EXPERT REPORT OF SEAN P. TRENDE

Dated: 14th October, 2020

IN THE SUPREME COURT OF BELIZE, A.D. 2019

CLAIM NO. 55 OF 2019

IN THE MATTER of an Application for Administrative Orders under Part 56 of the *Supreme Court (Civil Procedure) Rules, 2005*

IN THE MATTER of s. 1, s. 90 and s. 95 of the *Belize Constitution*

AND IN THE MATTER of Schedule 1 of the Representation of the People Act, Cap 9 and section 6 of the Belize Constitution

BETWEEN:

(FRANK EDWARD PACO SMITH JR.		
(HUBERT DENNIS ENRIQUEZ		
(PAUL MARCEL MORGAN		
(WILLIAM MAHEIA		
(LISTON MCKENZIE		
(IRVIN NEAL		
(ANTONIO GIOVANNI DEL LA FUENTE		
(LLOYD ARMSTRONG JONES		
(ROBERTO ANTONIO LOPEZ		CLAIMANTS
(		
(AND		
(		
(ESTEVAN PERRERA as member and Chairman of the		
(ELECTIONS AND BOUNDARIES COMMISSION		
(		1st DEFENDANT
(		
(NAIMA BARROW, as member of the		
(ELECTIONS AND BOUNDARIES COMMISSION		
(		2nd DEFENDANT
(PHILIPPA BAILEY, as member of the		
(ELECTIONS AND BOUNDARIES COMMISSION		
(		3rd DEFENDANT
(MAGALI MARIN YOUNG SC, as member of the		
(ELECTIONS AND BOUNDARIES COMMISSION		
(		4th DEFENDANT
(LANDY ESPAT, as member of the		
(ELECTIONS AND BOUNDARIES COMMISSION		
(		5th DEFENDANT
(THE ATTORNEY GENERAL	6th DEFENDANT	
(LORD MICHAEL ASHCROFT		INTERESTED PARTY

EXPERT REPORT OF SEAN P. TRENDE

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To the Supreme Court of Belize:

I, Sean Patrick Trende, of 1146 Elderberry Loop, Delaware, OH, U.S.A. make oath and state as follows:

1.   I have been retained in this matter to provide an expert report to the Supreme Court of Belize that:

    a.   provides "an objective view as to whether the electoral divisions as presently defined and constituted are sufficiently equal or malapportioned; assess[es] the impact of any malapportionment; and . . . identif[ies] and quantif[ies] discriminatory effects, if any raising therefrom."

    b.   identifies "international standards of democracy and express[es] a view as to whether the electoral divisions as currently defined and constituted meet those standards and demonstrate[s] the extent of any non-conformity or non-compliance with such standards."

    c.   presents "suggestions for the re-drawing of electoral boundaries so that any malapportionment or discriminatory effects of malapportionment or non-conformity or non-compliance with international democratic standards are avoided or cured and set[s] forth the advantages and disadvantages of each suggestion."

2.   I view this as requiring three distinct "tasks": (1) Identifying international standards of democracy; (2) identifying and assessing the impact of any malapportionment to determine if the present electoral divisions of Belize comply with these international standards; and (3) providing suggestions for the re-drawing of boundaries. I have structured this report around these three distinct tasks.

EXECUTIVE SUMMARY

3.   Pursuant to CPR 32.13(1)(e), I provide the following summary of my opinions:

4.   The right to vote in Belize is fundamental. Severe malapportionment is violative of that right under international standards of democracy.

5.   The particular standards utilized vary across nations and organizations. Most international organizations urge countries to draw electoral boundaries such that the maximum deviation is 10%, with additional allowances for districts drawn over sparsely populated areas.

6.   While there is no clear consensus among countries on the particular threshold by which governments must abide when redistricting, most Western democracies impose some sort of limitation on the ability of elections to occur when malapportionment exceeds a given threshold.

7.   For example, the United States allows almost no deviation in the population of congressional districts within states, although some deviation is inevitable between states. The United States allows for a greater degree of population variance for state legislative seats.

8.   At the other extreme, the Republic of Korea (South Korea) allows for deviations as large as 33.3%.

9.   Most countries fall somewhere in the middle of these two extremes. A fuller account of these standards lies in the body of the report, but the United Kingdom, for example, allows for deviations of up to 10%, as does Italy. Germany and the Czech Republic allow for deviations up to 15%. Malta and Macedonia allow for deviations of up to 5%. Overall, most countries seem to employ an allowable deviation threshold of between 10% and 15%.

