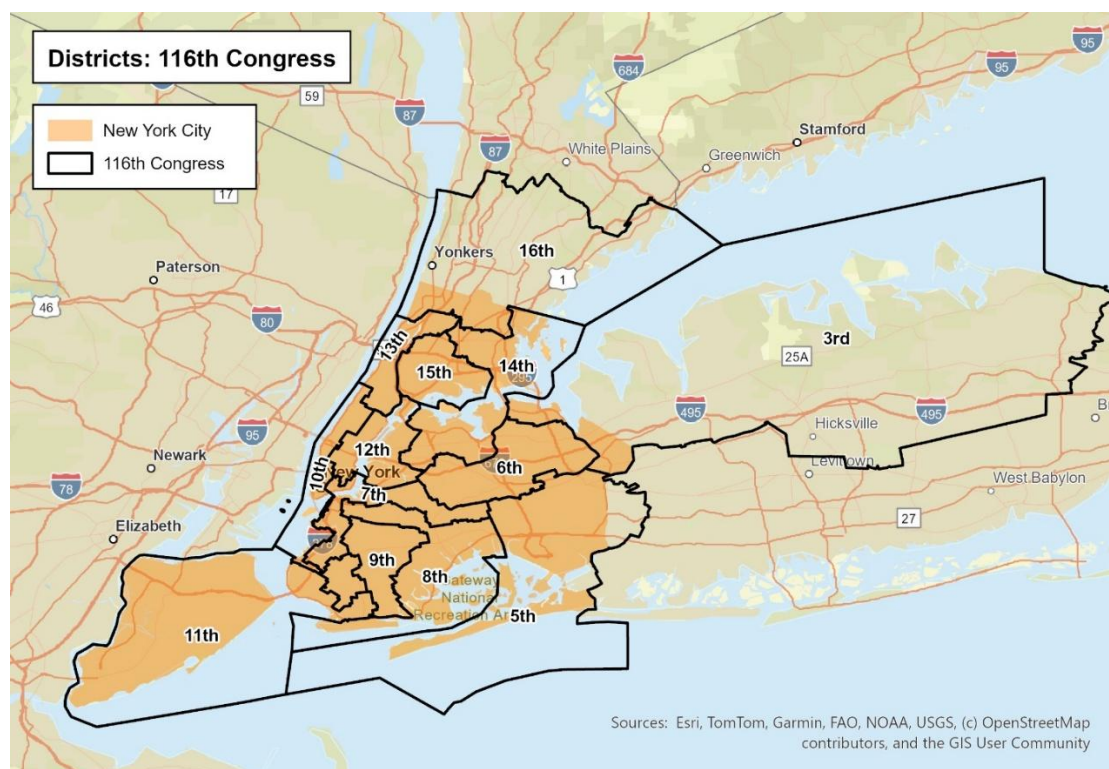
77. The prior (pre-2020 Census) plan for NYC is shown in [Figure IV.C.1](#). By 2020, the total population in each house district deviated significantly from an equal distribution, as measured by the 2020 Census. [Table IV.C.1](#) shows the 2020 total population and by race and ethnicity for the pre-2020 Plan (or that of the 116th Congress). With the demographic changes in population in New York since 2010, it was in need of significant moves of district boundaries to rebalance the population.²¹

78. The 2020 target population per district was 776,971. Under the prior plan, District 10 (with 803,803 population) was overpopulated by nearly 27,000 people – making that draw an exercise in *decreasing* its footprint. While District 11 (with 766,236 population) was underpopulated by over 10,000 people – making that draw an exercise in *increasing* its footprint.

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²⁰ For the purposes of this exercise, I procured the ACS 2019-2023 DOJ CVAP Special Tabulation, which is published at the Census Block Group level of geography. I then disaggregated these data with an iterative proportional fitting (IPF) algorithm using PL94-171 block-level data by race and ethnicity as “marginals.” See Morrison and Bryan, 2019 Section 3.6.1 for more information on iterative proportional fitting.

²¹ Note, this table does not include other races such as American Indian and Alaska Natives, Native Hawaiian and Pacific Islander, and “other”.

Figure IV.C.1: Pre-2020 Census Plan: 13 Districts in and Around NYC

Source: U.S. Census TIGER shapefile for 116th Congress

Table IV.C.1: Pre-2020 Census Plan Total Population: : 13 Districts in and Around NYC

<u>116th</u>	<u>Total</u>	<u>WNH</u>	<u>APBNH</u>	<u>ANH</u>	<u>HISP</u>	<u>APBNH + HISP</u>
3	739,197	456,745	25,452	143,371	94,411	119,863
5	778,780	77,603	371,157	115,152	152,479	523,636
6	769,247	228,178	33,132	334,874	151,703	184,835
7	762,833	237,068	65,755	146,708	287,100	352,855
8	804,400	195,145	379,726	60,080	146,876	526,602
9	755,842	236,338	344,470	60,633	89,503	433,973
10	803,803	463,818	38,103	161,969	104,973	143,076
11	766,236	421,112	60,010	129,745	136,847	196,857
12	811,688	499,146	46,301	123,239	110,046	156,347
13	736,348	107,171	187,744	37,261	388,290	576,034
14	750,025	156,499	68,085	142,055	363,991	432,076
15	767,335	19,507	222,154	19,019	494,246	716,400
16	770,401	251,664	239,811	40,989	216,245	456,056
Total	10,016,135	3,349,994	2,081,900	1,515,095	2,736,710	4,818,610

Sources: 2020 U.S. Census, PL94-171, BGD calculations

79. In the 13 congressional districts covering NYC, the White, non-Hispanic (WNH) population makes up 33.4% of the total population, and the Any Part Black, non-Hispanic (APBNH) makes up 20.8% of the total population. The Asian alone, non-Hispanic, make up 15.1% of the total population. And Hispanics make up 27.3% of the total population. Combined, the APBNH and Hispanic population make up 48.1% of the population (see [Table IV.C.2](#)).
80. In District 10, there were 57.7% White, non-Hispanic (WNH), 4.7% Any Part Black, non-Hispanic (APBNH), and 13.1% Hispanic, for a combined total of 17.8%. In addition, there were 20.2% Asian (non-Hispanic, alone).
81. In District 11, there were 55.0% White, non-Hispanic (WNH), 7.8% Any Part Black, non-Hispanic (APBNH), and 17.9% Hispanic, for a combined total of 25.7%. In addition, there were 16.9% Asian (non-Hispanic, alone).

Table IV.C.2: Pre-2020 Plan Total Pop. Percentages: 13 Districts in and Around NYC

116th	WNH	APBNH	ANH	HISP	APBNH + HISP	>25% BNH + HISP	>50% BNH + HISP
3	61.8%	3.4%	19.4%	12.8%	16.2%	0	0
5	10.0%	47.7%	14.8%	19.6%	67.2%	1	1
6	29.7%	4.3%	43.5%	19.7%	24.0%	0	0
7	31.1%	8.6%	19.2%	37.6%	46.3%	1	0
8	24.3%	47.2%	7.5%	18.3%	65.5%	1	1
9	31.3%	45.6%	8.0%	11.8%	57.4%	1	1
10	57.7%	4.7%	20.2%	13.1%	17.8%	0	0
11	55.0%	7.8%	16.9%	17.9%	25.7%	1	0
12	61.5%	5.7%	15.2%	13.6%	19.3%	0	0
13	14.6%	25.5%	5.1%	52.7%	78.2%	1	1
14	20.9%	9.1%	18.9%	48.5%	57.6%	1	1
15	2.5%	29.0%	2.5%	64.4%	93.4%	1	1
16	32.7%	31.1%	5.3%	28.1%	59.2%	1	1
Total	33.4%	20.8%	15.1%	27.3%	48.1%		

Sources: 2020 U.S. Census, PL94-171, BGD calculations

D. Pre-2020 Census Plan CVAP

82. In the 13 congressional districts covering NYC, the White, non-Hispanic (WNH) population makes up 39.9% of the total population. This represents a higher share compared to the total population because of higher rates of citizenship among White, non-Hispanics than other population groups. The APBNH makes up 22.8% of CVAP. The Asian alone, non-Hispanic, make up 13.0% of the total population. And Hispanics make up 23.4% of CVAP. Combined, the APBNH population and Hispanic population make up 46.2% of the population (see [Table IV.D.1](#)). Numeric counts of CVAP by district for the pre-2020 Census are provided in [Appendix C.1](#).

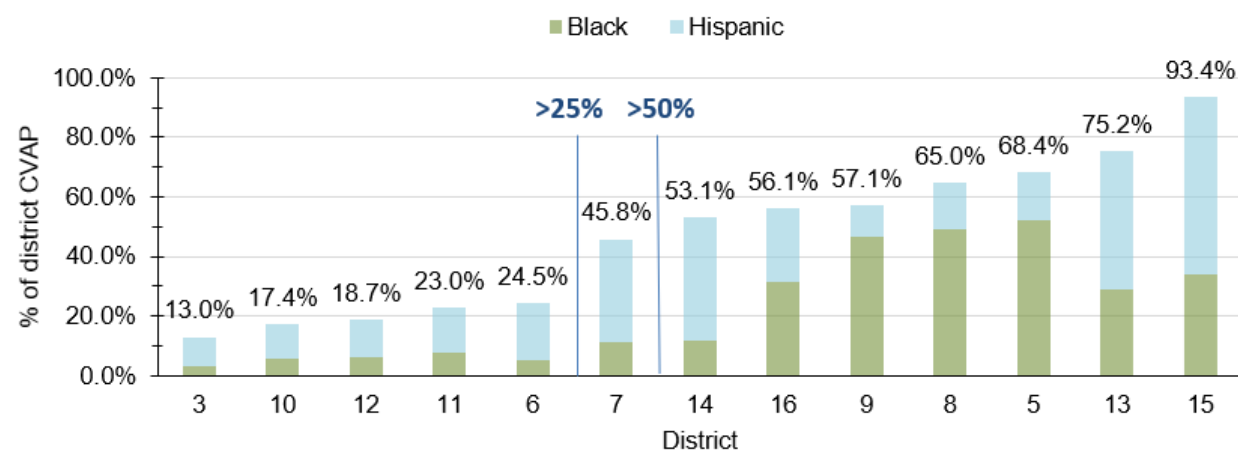
Table IV.D.1: Pre-2020 Plan CVAP Percentages: 13 Districts in and Around NYC

116th	WNH	APBNH	ANH	HISP	APBNH + HISP	>25% BNH + HISP	>50% BNH + HISP
3	70.4%	3.3%	15.8%	9.7%	13.0%	0	0
5	13.2%	52.0%	16.5%	16.4%	68.4%	1	1
6	39.4%	5.4%	35.0%	19.1%	24.5%	0	0
7	37.3%	11.2%	16.0%	34.7%	45.8%	1	0
8	27.4%	49.1%	6.7%	15.9%	65.0%	1	1
9	34.7%	46.6%	7.4%	10.5%	57.1%	1	1
10	65.2%	5.6%	16.6%	11.9%	17.4%	0	0
11	62.1%	7.7%	14.4%	15.3%	23.0%	0	0
12	67.7%	6.2%	12.5%	12.5%	18.7%	0	0
13	18.6%	29.2%	5.4%	46.1%	75.2%	1	1
14	29.0%	11.8%	17.1%	41.2%	53.1%	1	1
15	3.7%	34.1%	2.0%	59.3%	93.4%	1	1
16	37.9%	31.4%	5.3%	24.7%	56.1%	1	1
Total	39.9%	22.8%	13.0%	23.4%	46.2%		

Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD calculations

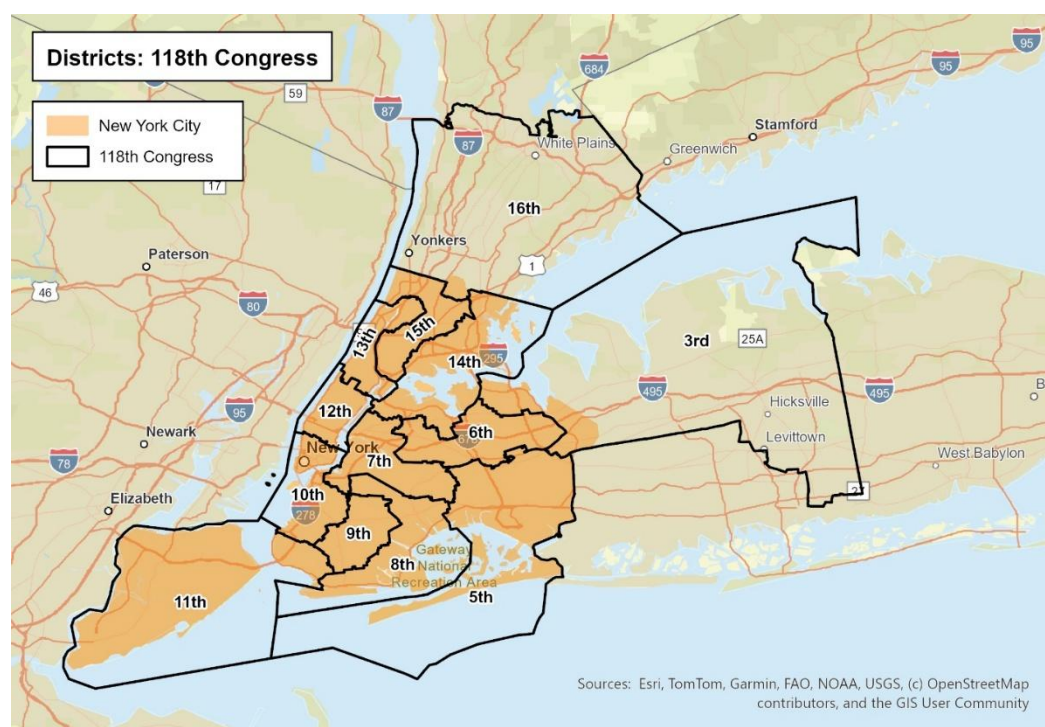
83. In District 10, there were 65.2% White, non-Hispanic (WNH), 5.6% APBNH, and 11.9% Hispanic, for a combined total of 17.4%. In addition, there were 16.6% Asian (non-Hispanic, alone) (see [Table IV.D.1](#)).
84. In District 11, there were 62.1% WNH, 7.7% APBNH, and 15.3% Hispanic, for a combined total of 23.0%. In addition, there were 14.4% Asian (non-Hispanic, alone) (see [Table IV.D.1](#)).
85. Out of the 13 districts, eight had more than 25% combined APBNH and Hispanic, and seven had more than 50% combined APBNH and Hispanic (see [Table IV.D.1](#) and [Figure IV.D.1](#)). In this environment, *every one* of the 13 districts elected a Democratic representative in 2018 (see [Figure VIII.A.1](#)).
86. It is instructive to examine the minority CVAP characteristics of the 13 congressional districts in and around NYC, and how they changed through each of the two rounds of post-2020 Census redistricting. Prior to the 2020 Census (during the 116th Congress), the percent combined APBNH and Hispanic ranged from 13.0% in District 3 to 93.4% in District 15 – or a range of 80.4PP.²² If not for the fact that the congressional districts in and around NYC vote almost uniformly Democratic, these statistics bear the hallmarks of “packing” and “cracking” minority vote-eligible populations.

²² PP: “Percentage Points”

Figure IV.D.1: Pre-2020 Plan CVAP Percentages: 13 Districts in and Around NYC

Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD tabulations

E. 2021 Plan Total Population

Figure IV.E.1: 2021 Plan: 13 Districts in and Around NYC

Source: U.S. Census TIGER shapefile for 118th Congress

87. The brief history of redistricting in New York is that after the 2020 Census, the State of New York lost one Congressional seat, going from 27 to 26 Congressional members. The Independent Redistricting Commission (I.R.C.), created in 2014 through a ballot initiative, was tasked to draw a new map. However, after the I.R.C. could not reach an agreement on the final map. An Independent Special Master was then assigned by the court to draw a new map, resulting in the “2021 Plan”, shown in [Figure IV.E.1](#).
88. In the 2021 Plan, the total population in each of the 13 districts in and around New York was balanced to within one person of the population target of 776,971. [Table IV.E.1](#) shows the 2020 total population by race and ethnicity, illustrating that the population by race and ethnicity still differed significantly by district – although less so than pre-2020 Census.

Table IV.E.1: 2021 Plan Total Population: 13 Districts in and Around NYC

118th	Total	WNH	APBNH	ANH	HISP	APBNH + HISP
3	776,971	432,998	31,489	181,776	108,842	140,331
5	776,971	99,311	339,806	115,728	159,791	499,597
6	776,971	188,182	32,441	352,461	183,275	215,716
7	776,971	281,488	89,136	102,318	274,246	363,382
8	776,972	214,213	347,228	65,998	130,271	477,499
9	776,972	252,005	338,272	70,920	88,290	426,562
10	776,971	377,605	51,624	167,500	148,997	200,621
11	776,971	399,675	57,363	160,301	142,031	199,394
12	776,971	506,527	43,487	109,511	87,200	130,687
13	776,971	119,776	194,410	39,265	406,407	600,817
14	776,972	137,512	131,571	89,031	398,657	530,228
15	776,971	72,152	241,880	24,983	424,926	666,806
16	776,971	307,809	169,600	51,734	224,212	393,812
Total	10,100,626	3,389,253	2,068,307	1,531,526	2,777,145	4,845,452

Sources: 2020 U.S. Census, PL94-171, BGD calculations

89. In District 10, the 57.7% WNH decreased by -9.1PP, from 57.7% to 48.6% (compared to the pre-2020 Census Plan). The Any Part Black, non-Hispanic (APBNH) increased by +1.9PP, from 4.7% to 6.6%. Hispanics increased by +6.1PP, from 13.1% to 19.2%. The combined APBNH and Hispanic reflected an increase of +8.0PP, from 17.8% to 25.8%. In addition, the 20.2% Asian (non-Hispanic, alone) increased by +1.4PP, from 20.2% to 21.6%.²³ (See [Table IV.E.2](#)).
90. In District 11, the WNH decreased to -3.5PP, from 55.0% to 51.4%. The APBNH decreased by -0.4PP, from 7.8% to 7.4%, while Hispanics increased by +0.4PP, from 17.9% to 18.3%. APBNH and Hispanics combined for a total of 25.7% - identical to the 11th prior to

²³ Some numbers may not foot due to rounding

redistricting. In addition, Asian (non-Hispanic, alone) increased by +3.7PP. from 16.9% to 20.6% (see [Table IV.E.2](#)).

Table IV.E.2: 2021 Plan Total Population Percentages: 13 Districts in and Around NYC

118th	WNH	APBNH	ANH	HISP	APBNH + HISP	>25% BNH + HISP	>50% BNH + HISP
3	55.7%	4.1%	23.4%	14.0%	18.1%	0	0
5	12.8%	43.7%	14.9%	20.6%	64.3%	1	1
6	24.2%	4.2%	45.4%	23.6%	27.8%	1	0
7	36.2%	11.5%	13.2%	35.3%	46.8%	1	0
8	27.6%	44.7%	8.5%	16.8%	61.5%	1	1
9	32.4%	43.5%	9.1%	11.4%	54.9%	1	1
10	48.6%	6.6%	21.6%	19.2%	25.8%	1	0
11	51.4%	7.4%	20.6%	18.3%	25.7%	1	0
12	65.2%	5.6%	14.1%	11.2%	16.8%	0	0
13	15.4%	25.0%	5.1%	52.3%	77.3%	1	1
14	17.7%	16.9%	11.5%	51.3%	68.2%	1	1
15	9.3%	31.1%	3.2%	54.7%	85.8%	1	1
16	39.6%	21.8%	6.7%	28.9%	50.7%	1	1
Total	33.6%	20.5%	15.2%	27.5%	48.0%		

Sources: 2020 U.S. Census, PL94-171, BGD calculations

F. 2021 Plan CVAP

91. As with the total population, the distribution of CVAP changed significantly during the first round of post-2020 redistricting in 2021. Numeric counts of CVAP by district for the 2021 Plan are provided in [Appendix C.2](#).
92. In District 10, WNH decreased by -8.5PP, from 65.2% to 56.7% (compared to the pre-2020 Census plan). The APBNH was increased by +2.3PP, from 5.6% to 7.8%. Hispanics increased by +5.2PP from 11.9% to 17.1%. The combined APBNH and Hispanics reflected a total increase of +7.5PP, from 17.4% to 24.9%. In addition, Asians (non-Hispanic, alone) increased by +1.0PP from 16.6% to 17.5%.²⁴ (see [Table IV.F.1](#))
93. In District 11, WNH decreased by -2.3PP, from 62.1% to 59.7%. The APBNH decreased by -0.4PP, from 7.7% to 7.3%, while Hispanics remained flat at 15.3%. The combined APBNH and Hispanic reflected a decrease of -0.3PP, from 23.0% to 22.7%. In addition, Asian (non-Hispanic, alone) increased by +2.6PP, from 14.4% to 17.0% (see [Table IV.F.1](#)).
94. It is instructive to examine the minority CVAP characteristics of the 13 congressional districts in and around NYC, and how they changed through each of the two rounds of post-2020 Census redistricting. Under the 2021 plan, the percent combined APBNH and Hispanic ranged

²⁴ Some numbers may not foot due to rounding

from 15.2% in District 3 to 84.5% in District 15 – or a range of 69.3PP. Large, but a significant reduction from the 80.4PP range prior to 2020 redistricting.

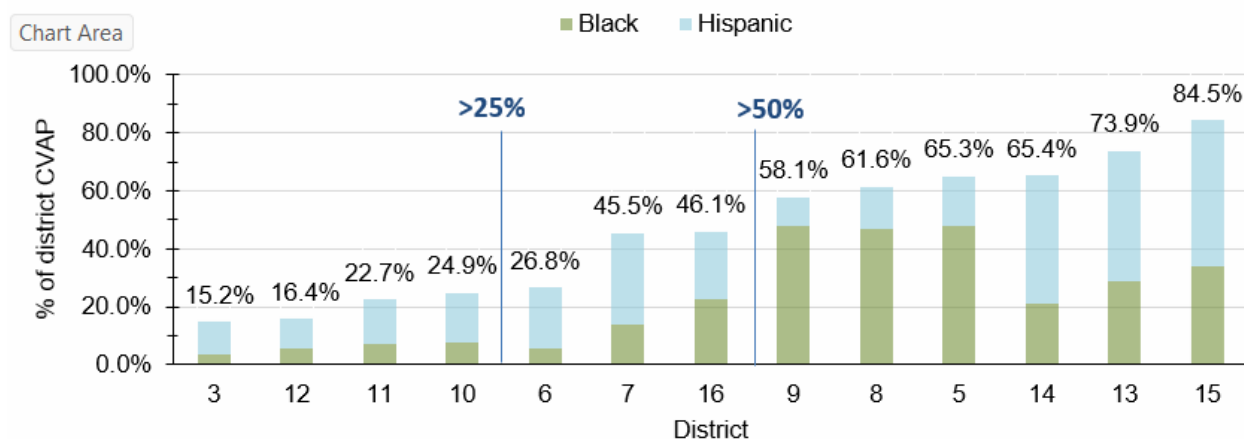
95. Out of the 13 districts in and around NYC, nine had more than 25% combined APBNH and Hispanic, while D11 (with 24.9%) very nearly made ten. Six districts had more than 50% combined APBNH and Hispanic (a decrease of one district compared to the pre-2020 Plan) (see [Figure IV.F.1](#)). In this environment, *all but two* of the 13 districts elected a Democratic representative in the 2022 election (see [Figure VIII.C.1](#))

Table IV.F.1: 2021 Plan CVAP Percentages: 13 Districts in and Around NYC

118th	WNH	APBNH	ANH	HISP	APBNH + HISP	>25% BNH + HISP	>50% BNH + HISP
3	64.1%	3.8%	19.8%	11.5%	15.2%	0	0
5	16.7%	48.0%	16.2%	17.3%	65.3%	1	1
6	34.7%	5.7%	37.4%	21.2%	26.8%	1	0
7	41.3%	13.9%	12.1%	31.6%	45.5%	1	0
8	30.2%	47.0%	7.5%	14.6%	61.6%	1	1
9	33.6%	48.0%	7.5%	10.1%	58.1%	1	1
10	56.7%	7.8%	17.5%	17.1%	24.9%	0	0
11	59.7%	7.3%	17.0%	15.3%	22.7%	0	0
12	71.8%	5.7%	11.0%	10.7%	16.4%	0	0
13	19.9%	28.8%	5.3%	45.1%	73.9%	1	1
14	23.1%	20.9%	10.6%	44.5%	65.4%	1	1
15	11.6%	34.2%	3.0%	50.3%	84.5%	1	1
16	47.1%	22.7%	6.1%	23.4%	46.1%	1	0
Total	40.1%	22.5%	13.0%	23.5%	46.0%		

Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD calculations

Figure IV.F.1: 2021 Plan CVAP Percentages: 13 Districts in and Around NYC

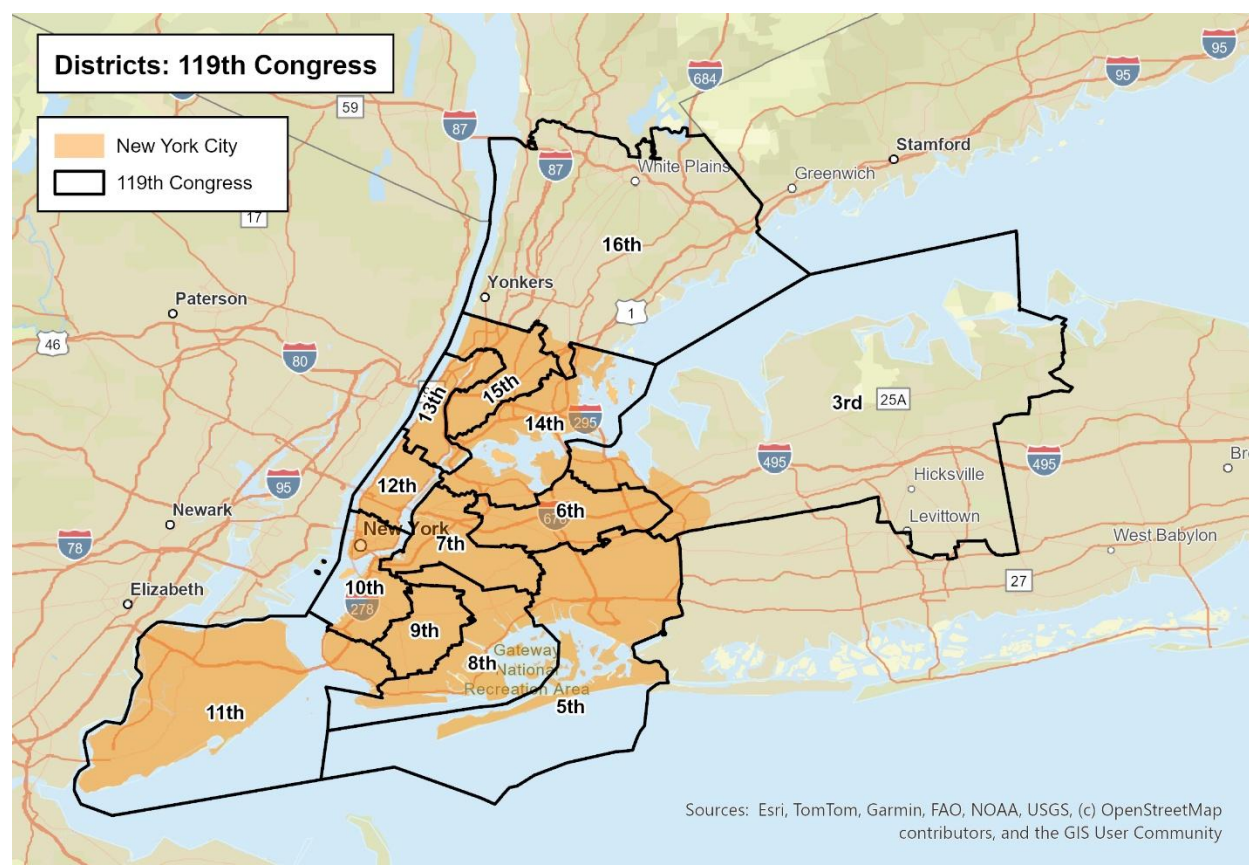


Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD tabulations

G. 2024 Plan Total Population

96. In March 2023, New York Democrats challenged the 2022 map, claiming the Special Master had superseded the constitutional authority of the State Legislature and the I.R.C. in drawing the 2022 map. In July 2023, an intermediate appeals court ruled that the I.R.C. must draw a new map for the 2024 Congressional Elections. The New York State Republicans lost their challenge to the State Court of Appeals, and the 2022 map was to be redrawn by the I.R.C. or the State Legislature. On February 27, 2024, the State Legislature rejected the bipartisan I.R.C. map and drew a new map that favored the Democrats. On February 28, 2024, the state legislature passed the new map. The 2024 Plan for NYC is shown in [Figure IV.G.1](#).

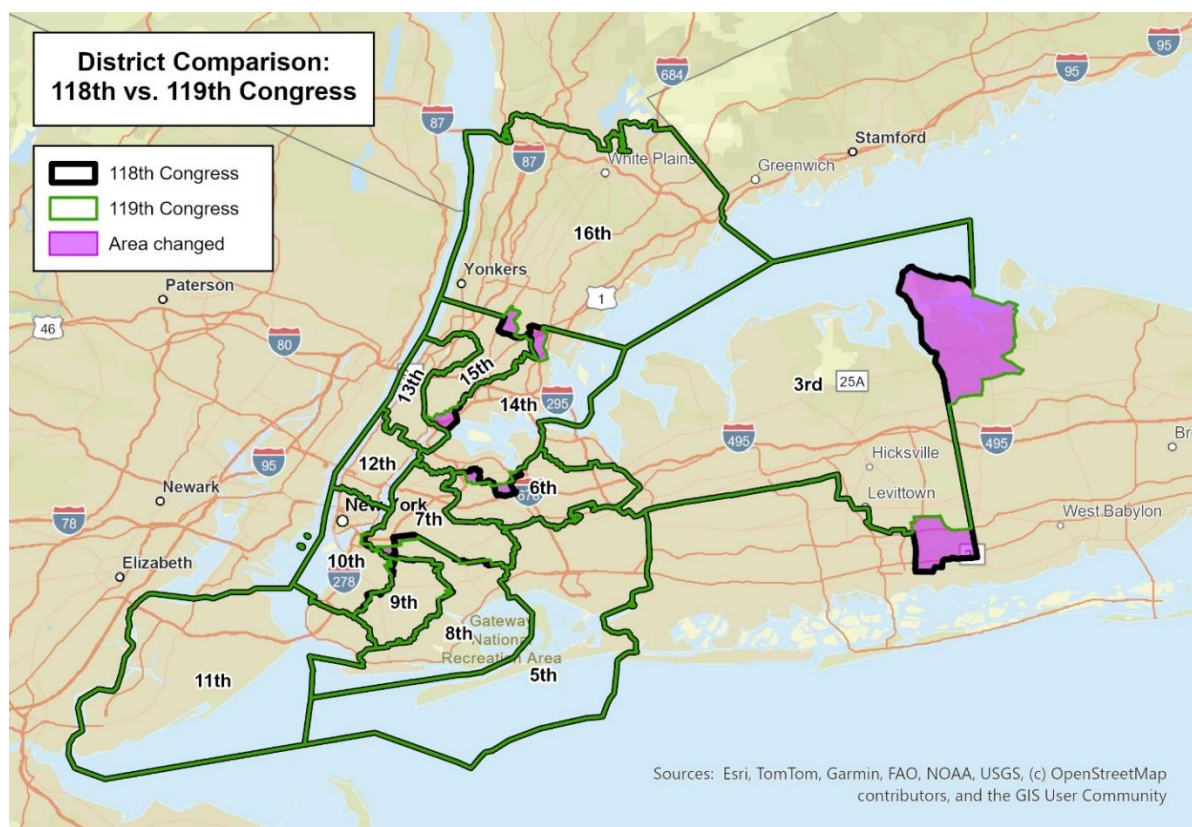
Figure IV.G.1: 2024 Plan



Source: U.S. Census TIGER shapefile for 119th Congress

97. The changes between the 2021 and 2024 Plan for NYC are shown in [Figure IV.G.2](#).

98. [Table IV.G.1](#) shows the 2020 total population and by race and ethnicity for the 2024 Plan.

Figure IV.G.2: 2021 vs 2024 Plans: 13 Districts in and Around NYC

Source: U.S. Census TIGER shapefile for 118th and 119th Congress

Table IV.G.1: 2024 Plan Total Population: 13 Districts in and Around NYC

119th	Total	WNH	APBNH	ANH	HISP	APBNH + HISP
3	776,971	423,148	33,153	182,215	116,410	149,563
5	776,971	99,311	339,806	115,728	159,791	499,597
6	776,972	181,840	34,407	347,637	193,052	227,459
7	776,972	283,418	85,446	99,265	279,031	364,477
8	776,971	212,838	350,554	68,740	125,497	476,051
9	776,971	250,805	340,028	70,152	88,516	428,544
10	776,972	378,250	50,232	168,579	148,760	198,992
11	776,971	399,675	57,363	160,301	142,031	199,394
12	776,971	506,527	43,487	109,511	87,200	130,687
13	776,971	119,776	194,410	39,265	406,407	600,817
14	776,970	142,925	112,697	93,720	406,921	519,618
15	776,971	72,234	257,042	25,974	407,458	664,500
16	776,972	308,656	171,346	50,878	223,639	394,985
Total	10,100,626	3,379,403	2,069,971	1,531,965	2,784,713	4,854,684

Sources: 2020 U.S. Census, PL94-171, BGD calculations

99. In District 10, WNH decreased by -9.0PP, from 57.7% to 48.7% (compared to the pre-2020 Census Plan). Any Part Black, non-Hispanic (APBNH) was increased by +1.7PP, from 4.7% to 6.5%. Hispanics increased by +6.1PP, from 13.1% to 19.1%. The combined total of APBNH and Hispanic reflected a combined total increase of +7.8PP, from 17.8% to 25.6%. In addition, the Asian (non-Hispanic, alone) was increased by +1.5PP, from 20.2% to 21.7%.²⁵ (see [Table IV.G.2](#))

100. In District 11, WNH was decreased to -3.5PP, from 55.0% to 51.4%. The APBNH decreased by -0.4PP, from 7.8% to 7.4%. Hispanics increased by +0.4PP, from 17.9% to 18.3%. The combined APBNH and Hispanic total of 25.7% is again identical to the 11th prior to redistricting. The Asian (non-Hispanic, alone) increased by +3.7PP, from 16.9% to 20.6% (see [Table IV.G.2](#)). These differences from 2024 for the D11 are invariant from the 2021 differences.

Table IV.G.2: 2024 Plan Total Population Percentages: 13 Districts in and Around NYC

119th	WNH	APBNH	ANH	HISP	APBNH + HISP	>25% BNH + HISP	>50% BNH + HISP
3	54.5%	4.3%	23.5%	15.0%	19.2%	0	0
5	12.8%	43.7%	14.9%	20.6%	64.3%	1	1
6	23.4%	4.4%	44.7%	24.8%	29.3%	1	0
7	36.5%	11.0%	12.8%	35.9%	46.9%	1	0
8	27.4%	45.1%	8.8%	16.2%	61.3%	1	1
9	32.3%	43.8%	9.0%	11.4%	55.2%	1	1
10	48.7%	6.5%	21.7%	19.1%	25.6%	1	0
11	51.4%	7.4%	20.6%	18.3%	25.7%	1	0
12	65.2%	5.6%	14.1%	11.2%	16.8%	0	0
13	15.4%	25.0%	5.1%	52.3%	77.3%	1	1
14	18.4%	14.5%	12.1%	52.4%	66.9%	1	1
15	9.3%	33.1%	3.3%	52.4%	85.5%	1	1
16	39.7%	22.1%	6.5%	28.8%	50.8%	1	1
Total	33.5%	20.5%	15.2%	27.6%	48.1%		

Sources: 2020 U.S. Census, PL94-171, BGD calculations

²⁵ Some numbers may not foot due to rounding

H. 2024 Plan CVAP

101. As with the total population, the distribution of CVAP changed only slightly during the second round of post-2020 redistricting. Numeric counts of CVAP by district for the 2024 Plan are provided in [Appendix C.3](#).
102. In District 10, WNH was decreased by -8.5PP, from 65.2% to 56.7% (compared to the pre-2020 Census plan). APBNH increased by +2.3PP, from 5.6% to 7.8%. Hispanics increased by +5.2PP, from 11.9% to 17.1%. The combined total of APBNH and Hispanic reflected an increase of +7.5PP, from 17.4% to 24.9%. In addition, Asian (non-Hispanic, alone) increased by +1.1PP, from 16.6% to 17.7%.²⁶ (see [Table IV.H.1](#))
103. In District 11, WNH decreased by -2.3PP, from 62.1% to 59.7%. The APBNH decreased by -0.4PP, from 7.7% to 7.3%, while Hispanics remained flat at 15.3%. The combined APBNH and Hispanic reflected a decrease of -0.3PP, from 23.0% to 22.7%. In addition, Asian (non-Hispanic, alone) increased by +2.6PP, from 14.4% to 17.0% (see [Table IV.H.1](#)). These differences from 2024 for the D11 are invariant from the 2021 differences.
104. Under the 2024 plan, the percent combined APBNH and Hispanic CVAP ranged from 15.9% in District 3 to 84.2% in District 15 – or a range of 68.4PP. Large, but a further reduction from the 69.2PP range under the 2021 Plan.
105. Out of the 13 districts, nine had more than 25% combined APBNH and Hispanic (an increase of one compared to the 116th pre-2020 Plan), while District 11 (with 24.7%) very nearly made ten districts with more than 25% combined. Six had more than 50% combined APBNH and Hispanic (a decrease of one compared to the 116th pre-2020 Plan). In this environment, *all but one* of the 13 districts elected a Democratic representative in the 2024 election.

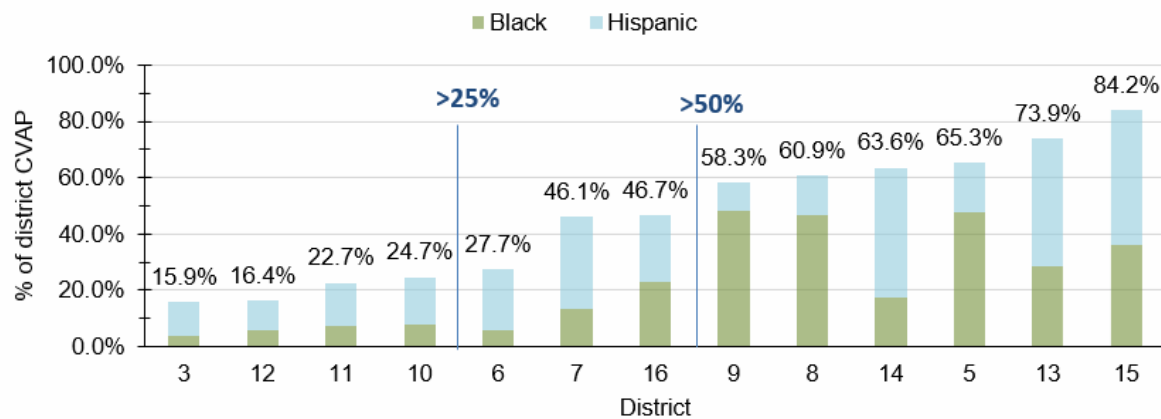
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²⁶ Some numbers may not foot due to rounding

Table IV.H.1: 2024 Plan CVAP Percentages

<u>119th</u>	<u>WNH</u>	<u>APBNH</u>	<u>ANH</u>	<u>HISP</u>	<u>APBNH + HISP</u>	<u>>25% BNH + HISP</u>	<u>>50% BNH + HISP</u>
3	63.2%	4.1%	20.1%	11.8%	15.9%	0	0
5	16.7%	48.0%	16.2%	17.3%	65.3%	1	1
6	33.9%	6.1%	37.4%	21.6%	27.7%	1	0
7	41.1%	13.6%	11.9%	32.5%	46.1%	1	0
8	30.7%	47.0%	7.7%	13.9%	60.9%	1	1
9	33.5%	48.2%	7.4%	10.1%	58.3%	1	1
10	56.7%	7.6%	17.7%	17.1%	24.7%	0	0
11	59.7%	7.3%	17.0%	15.3%	22.7%	0	0
12	71.8%	5.7%	11.0%	10.7%	16.4%	0	0
13	19.9%	28.8%	5.3%	45.1%	73.9%	1	1
14	24.2%	17.7%	11.1%	45.9%	63.6%	1	1
15	11.7%	36.3%	3.3%	47.9%	84.2%	1	1
16	46.6%	22.9%	5.9%	23.8%	46.7%	1	0
Total	40.0%	22.5%	13.0%	23.5%	46.1%		

Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD calculations

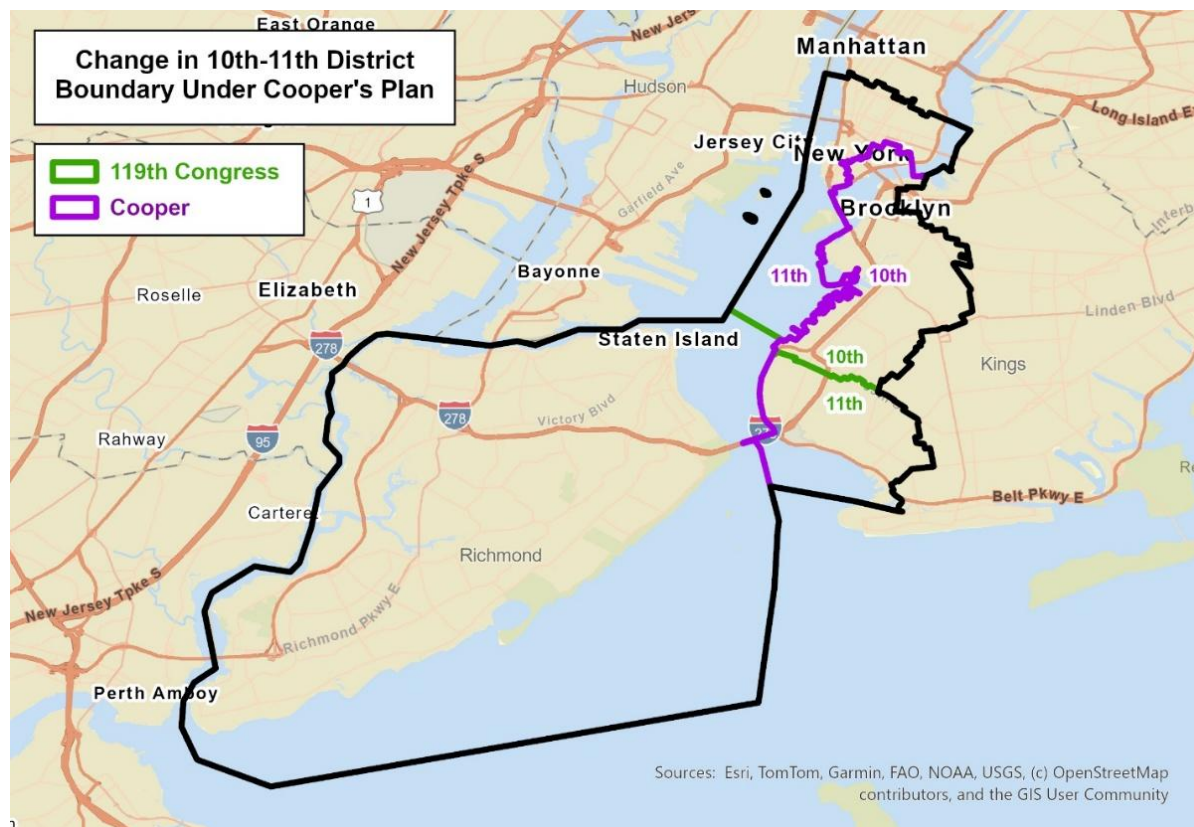
Figure IV.H.1: 2024 Plan CVAP Percentages

Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD tabulations

Total Population of Cooper Illustrative Plan

106. Cooper's plan is a radical departure from the 2024 Plan (see [Figure IV.I.1](#)). D11 is changed from a nearly perfectly compact district to an elongated and contorted one.

Figure IV.I.1: Cooper Alternative Plan and 2024 Plan



Source: U.S. Census TIGER shapefile for 119th Congress

107. Cooper does not share his population totals in his report, only the percent distribution of race for the total population by borough, and part of his Illustrative plan (see [Table IV.I.1](#)). In examining his percentages, I find that his calculation of percentages in Lower Manhattan CD10 is impossible. His NH AP Black + Latino (27.09%) plus NH SR Asian (49.57%) plus NH White (56.447%) is 133.1%. While the remaining pieces of his plan are mathematically possible (because they sum to values less than 100%), each piece of CD10 and CD11 must sum to a correct whole for each congressional district. If one piece is wrong, so must the others. Cooper does not provide the actual population values to determine if and where the other errors lie. This error follows through the rest of his analysis and undermines an accurate characterization of his plan. This type of error does not meet the minimum best practices and standards of demographers and statisticians, and leads to questions about the reliability of his analysis and report.

Table IV.I.1: Cooper Illustrative Plan Figure 10 Population Percentages by Borough

3-Borough Focus Area	NH AP Black	Latino	NH AP Black + Latino	NH SR Asian	NH White
Staten Island: CD 11	10.45%	19.56%	30.01%	11.85%	56.07%
Lower Manhattan: CD 11	6.19%	16.03%	22.21%	16.4%	57.08%
Lower Manhattan: CD 10	8.91%	18.28%	27.09%	49.57%	56.447%
Brooklyn: CD 10 (Part)	4.94%	19.15%	24.08%	26.97%	43.695

Source: Cooper Report, P.19

108. The total correct population for Cooper's Illustrative Plan, by race and ethnicity, is shown in [Table IV.I.2](#). The total populations of 776,971 and 776,972 are balanced.

Table IV.I.2: Cooper Illustrative Plan Total Population

<u>Cooper</u>	<u>Total</u>	<u>WNH</u>	<u>APBNH</u>	<u>ANH</u>	<u>HISP</u>	<u>APBNH + HISP</u>
10	776,971	339,426	38,368	224,005	148,763	187,131
11	776,972	438,499	69,227	104,875	142,028	211,255
Total	1,553,943	777,925	107,595	328,880	290,791	398,386

Source: 2020 Census PL94171

109. The percentage by race and ethnicity of the total population is shown in [Table IV.I.3](#). Comparing the percentages with those of the 2024 Plan for D10, Cooper significantly *reduces* the percentage of White, non-Hispanic (WNH) by -5.0PP, from 48.7% to 43.7%. APBNH decreases by -1.5PP, from 6.5% to 4.9%. Hispanics remain flat at 19.1%. While Asians are increased by +7.1PP, from 21.7% to 28.8%.

110. Comparing the percentages with those of the 2024 Plan for D11, Cooper significantly *increases* the percentage of White, non-Hispanic (WNH) by +5.0PP, from 51.4% to 56.4%. APBNH increases by +1.5PP, from 7.4% to 8.9%. Hispanics remain flat at 18.3%. While Asians are reduced by -7.1PP, from 20.6% to 13.5%.

111. That is – all of Cooper’s efforts result in significantly *increased* representation of WNH, a fractional increase for APBNH, no increase for Hispanics, and the slashing of the largest single minority population in D11: Asians. In this regard, the largest single minority population’s representational rights in Cooper’s Illustrative D11 (Asians) would likely be violated under the N.Y. VRA.

Table IV.I.3: Cooper Illustrative Plan Total Population Percentages

<u>Cooper</u>	<u>WNH</u>	<u>APBNH</u>	<u>ANH</u>	<u>HISP</u>	<u>APBNH + HISP</u>
10th	43.7%	4.9%	28.8%	19.1%	24.1%
11th	56.4%	8.9%	13.5%	18.3%	27.2%
Total	50.1%	6.9%	21.2%	18.7%	25.6%

Sources: 2020 Census PL94171

I. CVAP of Cooper Illustrative Plan

112. Cooper also does not provide CVAP populations in his report, only percentages (see [Table IV.J.1](#)). In examining the statistics in his Figure 9 – the sum of his percentages for District 11 is 100.7%, which again is not possible. And this is without considering “other” populations not included outside of his demographic groupings. This is deeply concerning because these are *the* statistics the court is being asked to rely on to determine the influence of minorities in Cooper’s Illustrative Plan. As with his total population statistics, Cooper’s CVAP statistics are also likely in error. According to the professional standards of demographers and statisticians, these repetitive errors are again unacceptable and lead to questions about the reliability of his analysis and report.

Table IV.J.1: Cooper Plan CVAP Percentages: Cooper Figure 9

District	NH AP Black CVAP	Latino CVAP	NH AP Black+ Latino CVAP	NH SR Asian CVAP	NH White CVAP
11	8.42%	16.30%	24.71%	13.7%	62.31%
10	6.39%	16.11%	22.50%	22.40%	53.30%

Source: Cooper Report, P.18

113. The corrected CVAP percentages for Cooper's Illustrative Plan are shown in [Table IV.J.2](#).

Table IV.J.2: Cooper Plan CVAP Percentages

<u>Cooper</u>	<u>WNH</u>	<u>BNH</u>	<u>ANH</u>	<u>ONH</u>	<u>HISP</u>	<u>APBNH + HISP</u>
10th	53.2%	6.4%	23.4%	0.9%	16.1%	22.5%
11th	62.3%	8.4%	12.4%	0.6%	16.3%	24.7%
Total	58.2%	7.5%	17.3%	0.7%	16.2%	23.7%

Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD calculations

114. Comparing the percentages with those of the existing 2024 Plan for D10, Cooper *decreases* the percentage of White, non-Hispanic (WNH) CVAP by -3.5PP from 56.7% to 53.2%. APBNH decreases by -1.3PP, from 7.6% to 6.4%. Hispanics decrease by -1.0PP from 17.1% to 16.1%. While Asians are increased by +5.7PP from 17.7% to 23.4%.

115. Comparing the percentages with those of the existing 2024 Plan for D11, Cooper *increases* the percentage of White, non-Hispanic (WNH) CVAP by +2.6PP from 59.7% to 62.3%. APBNH increases by +1.1PP from 7.3% to 8.4%. Hispanics increase by +0.9PP from 15.3% to 16.3%. While Asians are reduced by -4.6PP from 17.0% to 12.4%.²⁷ That is – all of Cooper's efforts result in significantly increased representation of WNH, a fractional increase for APBNH and Hispanics, and the slashing of the largest single CVAP minority population in D11: Asians.

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²⁷ The change in percentages between D10 and D11 do not offset exactly, as they do for total population, because the size of the total population is identical (within 1 person) in D10 and D11, while CVAP differs.

V. COMPACTNESS

A. What is Compactness

116. The National Conference of State Legislatures (NCSL)²⁸ reports: Some principles have been adopted and used for decades by many states.²⁹ They are often called "traditional" criteria, including:

Compactness: Based largely on a district's physical shape and on the distance between all parts of a district. A circle is a perfectly compact district under most measures.

Contiguity: All parts of SMD1 are connected. States sometimes make exceptions for parts of a district separated by water.

117. I previously wrote (Hood, Morrison, and Bryan, 2018, PP.4-8):

A compact district minimizes the distance between all the parts of a constituency (Butler and Cain, 1992:157). Where race is an important consideration, the courts have viewed bizarrely shaped districts with low levels of compactness as a warning sign that the district may be an unconstitutional racial gerrymander.³⁰ Even a majority-minority district that is mathematically possible may be viewed as constitutionally questionable if it is noncontiguous and/or is not compact.

118. The discussion of compactness in federal VRA cases typically focuses on the first Gingles precondition, which states that a minority group must be able to demonstrate that it is sufficiently large and geographically compact to constitute a majority in a single-member district.³¹ The definition of what is sufficiently compact has been the subject of earnest debate in numerous cases.

119. The New York Constitution closely parallels this guidance. N.Y. Const. Art. III, §4(c)(1)³² states, **"Each district shall be as compact in form as practicable."**[emphasis added] And in N.Y. Const. Art. III, §5³³ it states:

the body exercising the powers of a common council, shall assemble at such times as the legislature, making an apportionment, shall prescribe, and divide such counties into assembly districts as nearly equal in number of inhabitants, excluding aliens, as may be, of

²⁸ The National Conference of State Legislatures, created by state legislators and legislative staff in 1975, serves America's 50 states, commonwealths, territories and the District of Columbia. Every state legislator and staffer is a member of the organization and has complete access to the latest in bipartisan policy research, training resources, and technical assistance tailored specifically to their needs. <https://www.ncsl.org/about-us>

²⁹ <https://www.ncsl.org/redistricting-and-census/ncsl-redistricting-and-census-resources>

³⁰ See Bullock (2010) and Pildes and Niemi (1993) on the constitutionality of districts and the issue of compactness.

³¹ <https://supreme.justia.com/cases/federal/us/478/30/#F16>

³² Readjustments and reapportionments; when federal census to control

³³ Apportionment of assembly members; creation of assembly districts

convenient and contiguous territory in as compact form as practicable. [emphasis added]

120. The subject of compactness has been addressed in litigation in New York previously. In 1972, the N.Y. Court of Appeals opined in *Schneider v. Rockefeller*:³⁴

The term ‘compact’, on the other hand, has no precise meaning within the context of the constitutional mandate. Moreover, the Constitution does not provide unqualifiedly for compactness. (Matter of *Sherrill v. O'Brien*, Supra.) At a minimum, the Legislature may, in good faith, take account of existing political subdivision lines, topography, means of transportation, and lines of communication without violating this standard. (Matter of *Sherrill v. O'Brien*, Supra.)