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10.   The degree of malapportionment present in Belize today far exceeds any threshold suggested in other countries, or by international organizations.

11.   For example, an elector in the Ft. George Electoral Division casts a vote that has five times the value in the Belize House of Representatives as a vote cast by an elector in the Stann Creek West Electoral Division.

12.   Using the 10% deviation standard suggested by international organizations, only four of Belize's current electoral divisions are not severely malapportioned. Even utilizing the most liberal standard employed in South Korea, 71% of Belize's electoral divisions are severely malapportioned.

13.   Within districts, malapportionment is also severe. Malapportionment is particularly pronounced in Belize District, where the most-populous division (Belize Rural South) has 4.5 times the population of Ft. George. The overall deviation from the "ideal" population within Belize District is 152%. In every district except for Toledo, the combined within-district deviation between least- and most-populous division is in excess of 29%.

14.   In short, severe malapportionment is not confined to a particular area, such that a minor repair to the existing map can solve the problem. It impacts every aspect of the current map.

15.   Fortunately, these deviations can be addressed, and can be addressed in very short order. Although I had difficulty obtaining the requisite information from governmental entities, notwithstanding the fact that these entities had much of the information that I desired, I was nevertheless able to produce maps that substantially ameliorate the malapportionment in the country. With access to better information, it would be possible to draw divisions even more in line with international norms.

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16. I have produced three maps, which I am appending to this report. These maps are discussed in more detail in part 3 of this report. "Map 1", or the "strict equality map," is intended to create 31 divisions, with a maximum total deviation from the ideal population of no more than 15%. This task cannot be accomplished perfectly with the existing data because, as described in more detail below, Ambergris Caye is a single voting area with 120% of the electors for an ideal division. Without splitting it, there will always be malapportionment, and I was unable to obtain the data I would need to split it. Setting this unique concern aside, I was able to draw a map quickly that accomplished the goals set out for me. I accomplished this with so-called "minimal splits," that is to say, only one division traverses each district boundary pair.

17. Map 2 respects district boundaries and attempts to redistribute divisions more equitably both among and within districts. This naturally produces a larger variation in population, but the within-district variations are reduced, and overall malapportionment is substantially less severe. This map awards 8 divisions to Cayo District and 9 divisions to Belize District, and is sometimes referred to as the "8/9 Cayo/Belize" map.

18. The final map, Map 3, is a "minimal changes" map. This is the type of map used by courts in the United States when executive and legislative entities fail to produce maps that comply with existing legal standards. For this map I began with the current division boundaries, then gradually altered them until overall malapportionment was reduced to acceptable levels. I did so with respect for naturally occurring communities and geographic boundaries within Belize. To minimize changes, I exercised my discretion to give Belize District 10 divisions and Cayo District 7 divisions.

19. As between these maps, Map 2 is the preferable map. As Cayo District continues to grow relative to Belize District over the course of the next decade, the malapportionment

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between districts will tend to decrease, bringing this map naturally even more within international norms. Map 1 has the benefit of being the least malapportioned of the three maps, but it subsumes all other concerns in an attempt to achieve balance in a way that international standards do not require. Also, it achieves balance today, but is not particularly forward-looking. Map 2 has the benefit of doing the least to alter the current balance in Belize, but will likely tend to become severely malapportioned over its lifespan.

20.   I emphasize that it was possible to generate these maps with imperfect data over the course of a week. With modern technology, a sufficiently motivated, undistracted map-drawer can draw a non-malapportioned map within a matter of days, if not hours.

EXPERT CREDENTIALS

21.   Pursuant to CPR Rule 32.13 (1) a description of my credentials follows.

22.   My *curriculum vitae* is attached to this report as **Exhibit 1.**

23.   I have studied and followed elections on both a part-time and full-time basis for almost two decades.

24.   I received a B.A. from Yale University in 1995, with a double major in history and political science.

25.   I received a J.D. from Duke University in 2001.

26.   I also received an M.A. from Duke University in 2001, in political science.

27.   I received a Master's in Applied Statistics from The Ohio State University in 2019.

28.   I am currently enrolled as a doctoral candidate in political science at The Ohio State University. I have completed all of my coursework and have passed comprehensive examinations in both methods and American Politics. My coursework for my Ph.D. and M.A.S.

included, among other things, classes on G.I.S. systems, spatial statistics, issues in contemporary redistricting, machine learning, and probability theory. I expect to receive my Ph.D. in May of 2021. My dissertation focuses on applications of spatial statistics to political questions.