121. In the case of Cooper’s draw of a new 11th, the “means of transportation” is relevant because his plan fundamentally changes the mode of transportation between two communities separated by water. Staten Island is directly connected to Brooklyn by the Verrazano Bridge, while it is only connected to Lower Manhattan by ferry.

122. In 1984, the N.Y. Supreme Court opined in *Bay Ridge Community Council v. Carey*:³⁵ “Legislative districts need only be as compact as practicable.”

123. While often a redistricting requirement, what compactness is has remained elusive. Only recently, in the 2023 federal VRA case of *Alpha Phi Alpha Fraternity v. Raffensperger*,³⁶ did a court provide a detailed description of what compactness is. The court wrote: ³⁷

The compactness inquiry for the Supreme Court’s first Gingles precondition for a vote dilution claim under § 2 of the VRA, requiring the plaintiffs to prove that the minority group is sufficiently large and geographically compact to constitute a majority in a reasonably configured district, involves the compactness of the minority population, not the compactness of the contested district. [emphasis added] Voting Rights Act of 1965 § 2, [52 U.S.C.A. § 10301](#).

124. According to the *Alpha Phi Alpha Fraternity v. Raffensperger* (APA) Court, the relevant factors for compactness under the first Gingles precondition include: population equality, contiguity, empirical compactness scores, the eyeball test for irregularities and contiguity, respect for political subdivisions, and uniting communities of interest.³⁸ Importantly, the Court

³⁴ 293 N.E.2d 67, 340 N.Y.S.2d 889

³⁵ 479 N.Y.S.2d 746

³⁶ William Cooper as in this case, was an expert for the Plaintiffs

³⁷ Alpha Phi Alpha Fraternity, Inc., et al v. Secretary, State of Georgia, 11th Cir., November 28, 2023 Decision [21] <https://law.justia.com/cases/federal/district-courts/georgia/gandce/1:2021cv05337/298476/333/>

³⁸ Alpha Phi Alpha Fraternity, Inc., et al v. Secretary, State of Georgia, 11th Cir., November 28, 2023 Decision P.97 [21] <https://law.justia.com/cases/federal/district-courts/georgia/gandce/1:2021cv05337/298476/333/>

specifically states, “A district that reaches out to grab small and apparently isolated minority communities’ is not reasonably compact.”³⁹ [emphasis added].

125. The N.Y. Constitution requires districts to be compact. However, in stark contrast to both the N.Y. Constitution *and* Gingles, the N.Y. VRA states: “evidence concerning whether members of a protected class are geographically compact or concentrated shall *not* be considered, but may be a factor in determining an appropriate remedy.”⁴⁰

B. Cooper’s Compactness Analysis

126. The *APA* Court provided very specific direction that “compactness” pertains to the compactness of population, not physical compactness. Nevertheless, Cooper explains that compactness is a traditional redistricting principle (Cooper Report, ¶26, b.) and only provides a geographic compactness analysis here.

127. Based on creative and novel logic that because two separate pieces of D11 plan are compact (though separated by five miles of water), Cooper summarily concludes that his plan “is compact” (Cooper Report, ¶31) Cooper acknowledges that his plan is *less* compact (and is in fact significantly less compact than the existing 2024 plan), but explains that this is because of the water features that separate Staten Island and Manhattan (Cooper Report, ¶54):

By the numbers, the Illustrative Map appears less compact than the 2024 Plan in a head-to-head comparison, though in reality it is comprised of two significantly compact sub-parts, Staten Island and Lower Manhattan—that are connected by around-the-clock free ferry service. There is no population of voters between these two sub-parts of the illustrative CD 11—just Upper New York Bay. The lower compactness score is reflective chiefly of this geographic water and shoreline feature, rather than on-the-ground features of the district.

128. In the existing 2024 Plan, Staten Island and Brooklyn are connected by the Verrazano Bridge across approximately one mile of water. It usually takes approximately ten minutes to cross, but it can be longer depending on traffic.⁴¹ By comparison, Staten Island is separated from Manhattan by approximately 5 miles of water and is connected by the Staten Island Ferry route, running between the St. George Terminal in Staten Island and the Whitehall Terminal in Manhattan. This route takes approximately 25 minutes⁴², not including time to queue, load, and unload at the terminals.

129. In an effort to defend the significantly greater distance between these component pieces, Cooper focuses on their individual compactness instead, stating (Cooper Report, ¶55):

³⁹ Id

⁴⁰ NY VRA § 17-206(2)(c)(viii)

⁴¹ Source: author experience

⁴² <https://www.nyc.gov/html/dot/html/ferrybus/siferryschedule.shtml>

Looking more closely at the two components of CD 11 under the Illustrative Map reveals it is in fact significantly compact on land. To start the Staten Island component of the Illustrative Map scores exactly the same as the Staten Island component of the 2024 Plan by any compactness measure. That is not surprising-nothing about this part of the district has changed, but, as under the 2024 Plan, it must be joined with some other part of NYC to achieve sufficient population to form a full district.

130. Of the lower Manhattan piece he creates in his plan, Cooper states (Cooper Report, ¶56):
The densely populated Lower Manhattan component of CD 11 under the Illustrative Map is compact as well. It scores .48 on Reock and .33 on Polsby-Popper very respectable compactness score relative to New York's other congressional districts. The Manhattan component of CD 10-including Chinatown, part of the Financial District, and 22 persons in Tribeca (included to zero out the deviation) - scores .51 on Reock and .40 on Polsby Popper. It, too, therefore is quite compact.
131. Of the Brooklyn piece he creates in his plan, Cooper states (Cooper Report, ¶57):
By the same token, the densely populated Brooklyn component of CD 10 under the Illustrative Map scores high—.43 on Reock and .38 on Polsby-Popper.
132. Then, Cooper takes a statistical leap and calculates the *average* compactness of the individual, separate pieces (Cooper Report, ¶58):
Taken together (excluding Staten Island), the mean average scores for the two sets of the Illustrative Map equate to .44 Reock and .35 Polsby-Popper, which is slightly better than the mean average across the 26 congressional districts in the 2024 Plan.
133. In my experience, this approach lacks both precedent and logic. To defend his creative manipulation of conventional compactness measurements, Cooper relies on a novel and counterintuitive narrative that the compactness of his Illustrative Plan should be considered as two separate pieces. This is illogical - since a necessary criterion for all redistricting endeavors is contiguity of geographic space. One cannot simply ignore areas that are either unpopulated or consist solely of water to improve compactness measures.
134. The water area (essentially Upper New York Bay) in Cooper's Illustrative District 11 is a functional piece of geography that serves as a link between Staten Island and the portion in southern Manhattan, without which his draw would violate the requirement of contiguity. The suggestion that each be considered separately and that the water area between them somehow doesn't count suggests that these pieces of geography are not in fact contiguous.
135. In addition, his proposal to consider each land portion as separate pieces for the purpose of compactness lacks precedent both in scholarship and court-accepted litigation. In splitting his Illustrative District 11 compactness analysis into two pieces, he is only attempting to mask his plan's obvious failure in preserving any form of prior compactness obtained in recently court-approved plans.

136. If Cooper's logic is held, what are the practical limits? Could Staten Island potentially be connected to the Bronx via the East River? Going further, what about the highly compact Poughkeepsie City (nearly 90 miles up the Hudson), which has a 35.4% Black population and 22.5% Hispanic population?⁴³ Or perhaps Hudson City (130 miles up the Hudson), with 16.5% Black population and 10.4% Hispanic Population?⁴⁴ Those are connected to Staten Island by water? The actual compactness scores of those combinations would be effectively zero – but by Cooper's logic, the compactness would be acceptable – because each distant individual piece is compact. And according to the N.Y. VRA, these combinations are permissible because “evidence concerning whether members of a protected class are geographically compact or concentrated shall not be considered”.⁴⁵

C. BGD Compactness Analysis

137. My analysis of compactness takes place in three stages, following the direction provided by the *APA* court. First, I use empirical scores from geographic compactness measures commonly used in redistricting. Second, I use an “eyeball test”. Third, I analyze the compactness of minority communities relative to each other.

Empirical Compactness Scores

138. Four of the most common empirical compactness measures are Polsby-Popper, Reock, Convex Hull, and Schwartzberg, and each has unique measurement features (see [Appendix D](#)). For Polsby-Popper, Reock, and Convex-Hull, the range of possible values is 0-1, where *greater scores* closer to 1 indicate more compactness. For Schwartzberg, the range of possible values descends to 1, where *lower scores* closer to 1 indicate more compactness. [Table V.C.1](#) shows the compactness values of the pre-2020 Census Plan, the 2021 Plan, the 2024 Plan, and Cooper's Illustrative Plan for D10 and D11 (see [Table V.C.2](#)).

139. Cooper reports compactness in three different places. First, in the main part of his report in Figure 11, he reports what are implied to be the correct numbers for his districts (Cooper Report, P.21). Second, in his Appendix (Cooper Report, P.252), Cooper reports compactness values from the Dave's Redistricting Application.⁴⁶ Third, also in his Appendix (Cooper Report, P.258), he reports values from the Maptitude. BGD calculates compactness scores

⁴³ 2020 Census P1

⁴⁴ Id

⁴⁵ N.Y. VRA § 17-206(2)(c)(viii)

⁴⁶ Dave's compactness scores have historically been inconsistent with both results from BGD and Maptitude due to the mathematical properties of their base projection. We believe Dave's uses some variation of the Plate carrée projection with Cartesian coordinates, which distorts shapes and distances. BGD and Maptitude use an equal-area projection, which most accurately preserves area and distances. See Bar-Natan, et al. 2020.

using rigorous and quality-controlled code and have found that our results consistently and reliably replicate results from “Maptitude.”

140. In [Table V.C.1](#), Cooper reports a Reock statistic for the existing 2024 Plan from Dave's Redistricting of .56 (shown in green, at A) for D10, which is clearly in error compared to Cooper's own reported Reock statistic of .43 (shown in yellow, at B) and BGD's Reock statistic of .42 (shown in yellow, at C).

Table V.C.1 D10 Compactness Scores of Enacted and Cooper's Illustrative Plan

D10	Reock	Polsby-Popper	Convex Hull	Schwartzberg
116th (BGD 2019)	0.12	0.09	0.46	3.29
118th (BGD 2021)	0.43	0.35	0.79	1.69
119th (Cooper Reported) ¹	0.43 B	0.35		
119th (BGD 2024)	C 0.42	0.35	0.79	1.68
119th (Dave's) ¹	0.56 A	0.36	NA	NA
Cooper (2025 BGD)	0.30	0.19	0.75	2.32
Cooper (Reported) ²	0.30	0.20	NA	NA
Cooper (Maptitude) ³	0.30	0.19	NA	NA

Sources: BGD Analytics, Cooper's Report

Cooper Report: P. 11 (Cooper's reporting of 2024 Plan)

Cooper Report: P. 21 (Cooper's reporting of Cooper's Illustrative Plan)

Cooper Report: P. 252 (Dave's reporting of 2024 Plan)

Cooper Report: P. 258 (Maptitude reporting of Cooper's Illustrative Plan)

141. In [Table V.C.2](#), Cooper reports a Reock statistic for D11 from Dave's Redistricting for the existing 2024 Plan of .45 (shown in yellow, at A), which again is clearly in error compared to his own reported statistic of .53 (shown in green, at B) and BGD's compactness statistic of .52 (shown in green, at C). Most concerning, Cooper reports a Reock statistic for D11 of his own plan of .18 (shown in red, at D), which again is a significant error compared to BGD's and Maptitude's compactness statistics of .30 (shown at E and F). It is unclear where the .18 statistic came from, or why Cooper would report an erroneous statistic so detrimental to his argument that his plan “is compact”. How poor is a Reock compactness score of .18? This would rank D11 at approximately 420th out of 435 congressional districts.⁴⁷ Or worse than all but a handful of the very least compact congressional districts in the country. Without any context at all, a redistricting expert would recognize that score as being “very poor” and questionable. This error is again an example of reporting that falls short of acceptable

⁴⁷ BGD analytics

standards for demographers and statisticians, and further undermines the reliability of Cooper's report.

Table V.C.2 D11 Compactness Scores of Enacted and Cooper's Illustrative Plan

D11	Reock	Polsby-Popper	Convex Hull	Schwartzberg
116th (BGD 2019)	0.47	0.47	0.85	1.47
118th (BGD 2021)	0.52	0.57	0.89	1.32
119th (Cooper Reported) ¹	0.53	0.57		
119th (BGD 2024)	0.52	0.57	0.89	1.32
119th (Daves) ²	0.45	0.54	NA	NA
Cooper (2025 BGD)	0.30	0.28	0.70	1.91
Cooper (Reported) ³	0.18	0.27	NA	NA
Cooper (Maptitude) ⁴	0.30	0.28	NA	NA

Sources: BGD Analytics

Cooper Report: P. 11 (Cooper's reporting of 2024 Plan)

Cooper Report: P. 21 (Cooper's reporting of Cooper's Illustrative Plan)

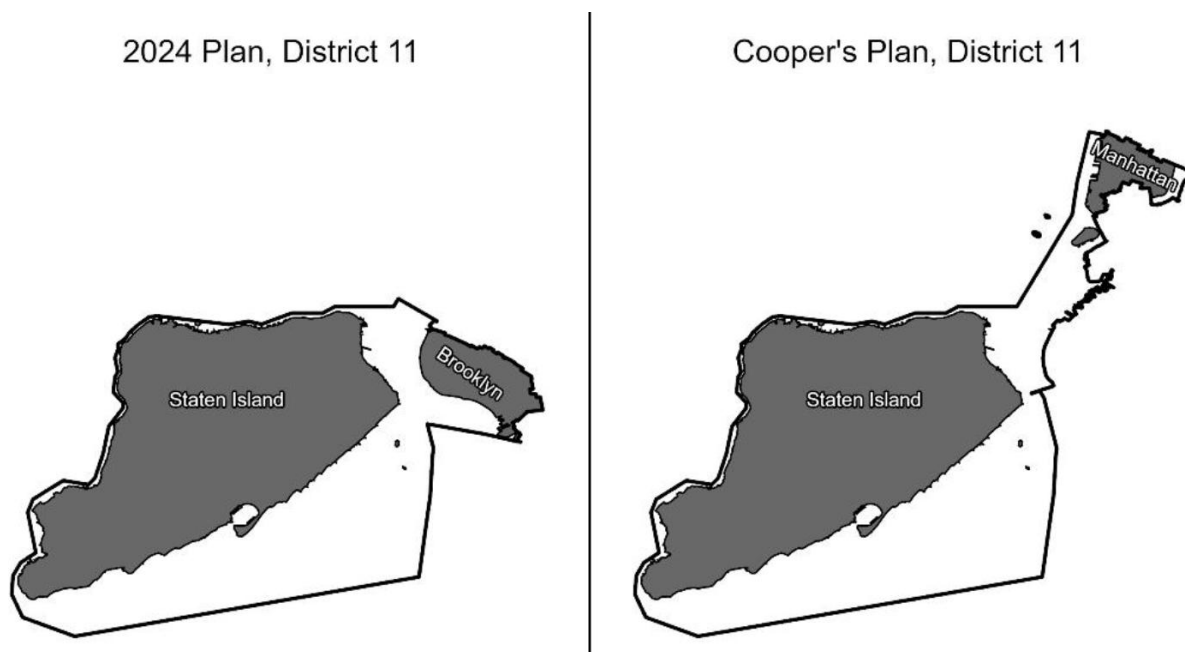
Cooper Report: P. 252 (Dave's reporting of 2024 Plan)

Cooper Report: P. 258 (Maptitude reporting of Cooper's Illustrative Plan)

142. Because of these errors in Cooper's work, the following analysis is based on BGD / Maptitude's reported compactness statistics instead.

143. In the pre-2020 Plan, D10 scored very poorly due to its highly irregular shape. In the 2021 and 2024 Plans, the compactness scores improved significantly. Cooper's Illustrative Plan, in turn, reduces the compactness of the 10th significantly - cutting the Reock score from .42 to .30, and the Polsby-Popper score by half - from .35 to .19.

144. In the pre-2020 Plan, D11 scored well due to its regular, geometric shape. In the 2021 plan, the compactness scores improved somewhat. In the 2024 plan, the compactness scores were stable. Cooper's draw again reduces the compactness of the 11th significantly - cutting the Reock score from .52 to .30, and the Polsby-Popper score by half - from .57 to .28.

Figure V.C.1 Compactness of D11 from 2024 Plan to Cooper's Illustrative Plan

Source: BGD analysis

Eyeball Test

145. Besides empirical compactness scores, there is also “the eyeball test”. In *APA v. GA*⁴⁸ the Court contemplated whether each of the 16 Plaintiff illustrative districts passed the “eyeball test” separately from each district’s empirical compactness scores. In four of these districts (Cooper SD23, Cooper HD133, Cooper HD145, and Esselstyn SD25), the court determined that the district did not pass.

146. The discussion of one of these, Cooper’s SD23 (see [Figure V.C.1](#)), is relevant here. In determining whether Cooper’s SD23 passed the “eyeball test” they wrote⁴⁹:

The Court concludes that Cooper SD-23 does not pass the eyeball test for visual compactness: Cooper SD-23 is an oddly shaped, sprawling district that spans north to south from Wilkes County to Jenkins County and east to west from Twiggs County to Burke County.

The court goes on to say:

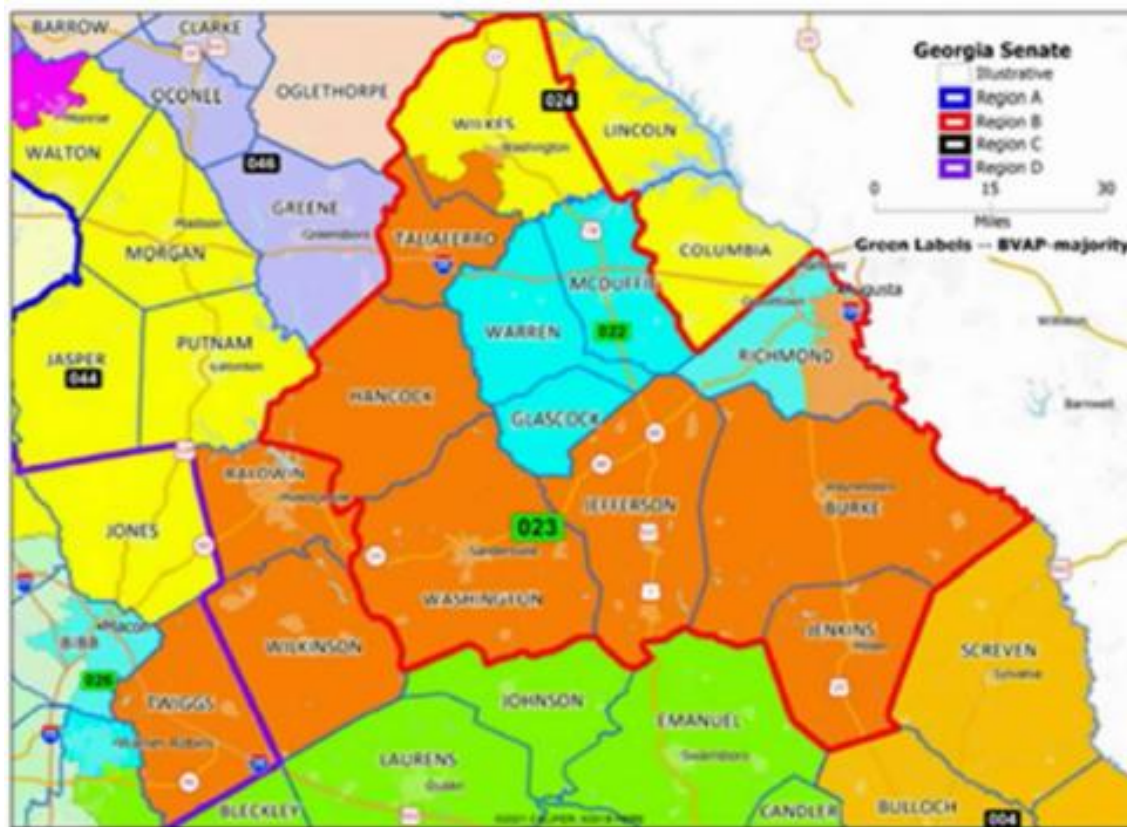
Moreover, plaintiffs, who have alleged a Section 2 violation, have the burden to show that the minority community is sufficiently compact to create the proposed majority-minority

⁴⁸ 700 F.Supp.3d 1136

⁴⁹ *Alpha Phi Alpha Fraternity, Inc., et al v. Secretary, State of Georgia*, 11th Cir., November 28, 2023 Decision P.317 [127]

district. Based on the foregoing, the Court concludes Alpha Phi Alpha Plaintiffs have not met their burden to show visual compactness.

Figure V.C.1 Cooper SD23 from APA v. Raffensperger Opinion



147. Consistent with these observations and findings, Cooper has drawn an extremely elongated and irregular district in New York's 11th. With the *APA* Court's assessment of SD23 as a basis of comparison, I conclude that Cooper's Illustrative Plan D11 does not pass the eyeball test.

Population Compactness

148. Last, I examine the compactness of the Hispanic population in SMD1. In *APA v. GA*, the Court stated:⁵⁰

An electoral district that reaches out to grab small and apparently isolated minority communities is not reasonably compact, for purposes of the compactness inquiry for the Supreme Court's first Gingles precondition for a vote dilution claim under § 2 of the VRA, requiring the plaintiffs to prove that the minority group is sufficiently large and geographically compact to constitute a majority in a reasonably configured district. Voting Rights Act of 1965 § 2, [52 U.S.C.A. § 10301](#).

⁵⁰ *Alpha Phi Alpha Fraternity, Inc., et al v. Secretary, State of Georgia*, 11th Cir., November 28, 2023 Decision [22]

149. The population of D11 is concentrated in Staten Island. Since its total population was 495,747 population (as of the 2020 Census), it needed 281,225 additional persons to create a sufficiently populous congressional district. In the 2024 Plan, the closest minority population (in Brooklyn, only one mile away) is connected by the Verrazano Bridge. By comparison, under Cooper's Illustrative Plan, Staten Island is separated from Manhattan by approximately 5 miles of water and is connected by the Staten Island Ferry.
150. The extension of a congressional district four extra miles to Manhattan is the definition of reaching out to grab small and apparently isolated minority communities. By the criteria of the APA court, Cooper's Illustrative Plan is not compact from a population perspective. Therein lies the tension in the law. The New York Constitution and the U.S. VRA *requires* compactness, while the N.Y. VRA compels a map drawer to disregard compactness entirely.

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VI. COMMUNITIES OF INTEREST

151. Defining what exactly a “Community of Interest” or “COI” is a topic of lengthy debate in redistricting (Forest, 2004; Grofman and Cervas, 2021). The Brennan Center for Justice provides an inventory of the variety of ways in which states advocate for the use of Communities of Interest and attempt to explain what they are.⁵¹ I have also written about Communities of Interest and have developed frameworks for evaluating them (Swanson and Bryan, 2023). I have observed (Morrison and Bryan, 2019, P.48) that in the broadest sense, a “Community of Interest” is: “a group of people concentrated in a geographic area who share similar interests and priorities—whether social, cultural, ethnic, economic, religious, or political.” I have concluded (2019, P.48):

Preserving a community of interest may mean keeping a neighborhood, village, town, or city intact. Respecting existing communities of interest is often a proxy for ensuring that people with common interests are grouped within the same district. Fragmenting communities of interest unnecessarily may indicate an underlying motive.

152. Many other interested parties (states, scholars, academic institutions, nonprofits, and more) have weighed in on what they think communities of interest are. I have found the definition provided by Loyola Law School to be particularly useful:

A community of interest is a neighborhood, community, or group of people who have common policy concerns and would benefit from being maintained in a single district. Another way of understanding a community of interest is that it is simply a way for a community to tell its own story about what neighbors share in common and what makes it unique when compared to surrounding communities. They are defined by the local community members.⁵²

153. It is a traditional redistricting principle that splits of political and administrative geographies and communities of interest should be minimized. However, some splits are almost always necessary, and avoiding splits of one level of geography (such as counties) may actually cause splits in other layers of geography (such as places and school districts). In redistricting for congressional districts, where the differences in population between districts must be minimized, precincts (or VTDs) may be kept intact, but splitting political geographies is unavoidable.

⁵¹ <https://www.brennancenter.org/sites/default/files/analysis/6%20Communities%20of%20Interest.pdf>

⁵² <https://redistricting.lls.edu/wp-content/uploads/Basics-English6.pdf>

154. A comprehensive dissertation on NYC’s numerous and vast communities of interest is beyond the scope of this report.⁵³ I focus here on three practical ones: voting precincts/VTDs, neighborhoods (NTAs), and the Asian (specifically Chinese) population Cooper discusses in his report.

A. VTD Splits

155. An important traditional redistricting criterion is to avoid splitting political and administrative geography, such as voting precincts, unless it is necessary to enable balancing the population (as required by law). Cooper presents a summary of the number of geographic splits for the existing 2024 Plan in his report in Figure 5 ([Figure VI.A.1](#)). Included in this table are neighborhoods and VTDs:

Figure VI.A.1 Cooper’s Reported NTA and VTD Splits (Figure 5 of Cooper Report)

Census Geography	Splits Between CDs 10 & 11 in the 2024 Plan
Neighborhoods (NTAs)	4
2020 Voting Districts (VTDs)	4
Population in Split VTDs	133,535

156. Later, Cooper presents a summary of the number of geographic splits for his Illustrative Plan in his report (see [Figure VI.A.2](#)):

Figure VI.A.2 Cooper’s Reported NTA and VTD Splits (Figure 12 of Cooper Report)

Census Geography	Splits Between CDs 10 & 11 in the Illustrative Plan
Neighborhoods (NTAs)	3
2020 Voting Districts (VTDs)	20
Population in split VTDs	20,762

157. Cooper goes on to characterize the differences between the 2024 Plan and his Illustrative Plan as (Cooper Report, ¶62): “The Illustrative Map contains 20 populated VTD splits versus four populated splits in the 2024 Plan.” In fact, what Cooper is reporting is the number of VTD splits, which are a 2020 layer of geography. I do not know with certainty, but I believe Cooper drew his illustrative plan in Dave's Redistricting application (since he reports metrics

⁵³ I note the *How Communities of Interest Are Evolving in New York City Today* document, produced by members of the CUNY Research Consortium on Communities of Interest, provided as an Appendix in Cooper’s expert report.

from this application in his report).⁵⁴ If he did, then current New York precinct boundaries are not available there (“This state [New York] has no precinct updates available”).⁵⁵

158. In reality, since 2020, there have been numerous updates and revisions to the 2020 VTDs that have resulted in a different set of boundaries defined by the *current* precinct files. These boundaries are easily accessible through well-known, publicly available resources such as the NY Board of Elections⁵⁶ and the University of Florida Elections Lab for each annual vintage.⁵⁷ Using current precincts and software capable of analyzing them⁵⁸ I determined that neither the 2021 Plan nor the 2024 Plan split *any* current voting precincts. By comparison, Cooper’s Illustrative Plan splits 12 (see [Table VI.A.1](#)).

159. In this regard, Cooper has mischaracterized the number of political geography splits because he uses an antiquated layer of geography. Further, he provides no evidence that these splits were required to achieve population equality in his Illustrative Plan. Either way, the 2024 Plan complies with traditional redistricting criteria (by maintaining existing political geography). However, Cooper’s Illustrative Plan does not.

Table VI.A.1 Cooper Illustrative Plan Precinct Splits: Total Population

2024 ED	D10	D11
61067	843	2,034
61068	19	3,339
65002	1,793	856
65003	431	3,376
65004/65069	2,157	656
65020	1,735	948
65021	2,624	242
65027	1,987	96
65032/65033	898	3,265
65051	1,789	1,166
65052	1,375	703
66072	372	1,177

Sources: 2020 Census, NY Board of Elections, University of Florida Election Lab, BGD analytics

⁵⁴ <https://davesredistricting.org/>

⁵⁵ <https://davesredistricting.org/maps#state::NY>

⁵⁶ <https://www.nyc.gov/content/planning/pages/resources/datasets/election-districts>

⁵⁷ <https://election.lab.ufl.edu/>

⁵⁸ The industry gold standard: ESRI ArcGIS Pro <https://www.esri.com/en-us/arcgis/products/arcgis-pro/overview>

B. Neighborhood Splits

160. New York City is a vast tapestry of neighborhoods and local communities, each with a rich history, unique characteristics, and distinctive populations. The fabric of these can be thought of and measured in innumerable ways. From formal planning⁵⁹ to Community Districts, which monitor quality-of-life issues,⁶⁰ to local area beliefs,⁶¹ and countless definitions in between. Here, they are measured using Neighborhood Tabulation Areas, or “NTAs,” because they are a stable and reliable geography for statistical reporting and enable comparison with statistics that Cooper produces.⁶²
161. Under the pre-2020 Census plan, five NTAs were split into 12 pieces⁶³ (see [Table VI.B.1](#)). After the first round of post-2020 Census Redistricting, the 2021 Plan reduced the number of these NTA splits to two, dividing them into four pieces⁶⁴ (see [Table VI.B.2](#)). These splits did not change in the drawing of the 2024 Plan.

Table VI.B.1 Pre-2020 Census (116th) Congressional Plan NTA Splits: Total Population

NTA	D7	D10	D11
Bay Ridge	143	10,100	76,536
Bensonhurst		80,960	23,974
Dyker Heights	2,612	13,563	30,581
Gravesend (East)-Homecrest		561	52,236
Gravesend (West)		42,761	17,762

Sources: BGD Analytics, NYC Planning

⁵⁹ <https://www.nyc.gov/site/housing/action/neighborhoods.page>

⁶⁰ <https://www.nyc.gov/content/planning/pages/resources/datasets/community-districts>

⁶¹ <https://www.nytimes.com/interactive/2023/10/29/upshot/new-york-neighborhood-guide.html>

⁶² NYC Planning goes on to report: 2020 NTAs are created by aggregating 2020 census tracts and nest within Community District Tabulation Areas (CDTA). NTAs were delineated with the need for both geographic specificity and statistical reliability in mind. Consequently, each NTA contains enough population to mitigate sampling error associated with the ACS, yet offers a unit of analysis that is smaller than a Community District.

Though NTA boundaries and their associated names roughly correspond with many neighborhoods commonly recognized by New Yorkers, NTAs are not intended to definitively represent neighborhoods, nor are they intended to be exhaustive of all possible names and understandings of neighborhoods throughout New York City. Additionally, non-residential areas, including large parks, airports, cemeteries, and other special areas, are represented separately within this dataset and are assigned codes according to their type.

Source: <https://www.nyc.gov/content/planning/pages/resources/datasets/neighborhood-tabulation>

⁶³ >0 Population

⁶⁴ >0 Population

162. Cooper's assessment of the number of NTA splits in the 2024 Plan is four (see [Figure VI.A.1](#)), which is the measurement of two pieces of Bay Ridge and Dyker Heights into four pieces (see [Table VI.B.2](#)).

Table VI.B.2 2021 Plan and 2024 NTA Splits: Total Population

NTA	D10	D11
Bay Ridge	10,243	76,536
Dyker Heights	5,148	41,608

Sources: BGD Analytics, NYC Planning

163. Cooper reports the number of NTA splits in his Illustrative Plan as three (see [Figure VI.A.2](#)). The Financial District and Tribeca are each split into *four* pieces (see [Table VI.B.3](#)) – although the D10 piece of Tribeca is of almost no consequence.

Table VI.B.3 Cooper NTA Splits

NTA	D10	D11
Financial District-Battery Park City	21,243	31,728
Tribeca-Civic Center	22	25,368

Sources: Cooper Report, P.265, Exhibit H-5, BGD analytics

C. Racial and Ethnic Communities of Interest

164. There are numerous distinct racial and ethnic neighborhoods across New York City. Cooper chooses to focus on the Chinese population, stating (Cooper Report, ¶24):

And, as in the 2024 Plan, Chinatown remains entirely within CD 10, keeping it together with Sunset Park—a predominantly Chinese-American neighborhood in Brooklyn. Under the Illustrative Map, Bensonhurst and Bath Beach—two other predominantly Chinese-American neighborhoods in Brooklyn—are located in CD 10 along with Chinatown and Sunset Park.

165. New York's Asian population is discussed in detail in *How Communities of Interest Are Evolving in New York City Today*⁶⁵:

The Asian population grew across all five boroughs, with the greatest percentage increase in Staten Island (69%). The Asian population increase in the Bronx (43%) and Brooklyn (43%) was also greater than the citywide Asian population increase of 34%. This increasing overall population has many parts. Asian Americans are highly diverse with respect to national origin, language, ethnicity, and religions and faiths. While the Chinese remain the

⁶⁵ 2023. Section IV: Asian New Yorkers, by Tarry Hum. P.50

<https://www.nyc.gov/assets/districting/downloads/pdf/Communities-of-Interest-Report.pdf>

largest ethnic group at 48% of Asian New Yorkers, the city's Asian population also includes substantial populations of Asian Indians (20%), Koreans (7%), Bangladeshis (6%), Filipinos (6%), Pakistanis (4%), Japanese (2%), Taiwanese (1%), Nepalese (1%) and Thai (1%) as well as small but significant groups of Sri Lankans, Burmese, Indonesians, Cambodians, and Malaysians. Moreover, the Asian Indian population itself is not a monolith because India is home to so many different religions, languages, cultures, and identities. Two percent of Asian New Yorkers identified as Other Asian (2%) or two or more Asian (2%).

166. The authors go on to detail Chinese New Yorkers⁶⁶:

Chinese New Yorkers remain the city's largest Asian subgroup. Table IV-1 provides some overall characteristics. Chinese New Yorkers are highly stratified by educational attainment and English speaking language ability. The percentage (36%) of highly educated Chinese adults (25 years and older) is comparable to the percentage of Chinese adults who have not completed a high school degree (33%). This bifurcation is also evident in English language speaking ability as 12% of Chinese New Yorkers indicate they speak only English and 14% speak no English. Chinese New Yorkers have a homeownership rate of 51% but the share of Chinese homeowners varies across "Chinatown" neighborhoods (as grouped in Census Bureau Public Use Microdata Areas or PUMAs). The median household income for Chinese New Yorkers is \$66,877, significantly less than most Asian subgroups in New York City. The poverty rate for Chinese New Yorkers is 20% comparable to the poverty rate for Bangladeshi (22%) and Pakistani New Yorkers (21%). As shown in Map IV-1, Chinese New Yorkers are concentrated in Manhattan's historic Chinatown in the Lower East Side and sizable "Chinatowns" in the Sunset Park in Brooklyn and Flushing/Whitestone in Northeast Queens.

167. However, these population changes differed dramatically by neighborhood (see [Figure VI.C.1](#)). According to the NY City Department of City Planning, Population Division, the population of Asians in Lower Manhattan is in decline, while it is growing significantly in other parts of the city.

168. Of Southern Brooklyn, they report:⁶⁷

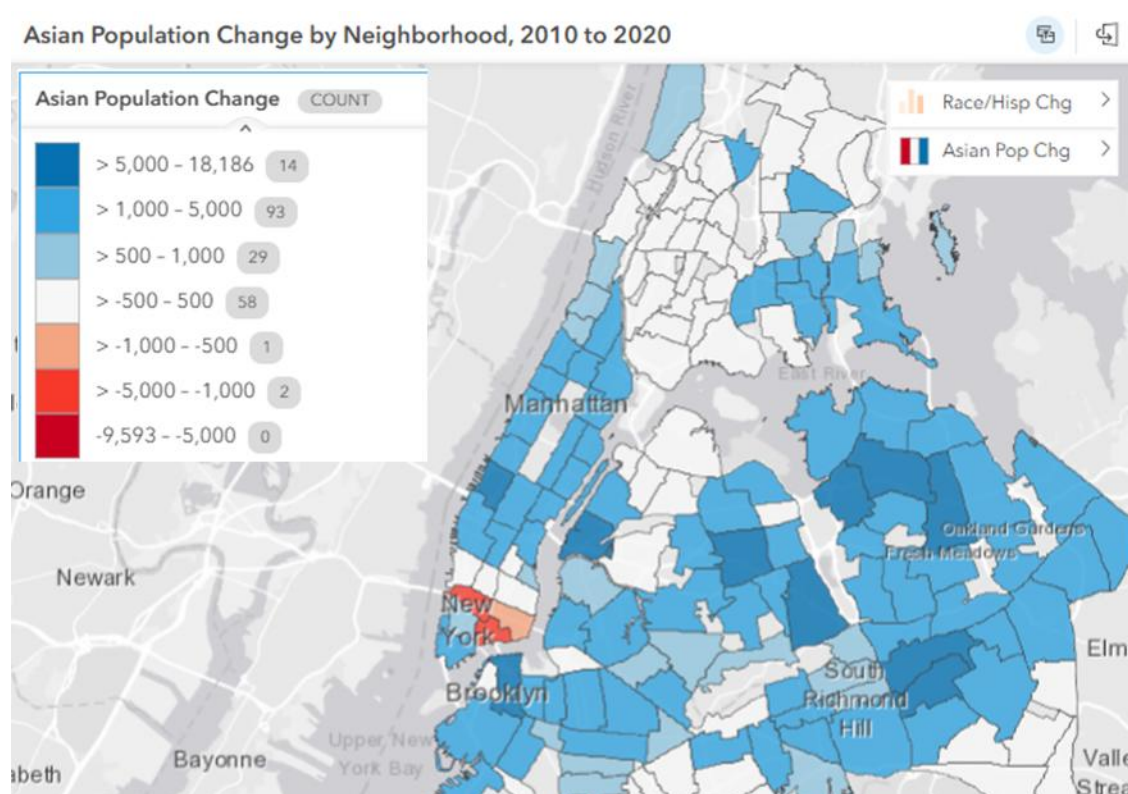
large Asian population increases in Bensonhurst, Gravesend W., and Dyker Heights occurred concomitantly with increases in the Hispanic population, in contrast to Sunset Park Ctr. In western Brooklyn, where the Hispanic population declined somewhat. Asian increases in southern Brooklyn, however, were larger than Hispanic increases. The White population largely declined across southern Brooklyn as well.

⁶⁶ Id, P.51

⁶⁷ <https://storymaps.arcgis.com/stories/46a91a58447d4024afd00771eecd1dd23>

169. Neither the Asian nor the Chinese population in New York City are homogeneous. Cooper asserts that his plan, which divides large numbers of adjacent Chinese in Lower Manhattan, not only preserves this community of interest but actually “**advances this preservation of communities of interest** by joining the existing Chinese-American communities in CD 10 (Chinatown and Sunset Park) with two additional Chinese-American communities (Bensonhurst and Bath Beach).” [emphasis added].

Figure VI.C.1 Asian Population Change 2010-2020



Source: NY Department of City Planning,

<https://storymaps.arcgis.com/stories/46a91a58447d4024afd00771ecc1dd23>

170. In reality, Cooper’s draw *divides* the Chinese-American community of interest in Lower Manhattan that has the most in common, and unifies its pieces with non-adjacent and distant Chinese-American populations that are in fact quite different. Chinatown’s majority is Asian, whose origins are immigrants from southeastern China and Hong Kong. The neighborhood’s median household income of \$35,805 is significantly lower than that of Manhattan (\$86,553) and New York (\$63,998), and is reflected in the fact that 28% of residents live below the poverty line.⁶⁸ Sunset Park (in Brooklyn) is mixed with a majority Hispanic community and

⁶⁸ <https://www.nyc.gov/assets/sbs/downloads/pdf/neighborhoods/avenyc-cdna-chinatown.pdf>

is more than half foreign-born. Their median household income is much higher, at \$50,270.⁶⁹ Bensonhurst is regarded as the “Little Italy” of Brooklyn, but is majority White, and (As reported by the NY Department of City Planning) has a growing Asian population. Its median income is \$59,756, while only 18% of its population lives below the poverty line. NYC Small Business Services reports⁷⁰:

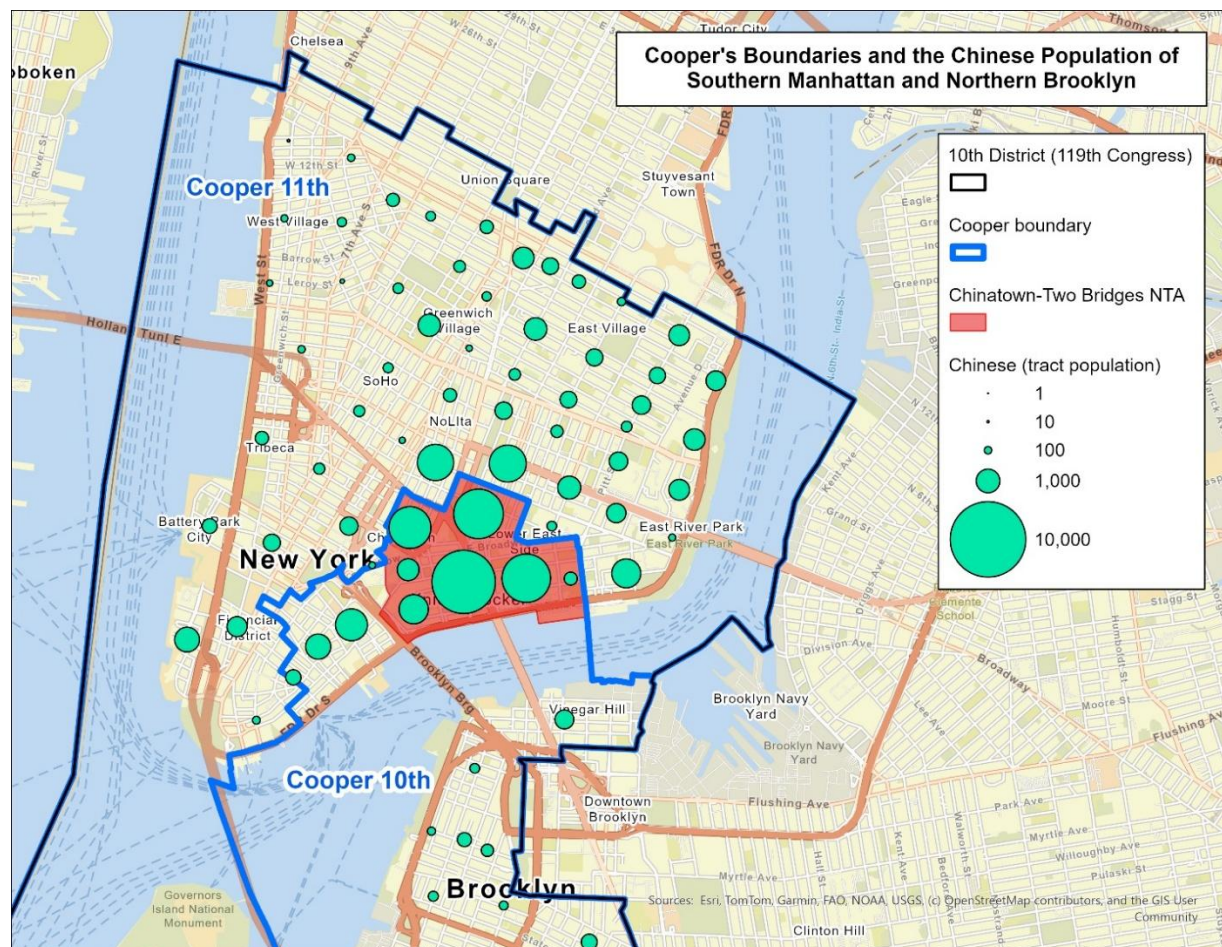
More than half of the 173,000 residents of Bensonhurst are foreign-born. The racial makeup of the neighborhood is comprised of 41% White, 38% Asian, 17% Hispanic/Latinx, 3% two or more races, and 1% African American. In recent decades, the Asian population has increased by 57% and comprises the city’s largest concentration of immigrants from Hong Kong and the second largest Cantonese population. More than half of the 173,000 residents of Bensonhurst are foreign-born.

171. These neighborhoods listed by Cooper neglect two of the highest concentrations in Brooklyn: Dyker Heights and Gravesend (West), each with its own unique history and differences from Chinatown. Dyker Heights, for example, originated as a luxury housing development in 1895.⁷¹ These Asian neighborhoods in Brooklyn are not only separated by the East River, but also by other neighborhoods such as Brooklyn Heights, Carroll Gardens, and Park Slope, with almost no Asian population, and Downtown Brooklyn, with only a modest Asian population. According to Google Maps, Bensonhurst is ten miles away, and between a 30-minute and an hour drive from Chinatown. While the Chinese populations Cooper divides in Lower Manhattan are literally across the street from each other. Cooper’s characterization of his Illustrative Plan being somehow unifying and the inference that they are somehow the same community of interest are significantly misleading.
172. *How* these populations are split in Cooper’s Illustrative Plan is illuminating. In Lower Manhattan, Cooper’s draw may maintain the formal boundaries of Chinatown in D10 – but his draw structurally separates large numbers of Chinese (see [Figure VI.C.2](#)). Chinatown may be a community of interest, but the actual location and concentration of the Chinese population should be the overriding consideration in defining a community of interest (see [Section V Population Compactness](#)).

⁶⁹ <https://www.nyc.gov/assets/sbs/downloads/pdf/neighborhoods/avenyc-cdna-sunsetpark.pdf>

⁷⁰ <https://www.nyc.gov/assets/sbs/downloads/pdf/neighborhoods/Bensonhurst.pdf>

⁷¹ <https://hdc.org/borough/dyker-heights/#:~:text=Dyker%20Heights%20originated%20as%20a,neighborhood%20through%20the%2020th%20century.ry.>

Figure VI.C.2 Chinese Population

Source: 2019-2023 American Community Survey B02015 Asian Alone Chinese, except Taiwanese, total population

173. The Chinese are not the only population in Lower Manhattan. Other groups, such as Koreans and Indians, are mixed with the larger Chinese population, making Cooper's subdivision of Lower Manhattan impactful to multiple minority groups (see [Figure IV.C.3](#)).

VII. DIFFERENTIAL CORE RETENTION

176. A *Core Retention Analysis* (CRA) is simply a demographic accounting of the movement of persons from one district to another brought about by redistricting. A CRA is a way of quantifying precisely how a realignment affects the continuity of representation among a district's residents. Courts have recognized the need to preserve the core of a prior established district as a legitimate redistricting criterion.⁷² In the New York Constitution, it states:⁷³

Districts shall not be drawn to discourage competition or for the purpose of favoring or disfavoring incumbents or other particular candidates or political parties. **The commission shall consider the maintenance of cores of existing districts,** [emphasis added]

177. In the *Alexander v. S.C. State Conf. of the NAACP* decision by the U.S. Supreme Court (referring to minimizing change and core retention analysis) stated, “Lawmakers do not typically start with a blank slate; rather, they usually begin with the previous map and make alterations to fit various districting goals.”⁷⁴ In describing what constitutes a traditional redistricting criterion, the *Alexander* court stated⁷⁵

Indeed, as we have defined them, “traditional districting principles” are simply anything relevant to drawing districts other than race. They include “principles such as compactness, contiguity, and respect for political subdivisions.” *Id.*, at 647. They also include “keeping communities of interest together, and protecting incumbents,” *Rucho*, 588 U. S., at 706–707, **as well as “minimizing change,”** *Alabama Legislative Black Caucus v. Alabama*, 575 U. S. 254, 259 (2015). [emphasis added]

178. Cooper characterizes minimizing change (as measured by core retention) during redistricting *differently* from the *Alexander* court and the guidance provided by the New York Constitution. Not only does he say that he doesn't consider minimizing change to be a traditional redistricting criterion (only a “background consideration”) – but that this consideration is inherently problematic (Cooper report, ¶27):

Core retention of a previous districting plan (or “least change”) is always a background consideration as well. But it should never preempt traditional redistricting principles. Otherwise, problematic or flawed redistricting plans could become locked in and self-perpetuating. Nonetheless, I considered core retention for the Illustrative Map.

⁷² *Abrams v. Johnson*, 521 U.S. 74, 84 (1997)

⁷³ N.Y. Const. art. III, § 4(c)(5)

⁷⁴ *Alexander v. S.C. State Conf. of the NAACP*, 144 S. Ct. 1221 (2024), see https://www.supremecourt.gov/opinions/23pdf/22-807_3e04.pdf P. 22

⁷⁵ *Id.*, PP. 45-46

179. Core Retention Analysis has historically only considered the *total* populations of districts. Our strategy is to broaden this model to analyze core retention of groups by race and ethnicity. This is known as a Differential Core Retention Analysis – or “DCRA”. The “differential” is the result of the analytic findings by race and ethnicity, such as White non-Hispanic and Black or African Americans, Asian non-Hispanics, and Hispanics.⁷⁶
180. A DCRA of populations by race and ethnicity can frequently reveal significant differences from the total population. This is an invaluable tool for identifying whether a subgroup has been targeted for disproportionate or discriminatory moves. In this case, a DCRA provides valuable insights on how the 2024 Plan compares to the pre-2020 Census Plan. In short, while there were large numbers of people moved from D10 (to reduce it towards the target population and improve its compactness, among other criteria), each racial and ethnic group was moved more or less equally. In D11, core retention was very high because it was already a highly compact district and only needed to add people towards the target population. Again, each racial and ethnic group was moved more or less equally. How Cooper “considered” core retention in his Illustrative Plan is unclear, because the analysis shows that *significant* numbers of the population by race and ethnicity are moved differentially between D10 and D11.

A. Pre-2020 Census to 2024 Plan DCRA

181. [Table VII.A.1](#) shows the core retention rates between the existing pre-2020 Census Plan and the 2024 Plan for the total population, white, non-Hispanic, Any Part Black, Asian, and Hispanic. District 10 (with 803,803 population) was overpopulated by nearly 27,000 people – making that draw an exercise in *decreasing* its footprint. While District 11 (with 766,236 population) was underpopulated by over 10,000 people – making that draw an exercise in *increasing* its footprint. We know that D10 was significantly reconfigured during redistricting – beyond what was needed to balance its population.
182. And this is borne out in its DCRA numbers. As shown in [Table VII.A.1](#) (at 1), 72.4% of the existing CVAP was moved out of D10, and this was spread relatively equally between different population groups. D11, by comparison, was left relatively intact, as shown in [Table VII.A.1](#) (at 2), again with limited differential impact by race and ethnicity. The complete DCRA tables with all moves are shown in [Appendix E](#).

⁷⁶ “Differential” core retention is not novel. We have calculated and reported these metrics in every case we have participated in during and after the 2020 redistricting cycle, and in some cases, these metrics were foundational to opinions. For example, in the Wisconsin Supreme Court decision during their redistricting litigation:

see: https://www.wicourts.gov/courts/supreme/origact/docs/21ap1450_opdec.pdf

Table VII.A.1 Pre-2020 Census (116th) – 2024 Plan (119th) Differential Core Retention of CVAP Population⁷⁷

116th	119th	Total	WNH	BNH	ANH	HISP
D10	Retained	139,715	97,810	6,699	20,302	13,980
	Moved	366,401	232,252	21,591	63,462	46,044
D11	Retained	457,204	283,155	36,066	62,331	73,102
	Moved	53,959	34,056	3,268	11,181	5,284
Total	Retained	596,919	380,966	42,765	82,633	87,082
	Moved	420,360	266,308	24,859	74,643	51,328
D10%	Retained	27.6%	29.6%	23.7%	24.2%	23.3%
	Moved	1	72.4%	70.4%	76.3%	75.8%
D11%	Retained	2	89.4%	89.3%	91.7%	84.8%
	Moved		10.6%	10.7%	8.3%	15.2%
Total%	Retained		58.7%	58.9%	63.2%	52.5%
	Moved		41.3%	41.1%	36.8%	47.5%

Sources: 2019-2023 American Community Survey, 2019-2023 DOJ Special Tabulations, BGD Calculations

B. 2024 to Cooper Illustrative Plan DCRA

183. [Table VII.B.1](#) shows the core retention rates between the existing 2024 Plan and Cooper's Illustrative Plan for the total population, White, non-Hispanic; Any Part Black, non-Hispanic, Asian, non-Hispanic and Hispanic. The DCRA numbers show significant changes from the existing plan, including the movement of 41.4% of CVAP in D10 (at 4) and 31.5% of D11 (at 5). Among the D11 population that was moved, there are significant differences by race and ethnicity. The 31.5% who are moved overall is an average between only 12.9% of APBNH, and 57.1% of Asians, with the 27.6% of WNH and 26.5% of Hispanics being closer to the overall average.