29. After graduation from law school, I clerked for the Chief Judge of the United States Court of Appeals for the 10th Circuit. After that clerkship I worked for the law firms of Kirkland & Ellis, L.L.P., Hunton & Williams, L.L.P., and David, Kamp & Frank, L.L.C.

30. I joined RealClearPolitics in January of 2009. I assumed a fulltime position with RealClearPolitics in March of 2010. My title is Senior Elections Analyst. RealClearPolitics is a company of around 50 employees, with offices in Washington D.C. It produces one of the most heavily trafficked political websites in the world, which serves as a one-stop shop for political analysis from all sides of the political spectrum and is recognized as a pioneer in the field of poll aggregation. It produces original content, including both data analysis and traditional reporting. It is routinely cited by the most influential voices in politics, including David Brooks of *The New York Times*, Brit Hume of *Fox News*, Michael Barone of *The Almanac of American Politics*, Paul Gigot of *The Wall Street Journal*, and Peter Beinart of *The Atlantic*.

31. My main responsibilities with RealClearPolitics consist of tracking, analyzing, and writing about elections. I collaborate in rating the competitiveness of Presidential, Senate, House, and gubernatorial races. As a part of carrying out these responsibilities, I have studied and written extensively about demographic trends in the country, exit poll data at the state and federal level, public opinion polling, and voter turnout and voting behavior.

32. In particular, understanding the way that districts are drawn and how geography and demographics interact is crucial to predicting United States House of Representatives races, so much of my time is dedicated to that task.

33.   I am currently a Visiting Scholar at the American Enterprise Institute, where my publications focus on the demographic and coalitional aspects of American Politics. My first paper focused on the efficiency gap, a metric for measuring the fairness of redistricting plans.

34.   I am the author of *The Lost Majority: Why the Future of Government is up For Grabs and Who Will Take It*. In this book, I explore realignment theory. It argues that realignments are a poor concept that should be abandoned. As part of this analysis, I conducted a thorough analysis of demographic and political trends beginning in the 1920s and continuing through the modern times, noting the fluidity and fragility of the coalitions built by the major political parties and their candidates.

35.   I co-authored the 2014 *Almanac of American Politics*. The Almanac is considered the foundational text for understanding congressional districts and the representatives of those districts, as well as the dynamics in play behind the elections. PBS's Judy Woodruff described the book as "the oxygen of the political world," while NBC's Chuck Todd noted that "[r]eal political junkies get two *Almanacs*: one for the home and one for the office." My focus was researching the history of and writing descriptions for many of the newly-drawn districts, including tracing the history of how and why they were drawn the way that they were drawn.

36.   I have spoken on these subjects before audiences from across the political spectrum, including at the Heritage Foundation, the American Enterprise Institute, the CATO Institute, the Bipartisan Policy Center, and the Brookings Institution. In 2012, I was invited to Brussels to speak about American elections to the European External Action Service, which is the European Union's diplomatic corps. I was selected by the United States Embassy in Sweden to discuss the 2016 elections to a series of audiences there, and was selected by the United States Embassy in Spain to

fulfil a similar mission in 2018. I was invited to present by the United States Embassy in Italy, but was unable to do so because of my teaching schedule.

37.   In the winter of 2018, I taught American Politics and the Mass Media at Ohio Wesleyan University. I taught Introduction to American Politics at The Ohio State University for three semesters from Fall of 2018 to Fall of 2019. In the Spring of 2020, I taught Political Participation and Voting Behavior at The Ohio State University. This course spent several weeks covering all facets of redistricting: How maps are drawn, debates over what constitutes a fair map, measures of redistricting quality, and similar topics.

38.   It is my policy to appear on any major news outlet that invites me, barring scheduling conflicts. I have appeared on both Fox News and MSNBC to discuss electoral and demographic trends. I have been cited in major news publications, including *The New York Times*, *The Washington Post*, *The Los Angeles Times*, *The Wall Street Journal*, and *USA Today*.