⁷⁷ Total: Total CVAP, WNH: White non-Hispanic, BNH: Any Part Black, non-Hispanic, ANH: Asian, non-Hispanic, HISP: Hispanic

Table VII.B.1 2024 Plan – Cooper Illustrative Plan Differential Core Retention of CVAP Population

119th	Cooper	Total	WNH	BNH	ANH	HISP
D10	Retained	292,800	157,093	24,089	56,382	52,289
	Moved	207,107	126,308	14,151	31,962	33,134
D11	Retained	349,205	220,157	32,615	37,128	57,481
	Moved	160,312	84,119	4,824	49,448	20,683
Total	Retained	642,005	377,250	56,704	93,510	109,771
	Moved	367,419	210,427	18,975	81,411	53,817
D10%	Retained	58.6%	55.4%	63.0%	63.8%	61.2%
	Moved 4	41.4%	44.6%	37.0%	36.2% 1	38.8%
D11%	Retained	68.5%	72.4%	87.1%	42.9%	73.5%
	Moved 5	31.5%	27.6%	12.9%	57.1% 2	26.5%
Total%	Retained	63.6%	64.2%	74.9%	53.5%	67.1%
	Moved	36.4%	35.8%	25.1%	46.5% 3	32.9%

Sources: 2019-2023 ACS, BGD Calculations

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VIII. Political Performance

184. In order to understand the redistricting landscape of New York, it is important to not only understand the demographic and physical characteristics of each plan, but also the political landscape of the plans.⁷⁸ I use election outcomes and standard demographic techniques to report election outcomes under four plans:

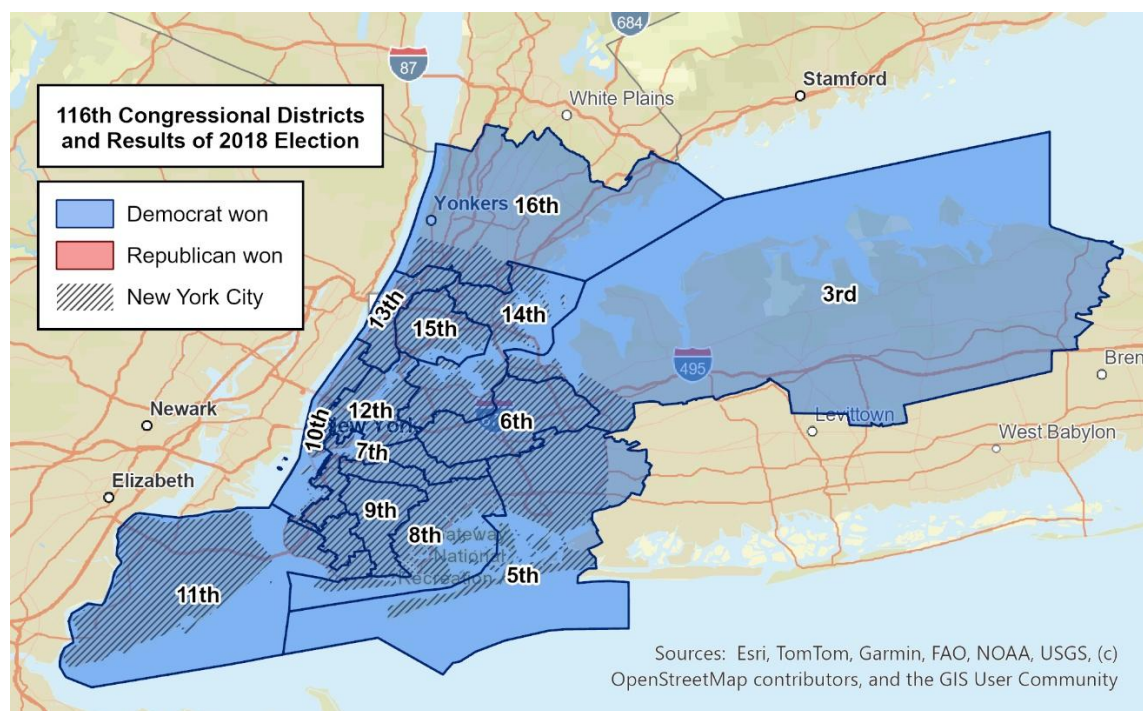
- The 2018 election, under the Existing Plan (pre-2020 Census, or 116th Congress),
- The 2022 election, under the 2021 Plan (first post-2020 Census, or 118th Congress),
- The 2024 election, under the 2024 Plan (second post-2020 Census, or 119th Congress), and
- The 2024 election, under Cooper's Illustrative Plan

A. 2018 Election

185. NYC voters overwhelmingly vote Democrat. In the 2018 election, every one of 13 U.S. House districts in and around NYC elected a Democrat, including D11 (see [Figure VIII.A.1](#)). In D10, the election was a landslide, with 82.1% of the votes going to Democratic candidate Jerrold Nadler (see [Figure VIII.A.2](#)). In D11, the election was much closer, with 53.0% of the votes going to Democratic candidate Max Rose (see [Figure VIII.A.3](#)) while Republican candidate Dan Donovan garnering 46.6% of the votes.

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⁷⁸ My analysis is a simple mathematical calculation and reporting of New York's election results and is not a definitive or scientific analysis of election results or is intended as proof of political gerrymandering. Such analysis and measures exist. "a definitive measure of partisan gerrymandering has long been the "holy grail," and adjudication of partisan gerrymandering claims has long been a dialectic between courts demanding and academics striving to provide quantitative measures of increasing sophistication. This dialectic has spurred a proliferation of such measures and techniques. Some of the leading ones include partisan bias, the efficiency gap, the declination, the mean-median difference, the lopsided-outcomes test, and ensemble methods." (Cover and Niven, 2021)

Figure VIII.A.1 NYC 2018 U.S. House Results

Sources: BGD analytics, <https://www.nytimes.com/interactive/2018/11/06/us/elections/results-house-elections.html>

Figure VIII.A.2 New York 2018 U.S. House District 10 Results

Percent	Candidate	Party	Votes	Winner
82.1%	Jerrold Nadler*	Dem	173,095	✓
17.9%	Naomi Levin	GOP	37,619	
100% of precincts reporting (559/559)				*Incumbent
210,714 total votes				

Source: <https://www.politico.com/election-results/2018/new-york/>

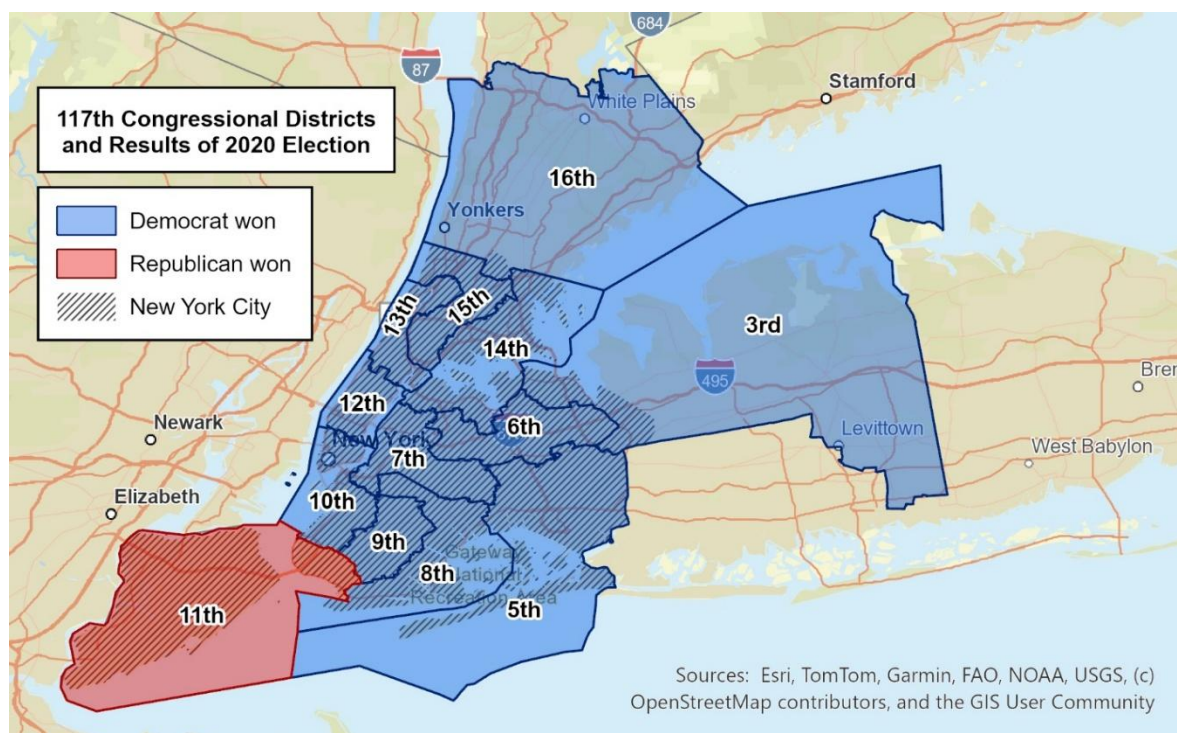
Figure VIII.A.3 New York 2018 U.S. House District 11 Results

Percent	Candidate	Party	Votes	Winner
53%	Max Rose	Dem	101,823	✓
46.6%	Dan Donovan*	GOP	89,441	
0.4%	Other		774	

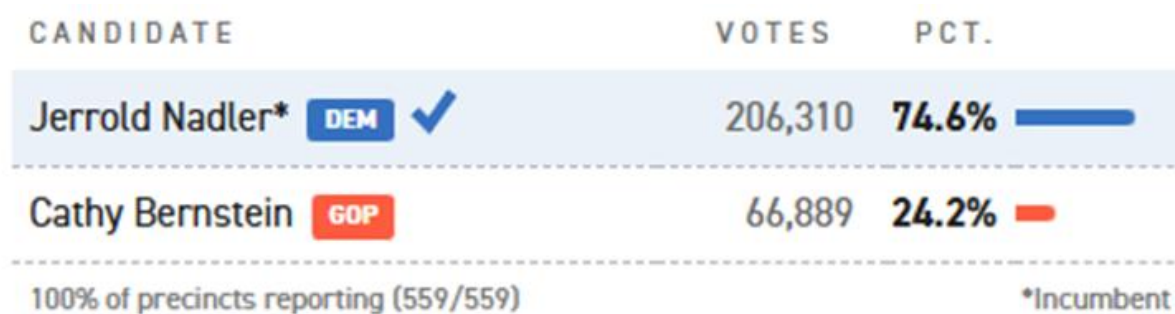
Source: <https://www.politico.com/election-results/2018/new-york/>

B. 2020 Election

186. In D10, the election was again a landslide, albeit with a lower 74.6% of the votes going to Democratic candidate Jerrold Nadler (see [Figure VIII.B.2](#)). But unlike the 2018 election, D11 swung to Republican candidate Nicole Malliotakis (see [Figure VIII.B.3](#)) with 53.1% of the votes, or a +6.5PP increase over Republican candidate Dan Donovan in 2018.

Figure VIII.B.1 NYC 2020 U.S. House Results

Sources: BGD analytics, <https://www.nytimes.com/interactive/2020/11/03/us/elections/results-house.html>

Figure VIII.B.2 New York 2020 U.S. House District 10 Results

Source: <https://www.politico.com/2020-election/results/new-york/house/>

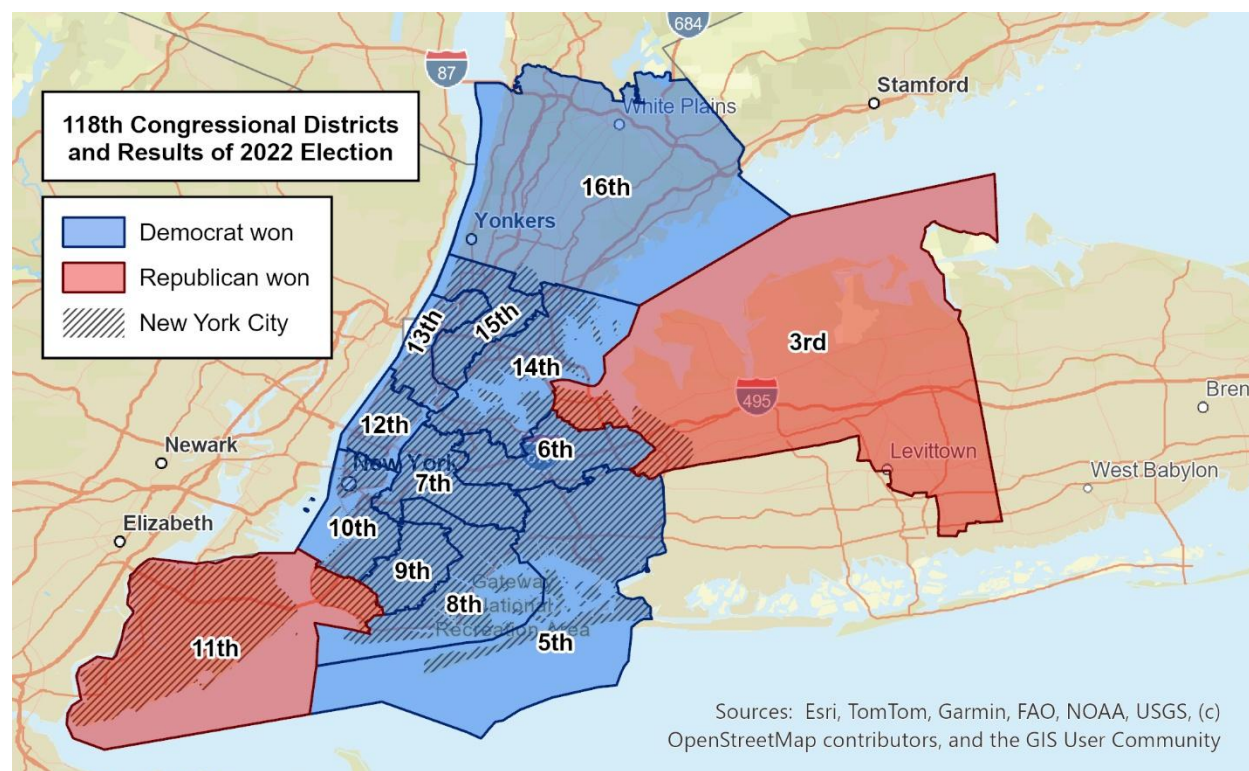
Figure VIII.B.3 New York 2020 U.S. House District 11 Results

Source: <https://www.politico.com/2020-election/results/new-york/house/>

C. 2022 Election

187. The 2022 election was held under the newly drawn district boundaries coming out of the NY Special Master's draw for the 118th. This time, every U.S. House seat in and around NYC, except *two* (the 3rd and 11th), elected a Democrat (see [Figure VIII.C.1](#)). In D10, the election was again a landslide, with 83.9% of the votes going to Democratic candidate Daniel Goldman (see [Figure VIII.C.2](#)).

188. The new configuration of D11 under the 2021 Plan had 22.7% combined APBNH and Hispanic CVAP (see [Figure IV.F.1](#)) – comparable to the previous configuration that had 23.0% combined CVAP (see [Figure IV.D.1](#)). In this election, candidate Nicole Malliotakis won 62.1% of the vote (see [Figure VIII.C.3](#)) – an increase of +9.0PP over 2020.

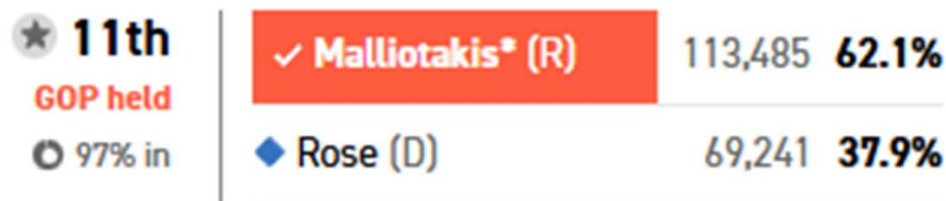
Figure VIII.C.1 NYC 2022 U.S. House Results

Sources: BGD analytics, <https://www.nytimes.com/interactive/2018/11/06/us/elections/results-house-elections.html>

Figure VIII.C.2 New York 2022 U.S. House District 10 Results

✓ Goldman (D)	149,261	83.9%
♦ Hamdan (R)	27,230	15.3%
◆ Speer	1,357	0.8%

Source: <https://www.politico.com/2022-election/results/new-york/house/>

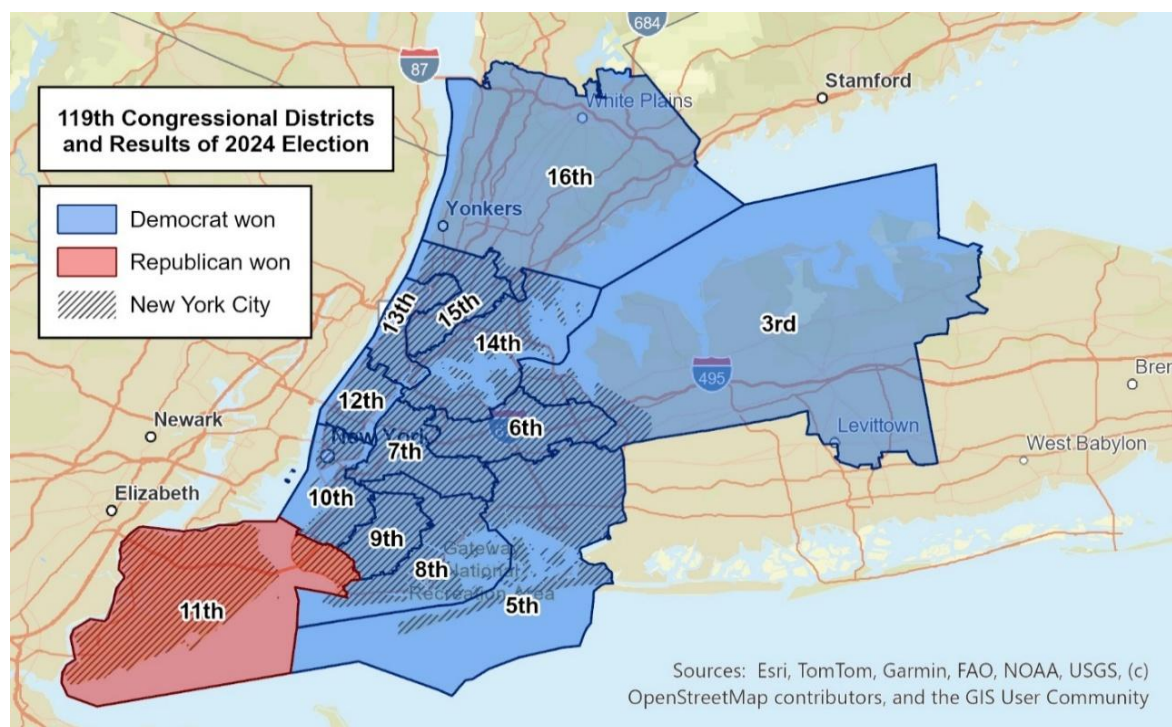
Figure VIII.C.3 New York 2022 U.S. House District 11 Results

Source: <https://www.politico.com/2022-election/results/new-york/house/>

D. 2024 Election

189. The 2024 election was held under the second set of newly drawn district boundaries for the 119th. In U.S. House District 10, the election was again a landslide, with 82.3% of the votes going to Democratic candidate Daniel Goldman. (see [Figure VIII.D.2](#)). And just like the 2020 election, the 11th elected Republican Nicole Malliotakis (see [Figure VIII.D.3](#)). The new 2024 configuration of D11 had 22.7% combined APBNH and Hispanic CVAP (see [Figure IV.H.1](#)) – nearly identical to the % combined CVAP under the 2021 Plan. And in this election, candidate Malliotakis won 64.1% of the vote (see [Figure VIII.D.3](#)) – an increase of +11.0PP over 2020 and +2.0PP over 2022.
190. In total, over 52 U.S. House races in and around NYC (2018, 2020, 2022, and 2024 for 13 districts), Democrats won 48.

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Figure VIII.D.1 NYC 2022 U.S. House Results

Sources: BGD analytics, <https://www.politico.com/2024-election/results/new-york/house/>

Figure VIII.D.2 New York 2024 U.S. House District 10 Results

	Votes	Pct.
✓ Daniel Goldman* (D)	206,206	82.3%
◦ Alexander Dodenhoff (R)	37,537	15.0
◦ Paul Briscoe (0th.)	6,747	2.7

Source: <https://www.politico.com/2024-election/results/new-york/house/>

Figure VIII.D.3 New York 2024 U.S. House District 11 Results

	Votes	Pct.
✓ Nicole Malliotakis* (R)	167,099	64.1%
◦ Andrea Morse (D)	93,586	35.9
* Incumbent 99% of expected vote in		

Source: <https://www.politico.com/2024-election/results/new-york/house/>

E. Cooper Plan

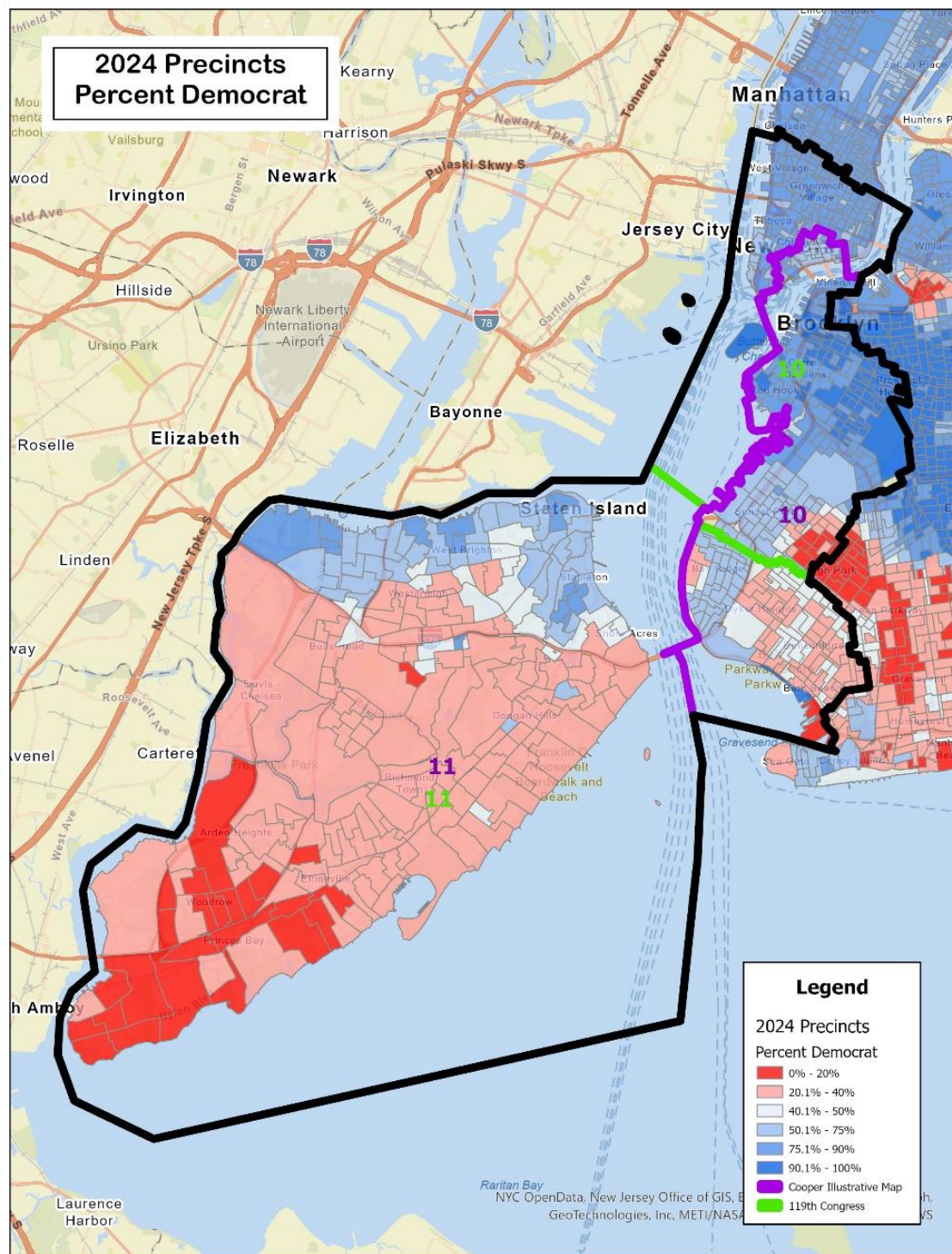
191. The percentage voting Democrat in the 2024 elections is shown by precinct in [Figure VIII.E.1](#).⁷⁹ In order to assess the hypothetical U.S. House performance in Districts 10 and 11 under Cooper’s Illustrative Plan, I have measured election outcomes of the individual voting precincts that Cooper moved, then aggregated those precincts to Cooper’s Districts 10 and 11.
192. Cooper’s draw moves 137 voting precincts (2024) from District 10 to District 11. In the 2024 election, those precincts had a distinct political preference. In the 2024 presidential race, 80.2% voted Republican. In the 2024 U.S. Senate race, 81.4% voted Republican. And in the 2024 U.S. House race, 80.5% voted Republican (see [Table VIII.E.1](#)).
193. Cooper’s draw moves 119 voting precincts (2024) from District 11 to District 10. In the 2024 election, those precincts *also* had a distinct political preference. In the 2024 presidential race, 41.5% voted Republican. In the 2024 U.S. Senate race, 47.0% voted Republican. And in the 2024 U.S. House race, 41.9% voted Republican. (see [Table VIII.E.1](#)).

Table VIII.E.1 Cooper Illustrative Plan 2024 % Democrat Election Results for Moved Precincts

	Presidential	U.S. Senate	U.S. House
D10 to D11	80.2%	81.4%	80.5%
D11 to D10	41.5%	47.0%	41.9%

Sources: BGD analytics, University of Florida Elections Lab <https://election.lab.ufl.edu/>

⁷⁹ As an average of the percentage voting Democrat in the presidential, U.S. Senate, and U.S. House races.

Figure VIII.E.1 Map of New York 2024 Voting Precincts % Democrat

Sources: BGD analytics, University of Florida Election Lab <https://election.lab.ufl.edu/>

194. As a result of these moves, Cooper’s Illustrative Plan incurs a significant cost for Republicans in the only Republican congressional district among 13 in and around NYC. Had the 2024 U.S. House race been held under his plan, Democrats would have garnered 72.5% of the votes in Cooper’s D10 (compared to the 82.3% in the actual election). While D11 becomes a dead heat (see [Table VIII.E.2](#)).

Table VIII.E.2 Cooper Illustrative Plan 2024 U.S. House Results

Cooper's	D11	D11	D10	D10	D10	Total	Total	Percent
District	Nicole Malliotakis (Rep.)	Andrea S. Morse (Dem.)	Paul J. Briscoe (Cons.)	Alexander Dodenhoff (Rep.)	Daniel Goldman (Dem.)	Rep. / Cons.	Dem.	Rep.
10	36,371	28,720	4,399	21,871	124,808	58,242	153,528	27.5%
11	130,728	64,866	2,348	15,684	81,398	146,412	146,264	50.0%

Sources: BGD Analytics, University of Florida Elections Lab <https://election.lab.ufl.edu/>

195. In summary, Cooper’s Illustrative Plan significantly increases WNH CVAP representation in D11, fractionally increases APBNH and Hispanics, and significantly lowers Asian representation compared to the 2024 plan. Since the majority of the population change was WNH, yet the political characteristics of the precincts moved skew heavily against Republicans - it is difficult to arrive at the conclusion that Cooper’s draw is intended to somehow benefit the two smaller minority populations in and around the district.

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IX. CONCLUSIONS

196. I have assessed the population characteristics of the pre-2020 Census, the 2021, the 2024, and Cooper's Illustrative Plan. My conclusions fall into two categories. First, how does Cooper's Illustrative Plan compare to the existing 2024 Plan? Then, what conflicts between the N.Y. VRA and the U.S. VRA does this case raise?

A. Demographics

197. Cooper's plan is inferior to the existing 2024 Plan in every traditional redistricting criterion. In summary, compared to the existing 2024 plan, Cooper's Illustrative Plan *increases* the percentage of White, non-Hispanic (WNH) CVAP by +2.6PP. He increases APBNH by +1.1PP and Hispanics by +0.9PP. While Asians are reduced by -4.6PP. That is, all of Cooper's efforts to redraw a district benefitting APBNH and Hispanics result in significantly increased representation of WNH, a fractional increase for APBNH and Hispanics, and the slashing of the largest single minority CVAP in D11: Asians.

B. Compactness

198. The compactness of Cooper's plan is inferior to that of the existing plan in every regard. His defense of his draw being compact because two separate, distant pieces connected by water are compact defies logic and precedent and invites future draws that could be absurd. The empirical compactness scores of Cooper's Illustrative Plan are all inferior to those of the 2024 Plan. Per the criteria of the *APA* court, Cooper's draw of the 11th fails the "eyeball test". And since D11 clearly "reaches out to grab small and apparently isolated minority communities," it does not provide population compactness. While this is fundamentally important under the U.S. VRA and the N.Y. Constitution (under which this case was filed) – compactness (or the lack thereof) of minority districts is irrelevant under the N.Y. VRA. The guidance of the N.Y. VRA for a map drawer to ignore compactness has the potential to result in absurd, unbelievable districts. It is conceivable under the existing N.Y. VRA guidance that a small minority population that could potentially have influence could be joined to some other small minority population far away that would have effectively no compactness and would subordinate the will of an overwhelming majority of voters in both places.

C. Communities of Interest

199. The impact of Cooper's draw on communities of interest is profound. His draw splits 20 VTDs from 2020, and a dozen existing, and known 2024 New York precincts – and says nothing to explain why. By comparison, the current 2024 Plan splits no precincts. Both the 2024 Plan and Cooper's Illustrative Plan split two neighborhoods, defined as NTAs. Last, Cooper's draw of the 10th and the 11th significantly divides and unbalances the Asian population. In D11, Asians would be reduced from the single largest CVAP minority population (at 17.7%) to only 12.4% - while in D10 they would be elevated to being larger

(23.4%) than APBNH and Hispanics combined (22.5%). Not only are the changes in the numbers of minorities striking, but *where* Cooper draws his boundaries is remarkable as well. He divides a large, contiguous Asian population in Lower Manhattan in half, leaving one smaller part on its own (in D11) and joins the other (primarily defined by Chinatown) to distant neighborhoods in Brooklyn – all of which are majority White or Hispanic, and have different characteristics of Asians than in Lower Manhattan.

D. Politics

200. It is notable that D11 is being litigated, since it is the only district currently being held by a Republican. Every congressional district in and around New York has a wide variety of coalition APBNH and Hispanic populations. Some with far more, and some with far less – all of which are reliably electing Democrats. Yet D11 is alleged to be uniquely violating the N.Y. VRA. The proposed remedy for this is to significantly rearrange D10 and D11, to strengthen WNH CVAP far more than the APBNH + Hispanics – at the expense of the Asian community.
201. Notably, the percentage of APBNH + Hispanics has remained nearly the same under each one of the different districting configurations, from pre-2020 Census, to the 2021 Plan, to the 2024 Plan. And politically, all that has changed is that a district that elected a Democrat in 2018 has now elected a Republican by increasing margins in each successive election. Under Cooper’s Illustrative Plan, that Republican majority is erased, and D11 would become a dead heat. The greatest feat of Cooper’s plan is to make the only Republican-held congressional district in and around New York competitive for Democrats.

E. N.Y. Constitution, U.S. VRA vs the N.Y. VRA

202. In assessing Cooper’s Illustrative Plan, several conflicts emerge between the N.Y. Constitution, the N.Y. VRA, and the U.S. VRA. In the U.S. VRA, the first Gingles precondition states that a minority population must be two things: a majority in an area, and compact. And the N.Y. Constitution (under which this case was filed) requires compactness. By comparison, the N.Y. VRA requires neither a majority nor compactness. If any population’s rights are infringed, they are entitled to protection under the N.Y. VRA. However large they must be to constitute an “influence” is undetermined. Is 10% an influence? 20%? What if other districts are already electing the political candidate of choice of the minorities when they have even fewer minorities? If a district has a single large majority-minority population (such as Asians in D11), are their rights somehow subordinate to a coalition of larger minorities? And what if it were determined that a minority of White, non-Hispanics were unable to elect a candidate of *their* choice? The language of §17-204 states:
- “Protected class” means a class of individuals who are members of a race, color, or language minority group, including individuals who are members of a minimum reporting category that has ever been officially recognized by the United States Census Bureau.

203. The literal reading of this is *any* demographic group, not just minority groups whose voting rights have historically been infringed. In the recent (2025) *Clarke v Town of Newburgh* decision, the New York Supreme Court wrote⁸⁰

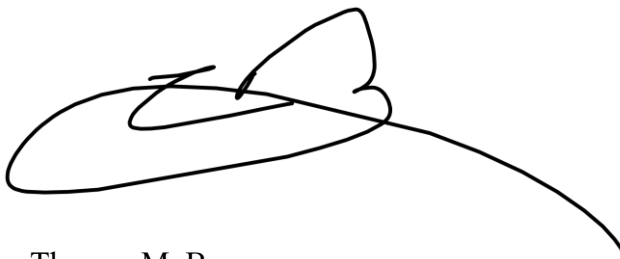
Bearing this maxim in mind, **we agree with the plaintiffs and the AG that the statute should be construed as allowing members of all racial groups, including white voters, to bring vote dilution claims**, [emphasis added] including when white voters constitute a minority in a political subdivision, as is the case in certain jurisdictions in New York (see *Portugal v Franklin County*, 1 Wash 3d at 648, 530 P3d at 1006 [stating that the Washington Voting Rights Act, which similarly allows “voters who are members of a race, color, or language minority group in the state of Washington, as this class is referenced and defined in the (FVRA)” (Wash Rev Code § 29A.92.010 [6]) to bring vote dilution claims, “on its face, . . . requires equal opportunit(ies) for voters of all races, colors, and language minority groups” (internal quotation marks omitted)]; *Sanchez v City of Modesto*, 145 Cal App 4th 660, 666, 51 Cal Rptr 3d 821, 826 [Ct App 2007] [stating that the CVRA, which similarly allows “voters who are members of a race, color, or language minority group, as this class is referenced and defined in the federal Voting Rights Act of 1965” (Cal Elec Code § 14026 [d]) to bring vote dilution claims, “gives a cause of action to members of any racial or ethnic group that can establish that its members' votes are diluted through the combination of racially polarized voting and an at-large election system” and *34 that “any racial group can experience the kind of vote dilution the CVRA was designed to combat, including Whites. Just as non-Whites in majority-White cities may have a cause of action under the CVRA, so may Whites in majority-non-White cities.

204. So in congressional districts such as the 13th, 14th, and 15th, where White non-Hispanics are significant minorities, the N.Y. VRA appears to avail *them* relief, if it is determined that the existing elected representatives are not *their* candidate of choice. In D14, for example, where Alexandria Ocasio-Cortez is the representative, what if a minority of White, non-Hispanic voters claimed Rep. Ocasio-Cortez was not *their* candidate of choice and demanded representation because *they* were a minority? What if those minority White voters were Republican? Should they be entitled to a different representative to replace Rep. Ocasio-Cortez because they are minorities, overriding the majority electoral will of the numerous majority-minority population who elected Rep. Ocasio-Cortez? If this case is held, then does the precedent become that any minority voter's rights prevail over the majority in every congressional district in the state? Or any representative district? And whichever minorities rights prevail (Asians, Hispanics, Blacks, or Whites) and their subsequent representation becomes a matter of litigation, not the electoral will of the majority of the voters.

⁸⁰ 237 A.D.3d 14, 226 N.Y.S.3d 310, 2025 N.Y. Slip Op. 00518 Supreme Court, Appellate Division, Second Department, New York 2024-11753, 2460/24 January 30, 2025

205. The guidance of the N.Y. VRA needs to be clarified to help determine what exactly is, and is not allowed, and to resolve differences with the U.S. VRA and the N.Y. Constitution.

Submitted: December 8, 2024

A handwritten signature in black ink, consisting of a large, stylized loop followed by a horizontal line and a long, sweeping tail that curves upwards and to the right.

Thomas M. Bryan

X. REFERENCES

- Bar-Natan A., Najt L., Schutzman Z. (2020) “The Gerrymandering jumble: map projections permute districts’ compactness scores”. *Cartography and Geographic Information Science* 47(4):321–335
- Barnes R, Solomon J (2021) “Gerrymandering and compactness: Implementation flexibility and abuse”. *Political Analysis* 29(4):448–466
- Belotti, P., Buchanan, A., & Ezazipour, S. (2023). “Political districting to optimize the Polsby-Popper compactness score”. Draft manuscript, optimization-online.org
- Cork, D. and P. Voss (eds.). (2006). *Once, Only Once, and in the Right Place: Residence Rules in the Decennial Census*. National Academies Press. Washington, D.C.
- Freeman N (2014) “Nobody lives here: The nearly 5 million census blocks with zero population”
<https://tumblr.mapbynik.com/post/82791188950/nobody-lives-here-the-nearly-5-million-census>
- Morrison, P. and T. Bryan (2019). *Redistricting: A Manual for Analysts, Practitioners, and Citizens*. Springer. Cham, Switzerland
- Reock, Ernest C (1961): “A note: Measuring compactness as a requirement of legislative apportionment”. In: *Midwest Journal of Political Science*, no. 1, vol. 5, pp. 70–74.
- Schwartzberg JE (1965) Reapportionment, Gerrymanders, and the notion of compactness. *Minnesota Law Review* 50:443
<https://core.ac.uk/download/pdf/217207073.pdf>
- U.S. Census Bureau (2020a). *Understanding and using American Community Survey Data: What all data users need to know*.
(https://www.census.gov/content/dam/Census/library/publications/2020/acs/acs_general_handbook_2020.pdf).
- Wilmoth, J. (2004) Population Size. pp. 65 -80 in J. Siegel and D. Swanson (eds.) *The Methods and Materials of Demography, 2nd Edition*. Elsevier Academic Press. San Diego, CA.

XI. APPENDICES

Appendix A: Current New York House of Representatives Delegation

Appendix B: U.S. VRA vs. N.Y. VRA

Appendix C: CVAP by Congressional Plan

- C.1 Pre-2020 Census CVAP
- C.2 2021 Plan CVAP
- C.3 2024 Plan CVAP

Appendix D: Compactness Measures

Appendix E: Differential Core Retention between the Pre-2020 Census (116th) and 2024 (119th) Enacted Plans

Appendix F: Terms and Definitions

Appendix A: Current New York House of Representatives Delegation

<u>Representative</u>	<u>% APBNH + Hispanic</u>	<u>% Democrat 2024</u>	<u>Race</u>
1. Nick LaLota (R)	20.1%	44%	WNH
2. Andrew Garbarino (R)	38.0%	40%	WNH
3. Tom Suozzi (D)	19.2%	52%	WNH
4. Laura Gillen (D)	39.7%	51%	WNH
5. Gregory Meeks (D)	64.3%	73%	Black
6. Grace Meng (D)	29.3%	61%	Asian
7. Nydia Velázquez (D)	46.9%	78%	Hispanic
8. Hakeem Jeffries (D)	61.3%	75%	Black
9. Yvette Clarke (D)	55.2%	74%	Black
10. Dan Goldman (D)	25.6%	82%	WNH
11. Nicole Malliotakis (R)	25.7%	36%	Hispanic
12. Jerry Nadler (D)	16.8%	81%	WNH
13. Adriano Espaillat (D)	77.3%	84%	Black & Hisp.
14. Alexandria Ocasio-Cortez (D)	66.9%	69%	Hispanic
15. Ritchie Torres (D)	85.5%	77%	Black & Hisp.
16. George Latimer (D)	50.8%	72%	WNH
17. Mike Lawler (R)	27.8%	46%	WNH
18. Pat Ryan (D)	29.5%	57%	WNH
19. Josh Riley (D)	12.5%	51%	WNH
20. Paul Tonko (D)	18.3%	61%	WNH
21. Elise Stefanik (R)	6.9%	38%	WNH
22. John Mannion (D)	16.5%	55%	WNH
23. Nick Langworthy (R)	6.7%	34%	WNH
24. Claudia Tenney (R)	7.7%	34%	WNH
25. Joseph Morelle (D)	25.6%	61%	WNH
26. Tim Kennedy (D)	27.0%	65%	WNH

Sources, 2024 U.S. House election results, <https://history.house.gov/People/Search/>,
<https://www.politico.com/2024-election/results/new-york/house/>

Appendix B: U.S. VRA vs. N.Y. VRA

State Voting Rights Act Overview

In recent years, a growing number of states have turned to State Voting Rights Acts (SVRAs) to fill the gaps left by the weakening of federal protections offered by the Voting Rights Act of 1965 (VRA). Many have been enacted in response to the outcome of *Shelby v. Holder* (2013), which dismantled the Section 4 preclearance formula. This invalidated the coverage formula determining which jurisdictions required federal review prior to the implementation of new rules, due to a history of racial discrimination.⁸¹ As a result, states seeking to guard against racial vote denial, dilution, and retrogression have increasingly begun enacting their own, more expansive safeguards. Unlike the federal VRA, which reaches from congressional districts down to local governments, SVRAs typically focus on local political jurisdictions and do not apply to congressional redistricting.

California enacted the first SVRA in 2002, followed by Illinois in 2011. After *Shelby*, six more states followed suit: Washington in 2018, Oregon in 2019, Virginia in 2021, New York in 2022, Connecticut in 2023, and Minnesota in 2024.⁸² With the newer, post-*Shelby* statutes, state and federal voting-rights protections have meaningfully diverged. Modern SVRAs often provide broader and more flexible tools than those available under federal law, including remedies that go *far* beyond mandatory single-member districts to address vote dilution.⁸³ Their provisions often include state-level preclearance requirements, prohibitions on voter intimidation, authorization of coalition or crossover districts, enhanced private rights of action, and the creation of state voting-related databases or dedicated enforcement funds.⁸⁴ State VRAs therefore often not only mirror, but exceed the goals of the federal VRA. For example, they encourage courts to craft locally tailored remedies, prioritize community input in the remediation process, and prevent discriminatory jurisdictions from defaulting to their preferred remedial plans.⁸⁵

The N.Y. VRA

In 2014, New York voters approved constitutional amendments (the “Redistricting Amendments”) that expressly prohibit race discrimination and racial vote dilution in voting in state assembly, senate, and congressional elections. In particular, Article III, Section 4(c)(1) provides that: “districts shall not be drawn to have the purpose of, nor shall they result in, the denial or abridgement” of minority voting rights. Further, “[d]istricts shall be drawn so that, based on the

⁸¹ <https://www.oyez.org/cases/2012/12-96>

⁸² <https://www.ncsl.org/state-legislatures-news/details/legislatures-pursue-state-level-voting-rights-acts>

⁸³ <https://fordhamdemocracyproject.com/2025/05/08/new-horizons-for-protecting-and-expanding-voting-rights-in-the-states/>

⁸⁴ <https://www.ncsl.org/elections-and-campaigns/state-voting-rights-acts>

⁸⁵ <https://campaignlegal.org/update/new-york-joins-other-states-enacting-state-level-voting-rights-act>

totality of the circumstances, racial or minority language groups do not have less opportunity to participate in the political process than other members of the electorate and to elect representatives of their choice.”

In 2022, the New York Legislature passed new legislation that extended the Constitution’s prohibition on voter suppression and vote dilution to local political subdivisions—the John R. Lewis Voting Rights Act of New York (the “NY VRA”) (N.Y. Elec. Law § 17-200). It is the most comprehensive SVRA in the country.⁸⁶ The language of the NY VRA mirrors the language of the constitutional prohibition against vote dilution in Section II, which states that “No voting qualification or prerequisite to voting, or standard, practice, or procedure shall be imposed or applied by any State or political subdivision to deny or abridge the right of any citizen of the United States to vote on account of race or color.” Courts have long interpreted this to include vote dilution, such as at-large elections that drown out minority voting power, gerrymandered districts that split or pack minority communities, and multi-member districts that minimize minority influence. Voter dilution in federal VRA cases is generally established through the Gingles preconditions.

§ 17-206(1)(a) of the N.Y. VRA provides that “No voting qualification, prerequisite to voting, law, ordinance, standard, practice, procedure, regulation, or policy shall be enacted or implemented by any board of elections or political subdivision in a manner that results in a denial or abridgment of the right of members of a protected class to vote.” Further, “No board of elections or political subdivision shall use any method of election, having the effect of impairing the ability of members of a protected class to elect candidates of their choice or influence the outcomes of elections, as a result of vote dilution.” The NYVRA is vastly broader than the U.S. VRA in that this is determined when the voting patterns of members of the protected class within the political subdivision are racially polarized, *or (not “and”)*, under the totality of the circumstances, the ability of members of the protected class to elect candidates of their choice or influence the outcome of elections is impaired.

§ 17-206(3) is a comprehensive outline of how exactly the NYVRA determines whether a violation has occurred. The VRA does not specify an exact formula or list of criteria, instead relying on the Gingles preconditions to identify dilution under a totality of circumstances. Factors that may be considered include, but are not limited to:

- (a) the history of discrimination in or affecting the political subdivision;
- (b) the extent to which members of the protected class have been elected to office in the political subdivision;

⁸⁶ <https://campaignlegal.org/update/new-york-joins-other-states-enacting-state-level-voting-rights-act>

- (c) the use of any voting qualification, prerequisite to voting, law, ordinance, standard, practice, procedure, regulation, or policy that may enhance the dilutive effects of the election scheme;
- (d) denying eligible voters or candidates who are members of the protected class to processes determining which groups of candidates receive access to the ballot, financial support, or other support in a given election;
- (e) the extent to which members of the protected class contribute to political campaigns at lower rates;
- (f) the extent to which members of a protected class in the state or political subdivision vote at lower rates than other members of the electorate;
- (g) the extent to which members of the protected class are disadvantaged in areas including but not limited to education, employment, health, criminal justice, housing, land use, or environmental protection;
- (h) the extent to which members of the protected class are disadvantaged in other areas which may hinder their ability to participate effectively in the political process;
- (i) the use of overt or subtle racial appeals in political campaigns;
- (j) a significant lack of responsiveness on the part of elected officials to the particularized needs of members of the protected class; and
- (k) whether the political subdivision has a compelling policy justification that is substantiated and supported by evidence for adopting or maintaining the method of election or the voting qualification, prerequisite to voting, law, ordinance, standard, practice, procedure, regulation, or policy.

The N.Y. VRA does *not* require the plaintiff to show that a district could have been drawn that would have a majority of residents of a single protected class. A plaintiff need only show that the current district map is responsible for the protected class's lack of electoral influence based on the existence of racially polarized voting or the totality of the circumstances. Otherwise, the NYVRA strengthens and adds several other provisions that make it easier to challenge discriminatory election practices. Specific comparisons of the U.S. VRA and N.Y. VRA follow:

Coalition Districts

The N.Y. VRA offers more flexible and expansive remedies than the U.S. VRA. NY courts may order coalition districts, crossover districts, influence districts, and alternative voting systems to solve voter dilution cases. By contrast, coalition districts are not protected under the U.S. VRA, as determined in *Petteway v. Galveston County*.

§ 17-206 2(c) prescribes:

- (iv) where there is evidence that more than one protected class of eligible voters are politically cohesive in the political subdivision, members of each of those protected classes may be combined;
- (v) evidence concerning the intent on the part of the voters, elected officials, or the political subdivision to discriminate against a protected class is not required;
- (vi) evidence that voting patterns and election outcomes could be explained by factors other than racially polarized voting, including but not limited to partisanship, shall not be considered;
- (vii) evidence that sub-groups within a protected class have different voting patterns shall not be considered;
- (viii) evidence concerning whether members of a protected class are geographically compact or concentrated shall not be considered, but may be a factor in determining an appropriate remedy;
- and (ix) evidence concerning projected changes in population or demographics shall not be considered, but may be a factor, in determining an appropriate remedy.

The salient parts of the N.Y. VRA and comparative features of the U.S. VRA are as follows:

Language Proficiency

§ 17-208: Language access requirements for voters with limited English proficiency are expanded beyond what is required by federal law. For jurisdictions whose populations have more than 2% or over 4,000 voting-age citizens, or contain a Native American Reservation, the subdivision is required to provide all voting materials (such as registration, ballots, voting notices, etc.) in both English and the language of the applicable language-minority group. The NYVRA also lowers the threshold of the required voting age population for each particular language minority, covering languages in more jurisdictions than the federal VRA.⁸⁷

Section 203 of the U.S. VRA requires that certain states and political subdivisions provide language assistance during elections for certain language minority groups who are unable to

⁸⁷ <https://www.naacpldf.org/wp-content/uploads/NYVRA-Fact-Sheet-Language-Assistance.pdf>

speak or understand English adequately enough to participate in the electoral process. The law covers those localities where there are more than 10,000, or over 5%, of the total voting age citizens in a single political subdivision who are members of a single language minority group, have depressed literacy rates, and do not speak English very well. Political subdivisions also may be covered through a separate determination for Indian Reservations. Determinations are based on data from the most recent Census, and the determinations are made by the Census Director.

Preclearance

§ 17-210: The NYVRA establishes state-level preclearance guidelines, requiring certain localities to obtain approval from the New York Attorney General's Civil Rights Bureau or a state court before implementing specified election-related changes. Covered policies include alterations to voting qualifications; prerequisites to voting; method of election; annexation, incorporation, or consolidation of political subdivisions; removal of voters from enrollment lists' number, location, or hours of poll sites; dates of elections; voter registration; and assistance for language-minority groups. "Covered entities" are defined as jurisdictions that have either (1) been found to violate civil rights laws within the past twenty-five years, or (2) demonstrated a dissimilarity index exceeding fifty within the previous ten years. For preclearance disputes, the statute also provides expedited judicial proceedings and preliminary relief options.

Section 5 of the U.S. VRA was enacted to freeze changes in election practices or procedures in covered jurisdictions until the new procedures have been determined, either after administrative review by the Attorney General, or after a lawsuit before the United States District Court for the District of Columbia, to have neither a discriminatory purpose nor effect. Section 5 provides two methods for a covered jurisdiction to comply with Section 5. The first method is by means of a declaratory judgment action filed by the covered jurisdiction in the D.C. District Court, and the second method is administrative review by the Civil Rights Division of the Department of Justice. Although the Court's decision in *Shelby* invalidated the Section 4 coverage formula, Section 5 itself remains intact. The Court left open the possibility that "Congress may draft another formula based on current conditions" using "current data reflecting current needs,"⁸⁸ but Congress has not done so despite several unsuccessful proposals.⁸⁹

⁸⁸ <https://democrats-judiciary.house.gov/media-center/press-releases/bipartisan-judiciary-members-supreme-court-acknowledges-the-work-of-the-voting-rights-act-is-not-complete>

⁸⁹ <https://www.brennancenter.org/our-work/research-reports/preclearance-under-voting-rights-act>

Voter Intimidation

§ 17-212: The NYVRA establishes robust protections against voter intimidation, deception, and obstruction. A violation occurs when an individual: (1) uses or threatens force in a manner reasonably likely to influence a person's voting behavior; (2) knowingly spreads deceptive or fraudulent information about election logistics, voter eligibility, consequences of voting, or endorsements, in a way that is reasonably likely to interfere with someone's ability to vote or voting behavior; or (3) obstructs access to polling places or election offices, or otherwise delays voters or the voting process, including ballot canvassing and tabulation. It provides flexible civil remedies for victims: "Upon a finding of a violation of any provision of this section, the court shall implement appropriate remedies that are tailored to remedy the violation, including but not limited to providing for additional time to cast a ballot that may be counted in the election at issue. Any party who shall violate any of the provisions...shall be liable to any prevailing plaintiff party for damages, including nominal damages for any violation, and compensatory or punitive damages for any intentional violation.

Section 11(b) of the U.S. VRA prohibits actual or attempted "intimidation," "threats," or "coercion" against a person "for voting or attempting to vote" or "for urging or aiding any person to vote or attempt to vote." No intent to intimidate is required so long as the behavior has the effect of intimidating voters. Section 12 notably provides criminal penalties absent from the NYVRA: "Whoever shall deprive or attempt to deprive any person of any right secured by section 2, 3, 4, 5, 7, or 10 or shall violate section 11(a) or (b), shall be fined not more than \$5,000, or imprisoned not more than five years, or both." This applies to those conspiring to commit a violation as well. The U.S. Attorney General may also bring actions for preventive relief, including temporary or permanent injunctions, restraining orders, or other directives requiring state or local election officials to permit eligible persons to vote and to count those votes.

Enforcement

§ 17-214: The N.Y. VRA is enforced by the New York Attorney General, who is authorized to bring civil actions to prevent or remedy violations.

The U.S. VRA is enforced primarily by the U.S. Department of Justice as well as private plaintiffs, who may bring lawsuits seeking injunctions, declaratory judgments, or other equitable relief.

Interpretation

§ 17-200: The N.Y. VRA instructs state judges to interpret election laws in a pro-voter way whenever possible: "all statutes, rules and regulations . . . shall be construed liberally in favor of . . . ensuring voters of race, color, and language-minority groups have equitable access to fully participate in the electoral process in registering to vote and voting."

The U.S. VRA provides rigorous guidance through Gingles Preconditions and totality of circumstance guidance for courts to determine VRA compliance

NYVRA Controversies

On March 26, 2024, six Black and Hispanic voters filed a complaint against the town of Newburgh, N.Y., for utilizing an at-large voting system that allegedly violated the newly enacted NYVRA. Newburgh contended that the vote-dilution provisions of N.Y. VRA violate the Equal Protection Clause of both the U.S. Constitution (14th Amendment) and the New York Constitution. They argued that the N.Y. VRA creates race-based classifications: by banning election systems (like at-large elections) that have racially polarized effects, Newburgh claimed the law forces them to make decisions based on race, triggering strict scrutiny. It creates a sort of catch-22: changing their election system to comply would mean adopting another election system based entirely on race, a violation of equal protection itself.⁹⁰ The trial judge issued a ruling invalidating the N.Y. VRA as unconstitutional, but it was swiftly overturned on appeal.⁹¹ The appellate judge decided that the N.Y. VRA does not necessarily force an equal protection violation, as there are remedies available that are not based on race (such as ranked-choice voting and increasing voter education). Just days ago, on November 20th, the Court of Appeals affirmed that local government cannot assert a state or federal equal protection challenge to the vote dilution provision of the state's VRA, and the plaintiff's challenge did not fall within a narrow exception for when compliance with legislation would force the municipality to violate the Constitution.