39.   I sit on the advisory panel for the "States of Change: Demographics and Democracy" project. This project is sponsored by the Hewlett Foundation and involves three premier think tanks: The Brookings Institution, the Bipartisan Policy Center, and the Center for American Progress. The group takes a detailed look at trends among eligible voters and the overall population, both nationally and in key states, to explain the impact of these changes on American politics, and to create population projections, which the Census Bureau abandoned in 1995. In 2018, I authored one of the lead papers for the project: "In the Long Run, We're All Wrong," available at https://bipartisanpolicy.org/wp-content/uploads/2018/04/BPC-Democracy-States-of-Change-Demographics-April-2018.pdf.

40.   I previously authored an expert report in *Dickson v. Rucho*, No. 11-CVS-16896 (N.C. Super Ct., Wake County), which involved North Carolina's 2012 General Assembly and

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Senate maps. Although I was not called to testify, it is my understanding that my expert report was accepted without objection. I also authored an expert report in *Covington v. North Carolina*, Case No. 1:15-CV-00399 (M.D.N.C.), which involved almost identical challenges in a different forum. Due to what I understand to be a procedural quirk, where my largely identical report from *Dickson* had been inadvertently accepted by the plaintiffs into the record when they incorporated parts of the *Dickson* record into the case, I was not called to testify.

41. I authored two expert reports in *NAACP v. McCrory*, No. 1:13CV658 (M.D.N.C.), which involved challenges to multiple changes to North Carolina's voter laws, including the elimination of a law allowing for the counting of ballots cast in the wrong precinct. I was admitted as an expert witness and testified at trial. My testimony discussed the "effect" prong of the Voting Rights Act claim. I did not examine the issues relating to intent.

42. I have done extensive expert work in United States courts as a party expert in election law cases. I authored reports in *NAACP v. Husted*, No. 2:14-cv-404 (S.D. Ohio), and *Ohio Democratic Party v. Husted*, Case 15-cv-01802 (S.D. Ohio), which dealt with challenges to various Ohio voting laws. I was admitted and testified at trial in the latter case (the former case settled).

43. I served as a consulting expert in *Lee v. Virginia Board of Elections*, No. 3:15-cv-357 (E.D. Va. 2016), a voter identification case.

44. I authored two expert reports in *Feldman v. Arizona*, No. CV-16-1065-PHX-DLR (D. Ariz.). Plaintiffs in that case challenged an Arizona law prohibiting the collection of voted ballots by third parties that were not family members or caregivers and the practice of most of the state's counties to require voters to vote in their assigned precinct.

45.   I authored expert reports in *A. Philip Randolph Institute v. Smith*, No. 1:18-cv-00357-TSB (S.D. Ohio), *Whitford v. Nichol*, No. 15-cv-421-bbc (W.D. Wisc.), and *Common Cause v. Rucho*, NO. 1:16-CV-1026-WO-JEP (M.D.N.C.), which were political gerrymandering cases filed in Ohio, Wisconsin and North Carolina. *Whitford* and *Rucho* both were eventually heard in the Supreme Court of the United States.

TASK 1: IDENTIFY INTERNATIONAL STANDARDS OF DEMOCRACY

46.   Three decades ago, renowned Harvard Law professor Laurence Tribe observed that "particular forms of expression, action, or opportunity perceived as touching more deeply and permanently on human personality . . . [are] regarded as the constituents of freedom." Laurence H. Tribe, American Constitutional Law 770 (1990 ed., 1978). Courts in America and elsewhere have recognized that the right to vote is one of these core constituents of freedom. *See, e.g.,* *Wesberry v. Sanders*, 376 U.S. 1, 6-7 (1964).

47.   While this right has many parts, there is international agreement that widespread malapportionment in voting systems that utilize single member districts (SMDs) – that is, systems where individual candidates stand for election in discrete geographic constituencies – can infringe upon this right to vote. It has become, as one law professor put it, an "international principle of the right to vote," that elections be conducted with "universal and equal suffrage." Maria Dakolias, "Are We There Yet?: Measuring Success of Constitutional Reform," 39 *Vand. J. Transnat'l L.* 1117, 1149 (2006).

48.   International organizations recognize this. The Universal Declaration of Human Rights states in Article 21 (3): "The will of the people shall be on the basis of the authority of the government; this shall be expressed in periodic and genuine elections which shall be by universal *and equal suffrage* and shall be held by secret vote or by equivalent free voting procedures."