⁹⁰ https://vhdsfh2oms2wcnsvk7sdv3so.blob.core.windows.net/thearp-media/documents/NY_2024_11753_12.9.24_1259.pdf

⁹¹ https://campaignlegal.org/cases-actions/defending-new-yorkers-ability-use-new-york-voting-rights-act-challenge-discrimination?utm_source=chatgpt.com

Appendix C.1: CVAP Pre-2020 Census

<u>116th</u>	<u>Total</u>	<u>WNH</u>	<u>APBNH</u>	<u>ANH</u>	<u>HISP</u>	<u>APBNH + HISP</u>
3	541,378	381,176	18,118	85,789	52,399	70,516
5	522,721	69,122	271,915	86,025	85,851	357,766
6	457,365	180,373	24,756	160,254	87,336	112,092
7	458,913	171,321	51,240	73,520	159,029	210,269
8	556,584	152,712	273,133	37,213	88,441	361,574
9	499,237	173,365	232,443	37,119	52,606	285,049
10	506,116	330,062	28,289	83,764	60,024	88,313
11	511,163	317,211	39,335	73,512	78,386	117,721
12	560,097	379,438	34,958	70,161	69,853	104,811
13	484,060	89,919	141,131	26,013	222,956	364,087
14	400,149	115,913	47,307	68,240	164,996	212,303
15	434,223	16,281	148,131	8,784	257,468	405,599
16	517,080	195,733	162,241	27,291	127,741	289,983
Total	6,449,086	2,572,626	1,472,997	837,683	1,507,085	2,980,083

Sources: 2019-2023 American Community Survey, Census TIGER, BGD analysis

Total: Total CVAP

WNH: White, non-Hispanic CVAP

APBNH: Any Part Black, non-Hispanic CVAP, including Black or African American Alone, in combination with White and American Indian or Alaska Native.

ANH: Asian, non-Hispanic CVAP, including Asian alone and in combination with White

HISP: Hispanic

Appendix C.2: CVAP 2021 Plan

<u>118th</u>	<u>Total</u>	<u>WNH</u>	<u>APBNH</u>	<u>ANH</u>	<u>HISP</u>	<u>APBNH + HISP</u>
3	559,447	358,685	21,064	110,928	64,230	85,294
5	520,923	87,103	249,866	84,301	90,254	340,120
6	434,427	150,819	24,564	162,376	92,079	116,642
7	490,454	202,737	68,086	59,437	155,085	223,172
8	517,532	156,231	243,414	38,780	75,475	318,889
9	485,960	163,393	233,344	36,565	48,951	282,295
10	500,756	283,817	39,259	87,635	85,569	124,828
11	509,518	304,276	37,439	86,576	78,164	115,603
12	548,664	394,163	31,364	60,175	58,695	90,059
13	510,852	101,492	147,162	27,318	230,375	377,537
14	440,634	101,570	92,233	46,626	195,924	288,157
15	456,954	53,138	156,415	13,871	229,640	386,055
16	521,326	245,384	118,180	31,974	122,248	240,428
Total	6,497,447	2,602,808	1,462,388	846,564	1,526,692	2,989,080

Sources: 2019-2023 American Community Survey, Census TIGER, BGD analysis

Total: Total CVAP

WNH: White, non-Hispanic CVAP

APBNH: Any Part Black, non-Hispanic CVAP, including Black or African American Alone, in combination with White and American Indian or Alaska Native.

ANH: Asian, non-Hispanic CVAP, including Asian alone and in combination with White

HISP: Hispanic

Appendix C.3: CVAP 2024 Plan

<u>119th</u>	<u>Total</u>	<u>WNH</u>	<u>APBNH</u>	<u>ANH</u>	<u>HISP</u>	<u>APBNH + HISP</u>
3	555,988	351,543	22,608	111,534	65,760	88,368
5	520,923	87,103	249,866	84,301	90,254	340,120
6	426,340	144,503	25,885	159,506	92,081	117,966
7	485,998	199,561	66,001	57,755	157,879	223,880
8	522,204	160,072	245,380	40,186	72,636	318,016
9	486,593	163,144	234,481	36,132	49,143	283,625
10	499,907	283,401	38,241	88,344	85,423	123,664
11	509,518	304,276	37,439	86,576	78,164	115,603
12	548,664	394,163	31,364	60,175	58,695	90,059
13	510,852	101,492	147,162	27,318	230,375	377,537
14	441,719	107,020	78,142	48,962	202,930	281,072
15	458,048	53,485	166,380	15,052	219,518	385,899
16	527,234	245,903	120,983	31,328	125,362	246,345
Total	6,493,988	2,595,666	1,463,932	847,170	1,528,222	2,992,154

Sources: 2019-2023 American Community Survey, Census TIGER, BGD analysis

Total: Total CVAP

WNH: White, non-Hispanic CVAP

APBNH: Any Part Black, non-Hispanic CVAP, including Black or African American Alone, in combination with White and American Indian or Alaska Native.

ANH: Asian, non-Hispanic CVAP, including Asian alone and in combination with White

HISP: Hispanic

Appendix D: Compactness

The Reock compactness score (Reock, 1961) is computed by dividing the area of the district by the area of the smallest circle that would completely enclose it. Since the circle encloses the district, its area cannot be less than that of the district, and so the Reock compactness score will always be a number between 0 and 1 (which may be expressed as a percentage). The Reock Score (R) is the ratio of the area of the district (A_D) to the area of a minimum bounding circle (A_{MBC}) that encloses the district's geometry.

$$\text{(Reock score)} \quad R = \frac{A_D}{A_{MBC}}$$

The Area/Convex Hull test computes the ratio of is the ratio of the area of the district A_D to the area of the convex hull of the district (A_{MCP} - the minimum convex polygon which completely contains the district). This measure is always between 0 and 1, with 1 being the most compact.

$$\text{(Convex Hull score)} \quad CH = \frac{A_D}{A_{MCP}}$$

The Polsby-Popper (PP) measure is the ratio of the area of the district (A_D) to the area of a circle whose circumference is equal to the perimeter of the district (P_D). The factor 4π ensures that the resulting score takes a value between 0 and 1 - with 1 being entirely circular and the most compact.

$$\text{(Polsby-Popper score)} \quad PP(D) := \frac{4\pi A_D}{P_D^2},$$

Reock: Area of district relative to area of smallest circle that contains it.



Convex-Hull: Area of district relative to area of smallest convex polygon containing it.



Polsby-Popper: Area of district relative to area of circle with same circumference as the district perimeter.



The Schwartzberg test (Schwartzberg, 1966) is a perimeter-based measure that compares a simplified version of each district to a circle, which is considered to be the most compact shape possible. Taking the square root of the inverse Polsby-Popper score gives the Schwartzberg score (Belotti, 2023) which notably results in an identical ranking of geographies. Unlike other measures, the scale of Schwartzberg values is *above* 1, with *lower* values approaching 1 being most compact.

$$(\text{Schwartzberg score}) \quad PP(D)^{-1/2} := \frac{P_D}{\sqrt{4\pi A_D}},$$

Schwartzberg: Ratio of district to a circle with the same area as the district.



The Polsby-Popper and Schwartzberg ratios place high importance on district perimeter. One criticism of perimeter-related scores is that they suffer from the Coastline Paradox in which boundary lengths are not well-defined and depend on the choice of map projection and the “size of your ruler” (Bar-Natan et al. 2020, Barnes and Solomon 2021). Another criticism can be summarized with the slogan “land does not vote; people do”. In 2010, 47% of all census blocks were uninhabited (Freeman 2014); reassigning these blocks to different districts can significantly change the Polsby-Popper score, but the districts would function the same.

This is precisely why it is important to use multiple compactness scores (in this case the Polsby-Popper, Schwartzberg, Reock and Convex Hull measures) and let the reader judge which one is a better fit based on the geography of the district and method of calculation each score uses. A higher score means more compact, but the scores using different measures cannot be directly compared to each other.

Appendix E: Differential Core Retention between the Pre-2020 Census (116th) and 2024 (119th) Enacted Plans

<u>116th</u>	<u>119th</u>	<u>Total</u>	<u>WNH</u>	<u>BNH</u>	<u>ANH</u>	<u>HISP</u>
7	8	227	71	20	4	132
7	10	207,469	86,984	19,349	47,637	51,544
7	11	206	78	0	128	0
7 Total		207,902	87,133	19,369	47,769	51,677
8	8	408,753	105,814	220,193	19,910	59,308
8	9	32,887	3,319	25,073	1,624	2,680
8	10	11,667	6,051	2,118	1,714	1,416
8 Total		453,308	115,183	247,384	23,248	63,404
9	8	73,889	31,113	22,297	10,884	9,289
9	9	366,821	100,588	205,489	20,117	37,749
9	10	58,526	41,664	4,657	6,118	5,567
9 Total		499,237	173,365	232,443	37,119	52,606
10	9	72,260	48,256	3,521	12,598	7,336
10	10	139,715	97,810	6,699	20,302	13,980
10	11	52,108	21,042	1,372	24,117	5,062
10	12	220,333	150,351	14,388	23,726	30,250
10	13	21,701	12,602	2,310	3,021	3,397
10 Total		506,116	330,062	28,289	83,764	60,024
11	8	39,334	23,075	2,870	9,388	3,905
11	9	14,625	10,981	399	1,793	1,378
11	11	457,204	283,155	36,066	62,331	73,102
11 Total		511,163	317,211	39,335	73,512	78,386
12	10	82,529	50,892	5,418	12,573	12,916
12	12	328,135	243,792	16,965	36,361	28,369
12	13	2,095	320	1,135	25	575
12 Total		412,760	295,004	23,518	48,959	41,861
13	12	196	20	11	89	76
13	13	379,219	80,227	119,602	20,633	155,547
13 Total		379,414	80,247	119,613	20,721	155,623
Total		2,969,900	1,398,205	709,950	335,092	503,581
<u>116th</u>	<u>119th</u>	<u>Total</u>	<u>WNH</u>	<u>BNH</u>	<u>ANH</u>	<u>HISP</u>
D10	Retained	139,715	97,810	6,699	20,302	13,980
	Moved	366,401	232,252	21,591	63,462	46,044
D11	Retained	457,204	283,155	36,066	62,331	73,102
	Moved	53,959	34,056	3,268	11,181	5,284
Total	Retained	596,919	380,966	42,765	82,633	87,082
	Moved	420,360	266,308	24,859	74,643	51,328
D10%	Retained	27.6%	29.6%	23.7%	24.2%	23.3%
	Moved	72.4%	70.4%	76.3%	75.8%	76.7%
D11%	Retained	89.4%	89.3%	91.7%	84.8%	93.3%
	Moved	10.6%	10.7%	8.3%	15.2%	6.7%
Total%	Retained	58.7%	58.9%	63.2%	52.5%	62.9%
	Moved	41.3%	41.1%	36.8%	47.5%	37.1%

Sources: 2019-2023 American Community Survey DOJ Special Tabulation, BGD calculations

Appendix F: Terms and Definitions

Term	Description
ACS	American Community Survey.
APB	Any Part Black population – defined as Black or African American alone or in combination, including Hispanic.
APBNH	Any Part Black Non Hispanic population – defined as Black or African American alone or in combination, including Hispanic.
CVAP	Citizen Voting Age Population. See: https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.2019.html
DCRA	Differential Core Retention Analysis - which measures how many total VAP were retained in each district when the new plan was drawn (the “core”) and how many VAP by race and ethnicity were retained (the “differential”) by district.
VAP	Voting Age Population, 18+. See: https://www.census.gov/topics/public-sector/voting/about/faqs.html
VRA	Voting Rights Act of 1965 See: https://www.archives.gov/milestone-documents/voting-rights-act
VTD	Voting Tabulation District, comparable with precincts.

XII. Thomas M. Bryan Vitae

Introduction

I am an applied demographic, analytic, and research professional who leads a team of experts in state and local redistricting cases. I have subject matter expertise in political and school redistricting and Voting Rights Act-related litigation, U.S. Census Bureau data, geographic information systems (GIS), applied demographic techniques, and advanced analytics.

Education & Academic Honors

2002 MS, Management and Information Systems - George Washington University

2002 GSA CIO University graduate - George Washington University

1997 Graduate credit courses taken at University of Nevada at Las Vegas

1996 MUS (Master of Urban Studies) Demography and Statistics core - Portland State University

1992 BS, History - Portland State University

Online

BGD company website: <https://www.bryangeodemo.com/>

ResearchGate: <https://www.researchgate.net/profile/Thomas-Bryan-6>

LinkedIn: <https://www.linkedin.com/in/thomas-bryan-424a6912>

Bryan GeoDemographics, January 2001-Current: Founder and President

I founded Bryan GeoDemographics (BGD) in 2001 as a demographic and analytic consultancy to meet the expanding demand for advanced analytic expertise in applied demographic research and analysis. Since then, my consultancy has broadened to include expert support of political, state, local and school redistricting. Since 2001, BGD has undertaken over 150 such engagements in two broad areas:

- 1) state and local redistricting; and
- 2) applied demographic studies, including health sciences and municipal Infrastructure

In 2024, I was appointed to the 2030 Census Advisory Committee for a period of one year.

The core of the BGD consultancy has been in state and local redistricting and bipartisan expert witness support of litigation. Engagements include:

Redistricting

- 2025: In the matter of *Jaso v. Angleton School District* in the US District Court for the Southern District of Texas. Providing expert demographic and analytic litigation support to Defendants.
 - <https://dockets.justia.com/docket/texas/txsdce/3:2024cv00194/1964626>
- 2024-2025: In the matter of *Bautista v. Humble School District* in the US District Court for the Southern District of Texas. Providing expert demographic and analytic litigation support to Defendants.
 - <https://dockets.justia.com/docket/texas/txsdce/4:2024cv01744/1959524>
- 2024-2025: In the matter of *CMA v. Thurston* in the US District Court for the Eastern District of Arkansas. Providing expert demographic and analytic litigation support to Defendants.
 - <https://arkansasadvocate.com/2023/12/06/federal-panel-allows-4th-arkansas-congressional-redistricting-lawsuit-to-continue/#:~:text=Thurston%20%E2%80%94%20This%20was%20the%20only,s%20subject%20matter%20jurisdiction%20in%20May.>
- 2024: Providing expert demographic and analytic litigation support to Franklin County Public Utility District (PUD) in defense of Washington Voting Rights Act violation claim by UCLA Voting Rights Project.
 - https://www.nbcrightnow.com/news/franklin-county-puds-at-large-election-system-challenged-by-voting-rights-project/article_c06332a2-250f-11ef-8b04-17ccb3eda4e3.html
- 2024: In the matter of *Jessica Garcia Shafer and Dona Kim Murphey v. Pearland Independent School District, et al.* in US District Court for the Southern District of Texas. Providing expert demographic and analytic litigation support to Defendants.
 - <https://dockets.justia.com/docket/texas/txsdce/3:2022cv00387/1894835>
- 2023: In the matter of *Grace, Inc. v. City of Miami* in U.S. District Court for the Southern District of Florida. Providing expert demographic and analytic litigation support to Defendants.
 - <https://thearp.org/litigation/grace-inc-v-city-miami/>
- 2023: In the matter of *Navajo Nation v. San Juan County Board of Commissioners* in the US District Court for the District of New Mexico. Providing expert demographic and analytic litigation support to Defendants. Deposed in May 2023.
 - <https://dockets.justia.com/docket/new-mexico/nmdce/1:2022cv00095/470450>

- 2022: In the matter of *White v. Mississippi State Board of Election Commissioners* in United States District Court, Northern District of MS In collaboration with demographic testifying expert Dr. David Swanson, on behalf of Defendants. Provided expert demographic and analytic litigation support of MS Supreme Court redistricting litigation.
 - <https://www.aclu-ms.org/en/cases/white-v-mississippi-board-election-commissioners>
- 2022: Retained as demographic and redistricting expert for the Louisiana Attorney General in *Robinson v. Ardoin* and *Galmon v. Ardoin* and related Louisiana redistricting litigation. Offering opinions on demography and redistricting for their congressional redistricting plan and Plaintiff's proposed illustrative plans as a testifying expert. My testimony and analysis were not credited in the court's decision.
 - <https://news.ballotpedia.org/2022/04/04/louisiana-enacts-new-congressional-district-boundaries-after-legislature-overrides-governors-veto/>
- 2022: Retained by counsel as demographic and redistricting expert for the Kansas Legislature in support of *Rivera et al. v Schwab* litigation. Kansas Supreme Court found in favor of Kansas Legislature plan on June 21, 2022.
 - <https://thearp.org/litigation/rivera-v-schwab/>
 - https://www.kscourts.org/KSCourts/media/KsCourts/Opinions/125092_1.pdf?ext=.pdf
- 2022: Retained by counsel as demographic and redistricting expert for the State of Michigan in the matter of *Banerian v. Benson* and related Michigan redistricting litigation. Offering opinions on demography and redistricting for Michigan's Congressional redistricting plan. Currently before SCOTUS pending jurisdictional statement.
 - <https://www.scotusblog.com/case-files/cases/banerian-v-benson/>
- 2021: Retained as demographic and redistricting expert for the Wisconsin Legislature in *Johnson v. Wisconsin Elections Commission*, No. 2021AP001450-OA (Wis. Supreme Court) and related Wisconsin redistricting litigation. Offering opinions on demography and redistricting for redistricting plans proposed as remedies in impasse suit. The Wisconsin Supreme Court decided in favor of the Democratic Governor's plan on March 2, 2022.
 - <https://www.wpr.org/us-supreme-court-rejects-legislative-map-drawn-evers-was-endorsed-wisconsin-supreme-court>
 - <https://www.nytimes.com/2022/04/15/us/wisconsin-districts-gerrymander-supreme-court.html>

- 2021: Retained as demographic and redistricting expert by counsel for Galveston County, TX. Galveston County, TX was later sued by the US Department of Justice (*Petteway v. Galveston County, Texas*). Testified before U.S. District Judge Jeffrey Vincent Brown, who found for the Plaintiffs. Judge Brown said of my testimony “the court credits Bryan – an eminently believable witness” and that I “testified credibly”. Defendants appealed to SCOTUS who reviewed the case in December in 2023 and refused to intervene. The case will continue in 2024 before the 5th Circuit Court.
 - <https://thearp.org/litigation/united-states-v-galveston-county-tex/>
 - <https://www.scotusblog.com/2023/12/supreme-court-wont-block-new-maps-for-galveston-county/>
- 2021: Retained as demographic and redistricting expert by the State of Alabama Attorney General’s office in the matters of *Milligan v. Merrill*, *Thomas v. Merrill* and *Singleton v. Merrill* over Alabama’s Congressional redistricting initiatives. My testimony and analysis were not credited in the court’s decision.
- 2021: Retained as nonpartisan demographic and redistricting expert by counsel in the State of North Carolina to prepare commissioner redistricting plans for Granville County, Harnett County, Jones County and Nash County. Each proposed plan was approved and successfully adopted.
- 2021: Served as Consultant to the Arizona Independent Redistricting Commission, presenting “Pros and Cons of (Census data) Differential Privacy”. July 13, 2021.
 - <https://irc.az.gov/sites/default/files/meeting-agendas/Agenda%207.13.21.pdf>
- 2021: Retained as demographic and redistricting expert by Democratic Counsel for the State of Illinois in the case of *McConchie v. State Board of Elections*. Prepared expert report in defense of using the American Community Survey to comply with state constitutional
 - <https://redistricting.ils.edu/case/mcconchie-v-ill-state-board-of-elections/>.
- 2021: Retained by counsel for the Chairman and staff of the Texas House Committee on Redistricting as a consulting demographic expert. Texas House Bill 1 subsequently passed by the Legislature 83-63.
 - <https://capitol.texas.gov/BillLookup/History.aspx?LegSess=873&Bill=HB1>
- 2021: In the matter of the *State of Alabama, Representative Robert Aderholt, William Green and Camaran Williams v. the US Department of Commerce; Gina Raimondo; the US Census Bureau and Ron Jarmin* in US District Court of Alabama Eastern Division. Prepared a

demographic report for Plaintiffs analyzing the effects of using Differential Privacy on Census Data in Alabama and was certified as an expert witness by the Court.

- <https://www.alabamaag.gov/Documents/news/Census%20Data%20Manipulation%20Lawsuit.pdf>
- <https://www.courtlistener.com/docket/59728874/3/6/the-state-of-alabama-v-united-states-department-of-commerce/>
- 2020-2021: Providing expert demographic and analytic litigation support of Franklin County, WA (in collaboration with Dr. Peter Morrison) in defense of Washington Voting Rights Act violation claim by UCLA Voting Rights Project. The case later proceeded (without my participation) to become *Gimenez v. Franklin County, WA*.
 - <https://thearp.org/litigation/gimenez-v-franklin-county-washington/>
- 2020: In the matter of The Christian Ministerial Alliance (CMA), *Arkansas Community Institute v. the State of Arkansas*. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Providing demographic and analytic litigation support.
 - https://www.naacpldf.org/wp-content/uploads/CMA-v.-Arkansas_FILED-without-stamp.pdf
- 2020: In the matter of *Aguilar, Gutierrez, Montes, Palmer and OneAmerica v. Yakima County* in Superior Court of Washington under the Washington Voting Rights Act (“WVRA” Wash. Rev. Code § 29A.92.60). In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Providing demographic and analytic litigation support.
 - <https://bloximages.newyork1.vip.townnews.com/yakimaherald.com/content/tncms/assets/v3/editorial/a/4e/a4e86167-95a2-5186-a86c-bb251bf535f1/5f0d01eec8234.pdf.pdf>
- 2018-2020: In the matter of *Rene Flores, Maria Magdalena Hernandez, Magali Roman, Make the Road New York, and New York Communities for Change v. Town of Islip, Islip Town Board, Suffolk County Board of Elections* in US District Court. On behalf of Defendants - provided a critical analysis of plaintiff’s demographic and environmental justice analysis. The critique revealed numerous flaws in both the demographic analysis as well as the tenets of their environmental justice argument, which were upheld by the court. Ultimately developed mutually agreed upon plan for districting.
 - <https://nyelectionsnews.wordpress.com/2018/06/20/islip-faces-section-2-voting-rights-act-challenge/>
 - <https://casetext.com/case/flores-v-town-of-islip-3>

- 2017-2020 In the matter of *NAACP, Spring Valley Branch; Julio Clerveaux; Chevon Dos Reis; Eric Goodwin; Jose Vitelio Gregorio; Dorothy Miller; and Hillary Moreau v East Ramapo Central School District (Defendant)* in United States District Court Southern District Of New York (original decision May 25, 2020), later the U.S. Second Circuit Court of Appeals. On behalf of Defendants, developed mutually agreed upon district plan and provided demographic and analytic litigation support.
 - <https://www.lohud.com/story/news/education/2020/05/26/federal-judge-sides-naacp-east-ramapo-voting-rights-case/5259198002/>
- 2017-2020: In the matter of *Pico Neighborhood Association et al v. City of Santa Monica* brought under the California VRA. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Providing demographic and analytic litigation support. Executed geospatial analysis to identify concentrations of Hispanic and Black CVAP to determine the impossibility of creating a minority majority district, and demographic analysis to show the dilution of Hispanic and Black voting strength in a district (vs at-large) system. Work contributed to Defendants prevailing in landmark ruling in the State of California Court of Appeal, Second Appellate District.
 - <https://www.santamonica.gov/press/2020/07/09/santa-monica-s-at-large-election-system-affirmed-in-court-of-appeal-decision>
- 2019: In the matter of *Johnson v. Ardoin / the State of Louisiana* in United States District Court. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Provided expert demographic and analytic litigation support.
 - https://www.brennancenter.org/sites/default/files/2019-10/2019-10-16-Johnson%20v_%20Ardoin-132-Brief%20in%20Opposition%20to%20MTS.pdf
 - <https://casetext.com/case/johnson-v-ardoin>
- 2019: In the matter of *Suresh Kumar v. Frisco Independent School District et al.* in United States District Court. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Provided expert demographic and analytic litigation support. Successfully defended.
 - <https://www.friscoisd.org/news/district-headlines/2020/08/04/frisco-isd-wins-voting-rights-lawsuit>
 - <https://www.courthousenews.com/wp-content/uploads/2020/08/texas-schools.pdf>

- 2019: At the request of the City of Frisco, TX in collaboration with demographic testifying expert Dr. Peter Morrison. Provided expert demographic assessment of the City's potential liability regarding a potential Section 2 Voting Rights challenge.
- 2019: In the matter of *Vaughan v. Lewisville Independent School District et al.* in United States District Court. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Provided expert demographic and analytic litigation support.
 - <https://www.nbcdfw.com/news/local/lawsuit-filed-against-lewisville-independent-school-district/1125/>
- 2019: In the matter of *Holloway, et al. v. City of Virginia Beach* in United States District Court, Eastern District of Virginia. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Provided expert demographic and analytic litigation support.
 - <https://campaignlegal.org/cases-actions/holloway-et-al-v-city-virginia-beach>
- 2018: At the request of Kirkland City, Washington in collaboration with demographic testifying expert Dr. Peter Morrison. Performed demographic studies to inform the City's governing board's deliberations on whether to change from at-large to single-member district elections following enactment of the Washington Voting Rights Act. Analyses included gauging the voting strength of the City's Asian voters and forming an illustrative district concentrating Asians; and compared minority population concentration in pre- and post-annexation city territory.
 - https://www.kirklandwa.gov/Assets/City+Council/Council+Packets/021919/8b_SpecialPresentations.pdf#:~:text=RECOMMENDATION%3A%20It%20is%20recommended%20that%20City%20Council%20receive,its%20Councilmembers%20on%20a%20citywide%2C%20at-%20large%20basis
- 2018: At the request of Tacoma WA Public Schools in collaboration with demographic testifying expert Dr. Peter Morrison. Created draft concept redistricting plans that would optimize minority population concentrations while respecting incumbency. Client used this plan as a point of departure for negotiating final boundaries among incumbent elected officials.
- 2018: At the request of the City of Mount Vernon, Washington., in collaboration with demographic testifying expert Dr. Peter Morrison. Prepared a numerous draft concept plans that preserves Hispanics' CVAP concentration. Client utilized draft concept redistricting plans

to work with elected officials and community to agree upon the boundaries of six other districts to establish a proposed new seven-district single-member district plan.