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(emphasis added). In this section, I examine standards from international organizations and countries around the world to explore the contours of this right as it relates to malapportionment.

The Venice Commission

49.   The European Commission for Democracy through Law, known colloquially as the Venice Commission, is a non-governmental advisory body to the Council of Europe. Described by one analyst as "one of the Council of Europe's most successful achievements," it represents "a reference in constitutional matters and is widely respected for its independent advice." Rudolph Dorr, *The Venice Commission,* in *International Encyclopedia of Laws: International Organizations. Supp. 39* 151 (Balmain, R., ed. 2010). It is composed of "independent experts who have achieved eminence through their experience in democratic institutions or by their contribution to the enhancement of law and political science." *See* Council of Europe: Venice Commission, https://web.archive.org/web/20110903010900/http://www.venice.coe.int/site/main/Presentation_E.asp. In the wake of the fall of communism, the independent experts that comprise the Venice Commission provided crucial advice in assisting these countries with their new constitutions. Today it provides assistance to courts outside of Europe, including in Africa, Asia and the Americas; Brazil, Canada, Chile, Mexico, Peru and the United States of America are among the member states of the Commission today. *Id.* at 155; https://www.venice.coe.int/WebForms/members/countries.aspx?lang=EN.

50.   Due to the importance of free and fair elections, the Commission has focused much of its effort on developing electoral legislation and standards. To this end, it produces a Code of Good Practice in Electoral Matters, which defines "the principles applicable to democratic elections." *Id.* at 162.

51.   A portion of this Code of Good Practice is dedicated to "equal voting power". *See* Code of Good Practice in Electoral Matters: Guidelines and Explanatory Report §2.2 (18-19 October 2002) (attached in **Exhibit 2**). It holds that in lower houses of governing bodies, "seats must be evenly distributed between the constituencies." This equitable apportionment may be achieved using a variety of metrics, including registered voters (as is the case with Belize). Geographical and administrative boundaries may be taken into consideration.

52.   The Code of Good Practices clarifies that "[t]he permissible departure from the norm should not be more than 10%, and should certainly not exceed 15% except in special circumstances." *Id.* §2.2(iv). Among those special circumstances are "sparsely populated administrative entit[ies]."

53.   Fifteen years later, the Venice Commission produced a detailed report expanding upon Code of Good Practices and focusing specifically on constituency delineation and seat allocation. *See* Report of Constituency Delineation and Seat Allocation adopted by the Council for Democratic Elections December 2017, Venice Commission (attached in **Exhibit 3**, 26-56). This Report observes that "[e]qual voting power is deeply interrelated with the more general principle of electoral representative democracy," *id.* ¶7, and is "a crucial element of parliamentary democracy." *Id.* ¶10. Equal voting power requires the use of "the universal principle 'one person, one vote,'" id. ¶ 7, in order to "ensure [] that electors' votes have equal weight." ✳

54.   The 2017 Venice Commission Report explains that a failure to adhere roughly to the principle of "one person one vote" abridges the right to vote by effectively weighting the votes of electors in one district differently from the votes of electors in a different district. Imagine that District A has 3000 electors, while District B has 6000 electors. A voter in District A effectively wields twice as much power in the national assembly as a voter in District B, thus violating "the

essence of the universal principle of electoral democracy that all votes must have equal weight." *Id.* ¶ 11. Thus, "seats must be evenly distributed among the constituencies." *Id.* ¶ 56.

55.　This aspect of the fundamental right to vote can be violated actively (by drawing districts that create these inequalities) or passively, by retaining an electoral map for an extended period of time such that an inequality in representation develops due to shifts in population.

56.　At the same time, the Venice Commission recognized that exact equality in district numbers is not required, as this is frequently impossible to achieve, *id.* ¶61, and explicitly limited its inquiry to the lower house of a legislature. *Id.* ¶64. As with the Code, it endorses deviations of 10% or less, with 15% at the outer limits of acceptability.