- 2017: In the matter of *Pico Neighborhood Association v. City of Santa Monica*. In collaboration with demographic testifying expert Dr. Peter Morrison. Worked to create draft district concept plans that would satisfy Plaintiff's claim of being able to create a majority-minority district to satisfy Gingles prong 1. Such district was not possible, and the Plaintiffs case ultimately failed in California State Court of Appeals Second Appellate District.
 - <https://law.justia.com/cases/california/court-of-appeal/2020/b295935.html>
- 2017: In the matter of *John Hall, Elaine Robinson-Strayhorn, Lindora Toudle, Thomas Jerkins, v. Jones County Board of Commissioners*. In collaboration with demographic testifying expert Dr. Peter Morrison. Worked to create draft district concept plans to resolve claims of discrimination against African Americans attributable to the existing at-large voting system.
 - <http://jonescountync.gov/vertical/sites/%7B9E2432B0-642B-4C2F-A31B-CDE7082E88E9%7D/uploads/2017-02-13-Jones-County-Complaint.pdf>
- 2017: In the matter of *Harding v. County of Dallas* in U.S. District Court. In collaboration with demographic testifying expert Dr. Peter Morrison. In a novel case alleging discrimination against White, non-Hispanics under the VRA, I was retained by plaintiffs to create redistricting scenarios with different balances of White-non-Hispanics, Blacks and Hispanics. Deposed and provided expert testimony on the case.
 - <https://www.courthousenews.com/wp-content/uploads/2018/08/DallasVoters.pdf>
- 2016: Retained by The Equal Voting Rights Institute to evaluate the Dallas County Commissioner existing enacted redistricting plan. In collaboration with demographic testifying expert Dr. Peter Morrison, the focus of our evaluation was twofold: (1) assess the failure of the Enacted Plan (EP) to meet established legal standards and its disregard of traditional redistricting criteria; (2) the possibility of drawing an alternative Remedial Plan (RP) that did meet established legal standards and balance traditional redistricting criteria.
 - <http://equalvotingrights.org/wp-content/uploads/2015/01/Complaint.pdf>
- 2016: In the matter of *Jain v. Coppell ISD et al* in US District Court (Texas). In collaboration with demographic testifying expert Dr. Peter Morrison. Consulted in defense of Coppell Independent School District (Dallas County, TX) to resolve claims of discriminatory at-large voting system affecting Asian Americans. While Asians were shown to be sufficiently numerous, I was able to demonstrate that they were not geographically concentrated - thus

successfully proving the Gingles 1 precondition could not be met resulting the complaint being withdrawn.

- <https://dockets.justia.com/docket/texas/txndce/3:2016cv02702/279616>
- 2016: In the matter of *Feldman et al v. Arizona Secretary of State's Office et al* in SCOTUS. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Provided analytics on the locations and proximal demographics of polling stations that had been closed subsequent to *Shelby County v. Holder* (2013) which eliminated the requirement of state and local governments to obtain federal preclearance before implementing any changes to their voting laws or practices. Subsequently provided expert point of view on disparate impact as a result of H.B. 2023. Advised Maricopa County officials and lead counsel on remediation options for primary polling place closures in preparation for 2016 elections.
 - <https://arizonadailyindependent.com/2016/04/05/doj-wants-information-on-maricopa-county-election-day-disaster/>
 - https://www.supremecourt.gov/DocketPDF/19/19-1257/142431/20200427105601341_Brnovich%20Petition.pdf
- 2016: In the matter of *Glatt v. City of Pasco, et al.* in US District Court (Washington). In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Provided analytics and draft plans in defense of the City of Pasco. One draft plan was adopted, changing the Pasco electoral system from at-large to a six-district + one at large.
 - <https://www.pasco-wa.gov/DocumentCenter/View/58084/Glatt-v-Pasco---Order---January-27-2017?bidId=>
 - <https://www.pasco-wa.gov/923/City-Council-Election-System>
- 2015: In the matter of *The League of Women Voters et al. v. Ken Detzner et al* in the Florida Supreme Court. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Performed a critical review of Florida state redistricting plan and developed numerous draft concept plans.
 - <http://www.miamiherald.com/news/politics-government/state-politics/article47576450.html>
 - https://www.floridasupremecourt.org/content/download/322990/2897332/file/OP-SC14-1905_LEAGUE%20OF%20WOMEN%20VOTERS_JULY09.pdf

- 2015: In the matter of *Evenwel, et al. v. Abbott / State of Texas* in SCOTUS. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Plaintiffs. Successfully drew map for the State of Texas balancing both total population from the decennial census and citizen population from the ACS (thereby proving that this was possible). We believe this may be the first and still only time this technical accomplishment has been achieved in the nation at a state level. Coauthored SCOTUS Amicus Brief of Demographers.
 - https://www.supremecourt.gov/opinions/15pdf/14-940_ed9g.pdf
 - <https://www.scotusblog.com/wp-content/uploads/2015/08/Demographers-Amicus.pdf>
- 2015: In the matter of *Ramos v. Carrollton-Farmers Branch Independent School District* in US District Court (Texas). In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Used 2009-2013 5-year ACS data to generate small-area estimates of minority citizen voting-age populations and create a variety of draft concept redistricting plans. Case was settled decision in favor of a novel cumulative voting system.
 - https://starlocalmedia.com/carrolltonleader/c-fb-isd-approves-settlement-in-voting-rights-lawsuit/article_92c256b2-6e51-11e5-adde-a70cbe6f9491.html
- 2015: In the matter of *Glatt v. City of Pasco et al.* in US District Court (Washington). In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Consulted on forming new redistricting plan for city council review. One draft concept plan was agreed to and adopted.
 - <https://www.pasco-wa.gov/923/City-Council-Election-System>
- 2015: At the request of Waterbury, Connecticut, in collaboration with demographic testifying expert Dr. Peter Morrison. As a result of a successful ballot measure to convert Waterbury from an at-large to a 5-district representative system, consulted an extensive public outreach and drafted numerous concept plans. The Waterbury Public Commission considered alternatives and recommended one of our plans, which the City adopted.
 - <http://www.waterburyobserver.org/wod7/node/4124>
- 2014-15: In the matter of *Montes v. City of Yakima* in US District Court (Washington). In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants. Analytics later used to support the Amicus Brief of the City of Yakima, Washington in the U.S. Supreme Court in *Evenwel v. Abbott*.
 - <https://casetext.com/case/montes-v-city-of-yakima-3>

- 2014: In the matter of *Harding v. County of Dallas* in the US Court of Appeals Fifth Circuit. In the novel case of Anglo plaintiffs attempting to claim relief as protected minorities under the VRA. Served as demographic expert in the sole and limited capacity of proving Plaintiff claim under Gingles prong 1. Claim was proven. Gingles prongs 2 and 3 were not and the case failed.
 - <https://electionlawblog.org/wp-content/uploads/Dallas-opinion.pdf>
- 2014: At the request of Gulf County, Florida in collaboration with demographic testifying expert Dr. Peter Morrison. Upon the decision of the Florida Attorney General to force inclusion of prisoners in redistricting plans – drafted numerous concept plans for the Gulf County Board of County Commissioners, one of which was adopted.
 - <http://myfloridalegal.com/ago.nsf/Opinions/B640990E9817C5AB85256A9C00631387>
- 2012-2015: In the matter of *GALEO and the City of Gainesville* in Georgia. In collaboration with demographic testifying expert Dr. Peter Morrison, on behalf of Defendants -consulted on defense of existing at-large city council election system.
 - <http://atlantaprogressivenews.com/2015/06/06/galeo-challenges-at-large-voting-in-city-of-gainesville/>
- 2012-: Confidential. Consulted (through Morrison & Associates) to support plan evaluation, litigation, and outreach to city and elected officials (1990s - mid-2000s). Executed first statistical analysis of the American Community Survey to determine probabilities of minority-majority populations in split statistical/administrative units of geography, as well as the cumulative probabilities of a “false-negative” minority-majority reading among multiple districts.
- 2011-: Confidential. Consulted on behalf of plaintiffs in Committee (Private) vs. State Board of Elections pertaining to citizen voting-age population. Evaluated testimony of defense expert, which included a statistical evaluation of Hispanic estimates based on American Community Survey (ACS) estimates. Analysis discredited the defendant’s expert’s analysis and interpretation of the ACS.

National Voting Rights Act (NVRA) Projects

In addition to political redistricting cases, BGD has provided demographic and analytic expertise in National Voting Rights Act (NVRA) cases. Examples include:

- 2024: In the matter of *Green v. Bell* (NC Board of Elections) in US District Court for the Western District of North Carolina, Charlotte Division. Providing expert demographic support to Plaintiffs, analyzing the American Community Survey (ACS) and US Election Administration and Voting Survey (EAVS) to measure and assess compliance with the National Voter Registration Act (NVRA). Case successfully resolved with settlement.
 - <https://www.democracydocket.com/cases/north-carolina-voter-purge-nvra-challenge/>
- 2024: In the matter of *Swoboda v. Fontes* (AZ Secretary of State) in US District Court for the District of Arizona. Providing expert demographic support to Plaintiffs, analyzing the American Community Survey (ACS) and US Election Administration and Voting Survey (EAVS) to measure and assess compliance with the National Voter Registration Act (NVRA). Case dismissed Dec. 5, 2024 on standing, appeal pending.
 - https://prod-static.protectthevote.com/media/document/filing/AZ_NVRA_complaint_01wik4ab.pdf

Applied Demography Studies

In addition to political redistricting cases, BGD has provided demographic and analytic expertise across a broad array of issues, oftentimes creating pivotal evidence that has been decisive in legal cases and analytics that were core to the success of clients. Example:

- 2012 - Consulted (through Morrison & Associates) in generating a time-series of ACS Citizen voting-age population estimates by race and ethnicity from 2005-2010 ACS to assess the impact of a State of Wisconsin proposed rule requiring driver licenses to verify voters' current addresses.

School Redistricting and Municipal Infrastructure Projects

BGD worked with McKibben Demographics from 2004-2012 providing expert demographic and analytic support. These engagements involved developing demographic profiles of small areas to assist in building fertility, mortality and migration models used to support long-range population forecasts and infrastructure analysis in the following communities:

Fargo, ND 10/2012	Charleston, SC 8/08
Columbia, SC 3/2012	Woodland, IL 7/08
Madison, MS 9/2011	White County, IN 6/08
Rockwood, MO 3/2011	Gurnee District 56, IL 5/08
Carthage, NY 3/2011	Central Noble, IN 4/08
NW Allen, IN 9/2010	Charleston First Baptist, SC 4/08
Fayetteville, AR 7/2010	Edmond, OK 4/08
Atlanta, GA 2/2010	East Noble, IN 3/08
Caston School Corp., IN 12/09	Mill Creek, IN 5/06
Rochester, IN 12/09	Rhode Island 5/06
Urbana, IL 11/09	Garrett, IN 3/08
Dekalb, IL 11/09	Meridian, MS 3/08
Union County, NC 11/09	Madison County, MS 3/08
South Bend, IN 8/09	Charleston 12/07
Lafayette, LA 8/09	Champaign, IL 11/07
Fayetteville, AR 4/09	Richland County, SC 11/07
New Orleans, LA 4/09	Lake Central, IN 11/07
Wilmington New Hanover 3/09	Columbia, SC 11/07
New Berry, SC 12/08	Duneland, IN 10/07
Corning, NY 11/08	Union County, NC 9/07
McLean, IL 11/08	Griffith, IN 9/07
Lakota 11/08	Rensselaer, IN 7/07
Greensboro, NC 11/08	Hobart, IN 7/07
Guilford 9/08	Buffalo, NY 7/07
Lexington, SC 9/08	Oak Ridge, TN 5/07
Plymouth, IN 9/08	Westerville, OH 4/07

Projects Continued

Baton Rouge, LA 4/07
Cobb County, GA 4/07
Charleston, SC District 20 4/07
McDowell County, NC 4/07
East Allen, IN 3/07
Mt. Pleasant, SC District 2 2/07
Peach County, GA 2/07
North Charleston, SC District 4 2/07
Madison County, MS revisions 1/07
Portage County, IN 1/07
Marietta, GA 1/07
Porter, IN 12/06
Harrison County, MS 9/06
New Albany/Floyd County, IN 9/06
North Charleston, SC 9/06
Fairfax, VA 9/06
Coleman 8/06
DeKalb, GA 8/06
LaPorte, IN 7/06
NW Allen, IN 7/06
Brunswick, NC 7/06
Carmel Clay, IN 7/06
Calhoun, SC 5/06
Hamilton Community Schools, IN 4/06
Dilworth, MN 4/06
Hamilton, OH 2/06
West Noble, IN 2/06
New Orleans, LA 2/06
Norwell, IN 2/06
Middletown, OH 12/05
West Noble, IN 11/05
Madison, MS 11/05
Fremont, IN 11/05
Concord, IN 11/05

Allen County 11/05
Bremen, IN 11/05
Smith Green, IN 11/05
Steuben, IN 11/05
Plymouth, IN 11/05
North Charleston, SC 11/05
Huntsville, AL 10/05
DeKalb, IN 9/05
East Noble, IN 9/05
Valparaiso, IN 6/05
Penn-Harris-Madison, IN 7/05
Elmira, NY 7/05
South Porter/Merriville, IN 7/05
Fargo, ND 6/05
Washington, IL 5/05
Addison, NY 5/05
Kershaw, SC 5/05
Porter Township, IN 3/05
Portage, WI 1/05
East Stroudsburg, PA 12/04
North Hendricks, IN 12/04
Sampson/Clinton, NC 11/04
Carmel Clay Township, IN 9/04
SW Allen County, IN 9/04
East Porter, IN 9/04
Allen County, IN 9/04
Duplin, NC 9/04
Hamilton County / Clay TSP, IN 9/04
Hamilton County / Fall Creek TSP, IN 9/04
Decatur, IN 9/04
Chatham County / Savannah, GA 8/04
Evansville, IN 7/04
Madison, MS 7/04
Vanderburgh, IN 7/04
New Albany, IN 6/04

Publications

- In the matter of *CMA v. Thurston*, No. 4:23-cv-471-DPM-DRS-JM, in the Eastern District Court of Arkansas. Declaration and Rebuttal Declaration of Thomas M. Bryan. Assessing Plaintiffs' claims and alternative maps. October, 2024.
- "Using cluster analysis to identify communities of interest for purposes of legislative redistricting: A case study of parishes in Louisiana" (with David A. Swanson) May 12, 2024, *Papers in Applied Geography*, DOI: 10.1080/23754931.2024.2346326
 - <https://doi.org/10.1080/23754931.2024.2346326>
 - <https://sda-demography.org/news/13355939>
- "Forensic Demography: An Overlooked Area of Practice among Applied Demographers" *Review of Economics and Finance* (with David A. Swanson and Jeff Tayman). January 2023.
 - <https://refpress.org/ref-vol20-a94/>
- In the matter of *Banerian v. Benson*, No. 1:22-CV-00054-RMK-JTN-PLM, in US District Court of the Western District of Michigan. Declaration of Thomas Bryan. Assessing the performance of plaintiff and defendant plans against the Michigan Constitution and traditional redistricting principles. February 2022.
- In the matter of *Johnson v. Wisconsin Elections Commission*, No. 2021AP001450OA, in the Supreme Court of Wisconsin. Declaration and Rebuttal Declaration of Thomas M. Bryan. Assessing the features of proposed redistricting plans by the Wisconsin Legislature and other parties to the litigation. December 2021.
- In the matters of *Caster v. Merrill* and *Milligan v. Merrill* in US District Court of the Northern District of Alabama. Civil Action NOs. 2:21-cv-01536-AMM; 2:21-cv-01530-AMM. Declaration of Thomas Bryan. Assessing the compliance and performance of the demonstrative VRA congressional plans of Dr. Moon Duchin and Mr. William Cooper. December 2021.
- In the matter of *Milligan v. Merrill* in US District Court of the Northern District of Alabama. Civil Action NO. 2:21-cv-01530-AMM. Declaration of Thomas M. Bryan. Assessing the compliance and performance of the Milligan and State of Alabama congressional redistricting plans. December 2021.
- In the matter of *Singleton v. Merrill* in US District Court of the Northern District of Alabama. Civil Action NO. 2:21-cv-01291-AMM. Declaration of Thomas M. Bryan. Assessing the

compliance and performance of the Singleton and State of Alabama congressional redistricting plans. December 2021.

- “The Effect of the Differential Privacy Disclosure Avoidance System Proposed by the Census Bureau on 2020 Census Products: Four Case Studies of Census Blocks in Alaska” PAA Affairs, (with D. Swanson and Richard Sewell, Alaska Department of Transportation and Public Facilities). March 2021.
 - <https://www.populationassociation.org/blogs/paa-web1/2021/03/30/the-effect-of-the-differential-privacy-disclosure>
 - <https://redistrictingonline.org/2021/03/31/study-census-bureaus-differential-privacy-disclosure-avoidance-system-produces-concerning-results-for-local-jurisdictions/>
 - <https://www.ncsl.org/research/redistricting/differential-privacy-for-census-data-explained.aspx>
- In the matter of the *State of Alabama, Representative Robert Aderholt, William Green and Camaran Williams v. the US Department of Commerce; Gina Raimondo; the US Census Bureau and Ron Jarmin* in US District Court of Alabama Eastern Division. Declaration of Thomas M. Bryan, Exhibit 6. Civil Action NO. 3:21-CV-211, United States District Court for Middle Alabama, Eastern Division. Assessing the impact of the U.S. Census Bureau’s approach to ensuring respondent privacy and Title XIII compliance by using a disclosure avoidance system involving differential privacy. March 2021.
 - <https://redistricting.ils.edu/wp-content/uploads/AL-commerce2-20210311-Pl.zip>
 - <https://www.alabamaag.gov/Documents/news/Census%20Data%20Manipulation%20Lawsuit.pdf>
 - <https://www.courtlistener.com/docket/59728874/3/6/the-state-of-alabama-v-united-states-department-of-commerce/>
- Peter A. Morrison and Thomas M. Bryan, Redistricting: A Manual for Analysts, Practitioners, and Citizens (2019). Springer Press: Cham Switzerland.
 - <https://link.springer.com/book/10.1007/978-3-030-15827-9>
- M.V. Hood III, Peter A. Morrison, & Thomas M. Bryan, From Legal Theory to Practical Application: A How-To for Performing Vote Dilution Analyses, 99 SOC. SCI. Q. 536, 536–52 (2018)

- In the Supreme Court of the United States Sue Evenwel, Et Al., *Appellants*, V. Greg Abbott, in his official capacity as Governor of Texas, et al., *Appellees*. *On appeal from the United States District Court for the Western District of Texas. Amicus Brief of Demographers Peter A. Morrison, Thomas M. Bryan, William A. V. Clark, Jacob S. Siegel, David A. Swanson, and The Pacific Research Institute - As amici curiae* in support of Appellants. August 2015.
 - www.scotusblog.com/wp-content/uploads/2015/08/Demographers-Amicus.pdf
- Workshop on the Benefits (and Burdens) of the American Community Survey, Case Studies/Agenda Book 6 “Gauging Hispanics’ Effective Voting Strength in Proposed Redistricting Plans: Lessons Learned Using ACS Data.” June 14–15, 2012
 - <http://docplayer.net/8501224-Case-studies-and-user-profiles.html>
- “Internal and Short Distance Migration” by Bryan, Thomas in J. Siegel and D. Swanson (eds.) The Methods and Materials of Demography, Condensed Edition, Revised. (2004). Academic/Elsevier Press: Los Angeles (with D. Swanson and P. Morrison).
- “Population Estimates” by Bryan, Thomas in J. Siegel and D. Swanson (eds.) The Methods and Materials of Demography, Condensed Edition, Revised. (2004). Academic/Elsevier Press: Los Angeles (with D. Swanson and P. Morrison).
- Bryan, T. (2000). U.S. Census Bureau Population estimates and evaluation with loss functions. *Statistics in Transition*, 4, 537–549.

Professional Presentations and Conference Participation

- 2025 “Broadband, Race and Poverty in Rural Mississippi: 2020 Census Response Rates”. Scheduled for February 4-6 at the PAA Applied Demography Conference (ADC) meetings, Tucson, AZ.
- 2024 “Use of Current Population Survey and Cooperative Election Study in Analyzing Registered Voter Turnout”. June 5, 2024 at the American Statistical Association Symposium on Data Science and Statistics (SDSS) meetings, Richmond, VA.
- 2024 Uses of Demographic Data and Statistical Information Systems in Redistricting and Litigating Voting Rights Act Cases: Case studies of the CPS and CES, and the ACS and EAVS. Presented at the 2024 Population Association of America Applied Demography Conference, February 2024.
 - <https://events.rdmobile.com/Sessions/Details/2193084>

- 2023 Population Association of America Applied Demography Conference, Annapolis, MD. February 2023.
 - <https://events.rdmobile.com/Sessions/Details/2193084>
 - “Applications of Differential Core Retention in Redistricting”
 - “Census CVAP vs. VAP in a Redistricting Context”
 - “Different Census Race Definitions in a Redistricting Context”
- 2022 Southern Demographic Association Meetings. “Census 2020 and Political Redistricting” session. Knoxville, TN, October 2022.
 - https://sda-demography.org/resources/Documents/SDA%202022%20Preliminary%20ProgramVfinal_V12.pdf
 - “Addressing Latent Demographic Factors in Redistricting: An Instructional Case” (with Dr. Peter Morrison)
- “Analysis of Differential Privacy and its Impacts on Redistricting” Presented as invited expert on the Panel on the 2020 Census at the American Statistical Association JSM meetings, Washington DC August 8, 2022.
 - <https://ww2.amstat.org/meetings/jsm/2022/onlineprogram/AbstractDetails.cfm?abstractid=323887>
- “Re-purposing Record Matching Algorithms to assess the effect of Differential Privacy on 2020 Small Area Census Data” SAE 2022: Small Area Estimation, Surveys and Data Science University of Maryland, College Park, USA 23 - 27 May, 2022. With Dr. David Swanson.
 - <https://sae2022.org/program>
- “Redistricting 101: A Tutorial” 2022 Population Association of America Applied Demography Conference, February 2022. With Dr. Peter Morrison.
 - <https://www.populationassociation.org/paa2022/home>
- “The Effect of the Differential Privacy Disclosure Avoidance System Proposed by the Census Bureau on 2020 Census Products: Four Case Studies of Census Blocks in Alaska”. 2021 American Statistical Association - Symposium on Data Science and Statistics (ASA-SDSS). With Dr. David Swanson.
 - <https://ww2.amstat.org/meetings/sdss/2021/index.cfm>
- “New Technical Challenges in Post-2020 Redistricting” 2020 Population Association of America Applied Demography Conference, 2020 Census Related Issues, February 2021. With Dr. Peter Morrison.

- “Tutorial on Local Redistricting” 2020 Population Association of America Applied Demography Conference, February 2021. With Dr. Peter Morrison.
- “Demographic Constraints on Minority Voting Strength in Local Redistricting Contexts” 2019 Southern Demographic Association meetings (coauthored with Dr. Peter Morrison) New Orleans, LA, October 2019. Winner of annual E. Walter Terrie award for best state and local demography presentation.
 - <http://sda-demography.org/2019-new-orleans>
- “Applications of Big Demographic Data in Running Local Elections” 2017 Population and Public Policy Conference, Houston, TX.
- “Distinguishing ‘False Positives’ Among Majority-Minority Election Districts in Statewide Congressional Redistricting,” 2017 Southern Demographic Association meetings (coauthored with Dr. Peter Morrison) Morgantown, WV.
- “Devising a Demographic Accounting Model for Class Action Litigation: An Instructional Case” 2016 Southern Demographic Association (with Peter Morrison), Athens, GA.
- “Gauging Hispanics’ Effective Voting Strength in Proposed Redistricting Plans: Lessons Learned Using ACS Data.” 2012 Conference of the Southern Demographic Association, Williamsburg, VA.
- “Characteristics of the Arab-American Population from Census 2000 and 1990: Detailed Findings from PUMS.” 2004 Conference of the Southern Demographic Association, (with Samia El-Badry) Hilton Head, SC.
- “Small-Area Identification of Arab American Populations,” 2004 Conference of the Southern Demographic Association, Hilton Head, SC.
- “Applied Demography in Action: A Case Study of Population Identification.” 2002 Conference of the Population Association of America, Atlanta, GA.

Professional Conference Chairs, Peer Reviews and Conference Discussant Roles

- 2024 Population Association of America Applied Demography Conference, “Population Projections” session chairman. February 2024.
 - <https://events.rdmobile.com/Sessions/Details/2195280>
- 2023 Population Association of America Applied Demography Conference, “Uses of Census Data and New Analytical Approaches for Redistricting” session chairman. Annapolis, MD, February 2023.
 - <https://www.populationassociation.org/events-publications/adc>

- DOJ Section 2 Data Requirements vs Reality and the Impact on Redistricting
 - DOJ ACS CVAP annual data file inconsistencies
 - Differences in CVAP and VAP Reported by the USCB and the Impact on Redistricting
 - Changing Multi-Race Definitions and the Impact on Redistricting
- 2020 Population Association of America “Assessing the Quality of the 2020 Census” session chairman including Census Director Ron Jarmin. Virtual meeting, May 5, 2021.
 - <https://paa2021.secure-platform.com/a/organizations/main/home>
- “The Historical Roots of Contentious Litigation Over Census Counts in the Late 20th Century”. Peer reviewer for presentation at the Hawaii International Conference on the Social Sciences, Honolulu, Hawaii, June 17-19, 2004 with David A. Swanson and Paula A. Walashek.
- 2004 - Population Research and Policy Review External Peer Reviewer / MS #253 “A New Method in Local Migration and Population Estimation”.
- Session Discussant on “Spatial Demography” at the 2003 Conference of the Southern Demographic Association, Arlington, VA.
- Subject Moderator at the International Program Center (IPC) 2000 Summer Workshop on Subnational Population Projections for Planning, Suitland, MD.
- Session Chairman on “Population Estimates: New Evaluation Studies” at the 2002 Conference of the Southern Demographic Association, Austin, TX.
- Conference Session Chairman at the 2000 Conference of the Federal Forecasters Conference (FFC), Washington, DC.
- Session Discussant on “New Developments in Demographic Methods” at the 2000 Conference of the Southern Demographic Association, New Orleans, LA.
- Panel Discussant on GIS Applications in Population Estimates Review at the 2000 Conference of the Population Association of America, Los Angeles, CA.
- Panel Discussant on Careers in Applied Demography at the 2000 Conference of the Population Association of America, Los Angeles, CA.

Primary Software Competencies

ESRI ArcGIS

SAS

Microsoft Office

Professional Affiliations

American Statistical Association

Population Association of America

Southern Demographic Association

Relevant Work Experience**January 2001- April 2003 ESRI Business Information Solutions / Demographer**

Responsibilities included demographic data management, small-area population forecasting, IS management and software product and specification development. Additional responsibilities included developing GIS-based models of business and population forecasting, and analysis of emerging technology and R&D / testing of new GIS and geostatistical software.

May 1998-January 2001 U.S. Census Bureau / Statistician

Responsibilities: developed and refined small area population and housing unit estimates and innovative statistical error measurement techniques in support of the Population Estimates Program and the Current Population Survey.

Service

Eagle Scout, 1988, Boy Scouts of America. Member of the National Eagle Scout Association. Involved in leadership of the Boy Scouts of America Heart of Virginia Council.



Founder: SCOVETH, Virginia Scouting and Veterans Oral History Project, in collaboration with the Virginia War Memorial →

**References**

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Professional Peer

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