International Institute for Democracy and Electoral Assistance

57.　The International Institute for Democracy and Electoral Assistance (IDEA) is an international organization with a standing invitation from the United Nations to observe sessions and maintain offices at U.N. headquarters. *See* https://www.un.org/en/sections/member-states/intergovernmental-organizations/index.html. In the mid-1990s, in response to the same wave of democratization that prompted the establishment of the Venice Commission, 14 founding countries, including Barbados, Chile and Costa Rica, created the International IDEA to "support the building, strengthening and safeguarding of democratic political institutions and processes at all levels." International IDEA, *Supporting Democracy Worldwide: A Retrospective Report on Our Work, 2012-17,* 2 (2018). It focuses on three key areas: "(1) electoral processes; (2) constitution-building processes; and (3) political participation and representation." *Id.* It currently has 33 members states; in addition to the three North and South American states listed above, Brazil, Canada, Dominican Republic, Mexico, Panama and Uruguay have joined. *See* International IDEA, "About Us," *available at* https://www.idea.int/about-us#node-13.

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58.   As part of its series of International Electoral Standards, the group has produced "Guidelines for Reviewing the Legal Framework of Elections." (attached as **Exhibit 4)**. This was originally produced in conjunction with the Office for Democratic Institutions and Human Rights of the Organization for Security and Co-operation in Europe, and was re-published in 2002. *Id.* at iv. The goal of the publication is to set out "internationally-recognized standards applicable across a range of areas of electoral legislation" that can be "used as benchmarks to assess whether or not an election is free and fair." *Id.*

59.   It concludes that "[b]oundaries should be drawn so that constituencies are relatively equal in voter strength, resulting in each voter casting a vote of equal weight to the greatest degree possible," though it does allow that there are competing considerations. *Id.* at 29.

Other International Organizations

60.   In 2007, the International Foundation for Electoral Systems produced a publication entitled "Challenging the Norms and Standards of Election Administration: Boundary Delimitation." (attached as **Exhibit 5)**. It notes that a variety of international organizations have produced guidelines recognizing, among other things, that the notion that "populations of constituencies should be as equal as possible to provide voters with equality of voting strength" is a "fundamental principle." *Id* at 59.

61.   Thus, "all voters should be granted a vote of equal weight in the election of representatives. This principle translates into a requirement of equal populations across single-member constituencies and the same ratio of voters to elected representatives in multimember constituencies." *Id.* at 63. While it recognizes that this requirement cannot be perfectly adhered to, it also observes that nations should adopt a malapportionment threshold before redistricting commences. It also recognizes that malapportionment can be passive as well as active – that is,

failure to redistrict can bring about inequitable election results. *Id.* at 64. It concludes that the best practice is to prevent constituency populations from "vary[ing] more than a set percentage from the population quota," and that deviations "are justified with reference to established delimitation criteria." *Id.* at 70.

62.   This document also summarizes statements of principles from other international organizations. The Office for Democratic Institutions and Human Rights' Election Observation Handbook observed that "[t]he principle of equality requires that one's vote be given equivalent weight to that of the other voters in order to ensure equal representation," and recommended that constituencies not vary by more than approximately 10 percent. *Id.* at 72.

63.   The Commonwealth Secretariat concluded that "each vote should, to the extent possible, be afforded equal value or weight, in recognition of the democratic principle that all those of voting age participate equally in the ballot," and that any deviation from the target should be "capable of being readily understood by both the parties and the general public." *Id.* at 73.

64.   The Electoral Institute of Southern Africa, however, does not seem to emphasize population equality. *Id.* at 74.

65.   Thus, international organizations advising on boundary delimitation appear to be in near-universal agreement that malapportionment violates the fundamental right to vote. Malapportionment can either be active or passive. Passive malapportionment occurs when a fairly drawn map is left in place for a lengthy period of time. Definitions of malapportionment vary, but these organization urge discrepancies of no more than 10%, though they allow for variations of up to 15% in extreme circumstances. It is understood, however, that in situations where districts are sparsely populated, larger deviations may be required.

The United States of America (Strict One-Person-One-Vote)

66.   The United States stands out for its well-developed body of case law regarding malapportionment. This law grows out of a situation similar to that Belize faces today, where shifting population and legislative inaction resulted in substantial malapportionment.

67.   For much of America's history, the decennial apportionment acts required that districts be contiguous, compact, and roughly equally apportioned with respect to population. *E.g.,* Apportionment Act of 1872, 7 Stat. 28 (requiring that districts "contain [] as nearly as practicable an equal number of inhabitants."). In 1920, however, due to rapid growth and development in United States cities – the city of Detroit doubled in size between 1910 and 1920 – Republicans in Congress refused to reapportion the nation's districts. By the end of the 1920s, one Member of Congress from Illinois represented 560,000 people, while a representative from rural Minnesota represented fewer than 113,000. *See Colgrove v. Green*, 328 U.S. 549, 557-58 (1946).

68.   The U.S. Congress eventually passed the Reapportionment Act of 1929 to remedy this situation. It set the stage for reapportionment in 1930, but eliminated the language that required roughly equipopulous districts. 2 U.S.C. § 2a (1929); *see also Wood v. Broom*, 287 U.S. 1 (1932) (affirming that the language from previous reapportionment acts requiring roughly equipopulous districts did not survive into the new apportionment act). As a result, malapportionment remained widespread. By the 1940s, the state of Illinois had not revised its congressional district lines in forty years. Instead, it dealt with population growth by adding statewide "at large" members, causing widespread disparities in population between rural and urban districts. Kenneth W. Martis, *Historical Atlas of United States Congressional Districts: Seventeen Hundred and Eighty-Nine Thru Nineteen Hundred and Eighty-Three* 227 (1982).

69. When suit was initially brought challenging this state of affairs, the Supreme Court of the United States was unimpressed. Expressing concerns that it could not legitimately draw the maps itself, it declined to involve the federal government in policing malapportionment. *Colgrove*, 328 U.S. 549, 533 (1946).

70. Justices Black, Douglas and Murphy dissented, noting that the right to vote (which is not explicitly enshrined in the United States Constitution) "clearly impl[ies] the policy that state election systems, no matter what their form, should be designed to give approximately equal weight to each vote cast." Observing that the least populated congressional district in Illinois contained 112,116 inhabitants, while the largest contained 914,000 inhabitants, Justice Black observed that, in effect, some voters in the state would be given a full vote, while others would only be given a ninth of a vote. *Id.* at 569 (Black, J., dissenting). Justice Black conceded that requiring Illinois to redraw its districts would inconvenience the legislature, but that this "has an element of virtue that the more convenient method does not have – namely, it does not discriminate against some groups to favor others, it gives all the people an equally effective voice in electing their representatives as is essential under a free government, and it is constitutional." *Id.*

71. Justice Black's view ultimately carried the day. In a series of decisions in the 1960s, the Supreme Court of the United States uprooted *Colgrove* and replaced it with a jurisprudence that demanded strict adherence to "one person, one vote." In *Baker v. Carr*, 369 U.S. 186 (1962), the Supreme Court of the United States considered a state legislature that apportioned its lower House according to the state's 95 counties. While not expressly overruling *Colgrove*, it held that redistricting questions were, in fact, within the purview of federal courts, and that they could act to address malapportionment. *Id.* 209. The next year, that court declared that "[t]he conception of political equality from the Declaration of Independence, to Lincoln's Gettysburg Address, to the

Fifteenth, Seventeenth, and Nineteenth Amendments can mean only one thing – one person, one vote." *Gray v. Sanders*, 372 U.S. 368, 381 (1963).

72. The next year, the U.S. Supreme Court held in *Wesberry v. Sanders*, 376 U.S. 1 (1963) that congressional districts must be roughly equally apportioned. The state of Georgia's congressional districts had not been reapportioned since 1931, and since that time the Fifth Congressional District had grown to a population of 823,680, while the rural Ninth district had only 272,154 people. The average district size in Georgia was 394,312 people. *Id.* at 2. Thus, the Fifth District's Congressman represented "two to three times as many people as do Congressmen from some of the other Georgia districts." *Id.* The U.S. Supreme Court concluded that this situation "grossly discriminates against voters in the Fifth Congressional District." *Id.* at 7. It continued that "[t]he apportionment statute thus contracts the value of some votes and expands that of others." *Id.*

73. The U.S. Supreme Court then noted that it would be "extraordinary to suggest that in such statewide elections the votes of inhabitants of some parts of a State, for example, Georgia's thinly populated Ninth District, could be weighted at two or three times the value of the votes of people living in more populous parts of the State." *Id.* at 8. Therefore, the U.S. Supreme Court concluded, "to say that a vote is worth more in one district than in another" would "run counter to our fundamental ideas of democratic government," and therefore struck down the congressional map as unconstitutional. *Id.*

74. The next year, the U.S. Supreme Court extended that reasoning to subnational legislatures. In *Reynolds v. Sims*, 377 U.S. 533 (1964) the U.S. Supreme Court considered a challenge to a post-*Baker* redistricting plan in Alabama that would have created significant

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imbalances in the number of residents in each district. *Id.* at 549. The Supreme Court of the United States extended the reasoning of *Wesberry* to state elections.

75.   Over time, the U.S. Supreme Court has taken a very literal approach to "one person one vote" for congressional elections. In *Karcher v. Daggett*, 462 U.S. 725 (1983) it concluded that a New Jersey congressional map with a population deviation between the largest and smallest district of 0.6984% violated the right to vote. *Id.* at 728. The U.S. Constitution requires population equality "as nearly as is practicable" which, in that court's view, meant that "the State must justify each variance, no matter how small." *Id.* at 730. Such justifications are limited in scope. *Id.* at 740 ("Any number of consistently applied legislative policies might justify some variance, including, for instance, making districts compact, respecting municipal boundaries, preserving the cores of prior districts, and avoiding contests between incumbent[s].").

The United States (Exceptions to Strict One-Person-One-Vote)

76.   Taken together, these decisions were constitutionally groundbreaking. At the same time, they represented a return to the equal-population standard that had governed apportionment for a large portion of the nation's history, and that had governed apportionment in legislative cases through the Civil War. In this sense, they were "less a revolution than a rebirth – albeit one with a vengeance – of a practice long part of American political institutions." Grant M. Hayden, "The False Promise of One Person, One Vote," 102 *Mich. L. Rev.* 213, 217 (2003).

77.   The U.S. Supreme Court has recognized exceptions to that rule. For example, for almost all legislative bodies below the level of the national legislature (i.e., state legislatures, county commissions, etc.) the United States will allow deviations of up to 10%, *Brown v. Thompson*, 462 U.S. 835 (1983), although the state probably must justify any departure from strict population equality with a legitimate governmental objective. *Cox v. Larios*, 542 U.S. 947 (2004).

In rare circumstances, it has allowed departures as large as 16%. *Mahan v. Howell*, 410 U.S. 315, 324-25 (1973).

78.   Also, as with the Venice Commission, the U.S. Supreme Court has recognized that there are intrinsic difficulties involved with ensuring population equalities *between* states. That is to say, if districts are not allowed to cross borders, it is likely impossible to ensure population equality. *See Dep't of Comm. v. Montana*, 503 U.S. 442, 465 (1992) (holding that Congress did not have to adopt a reapportionment formula that minimized differences between states). Indeed, after the last re-apportionment, the representative from the largest district (Montana's at-large district) represented 989,000 people, while the representative from the smallest district out of a multi-district state (Rhode Island's 1st district) represented 524,000 people. *See* Michael Barone, et al., *The Almanac of American Politics 2014* 993, 1465 (2013).

79.   Unlike many Supreme Court decisions to come out of that era, the "one-person-one-vote" cases failed to engender a backlash and were readily accepted by the American public. *See* Pamela S. Karlan, "The Fire Next Time: Reapportionment After the 2000 Census," 50 *Stan. L. Rev.* 731, 741 (1998) ("[O]ne person, one vote has occasioned no backlash and seems wildly popular across the political spectrum"); Robert B. McKay, "Reapportionment: Success Story of the Warren Court," 67 *Mich. L. Rev.* 223, 224-25 (1968).

South Korea

80.   The strict one-person-one-vote requirement for the national legislature is a mostly American phenomenon. In fact, most countries do not strictly enumerate acceptable deviations from strict population equality. Lisa Handley, "A Comparative Survey of Structure and Criteria for Boundary Delimitation," *in* Lisa Handley and Bernie Grofman, eds, *Redistricting in Comparative Perspective* 265, 273 (Oxford 2008). Instead, most western democracies, either by

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court order, by statute or by constitutional provision, limit the degree of malapportionment that they will accept, commensurate with the more relaxed approach the U.S. Supreme Court has taken to malapportionment with state legislatures.

81. In 2014, the South Korea Constitutional Court held that the electoral districts for the National Assembly infringed on the right to vote, "violating the equality in the worth of votes." Case on Standard for Population Disparity Allowed in Division of Electoral District, 26-2(A) KCCR 668, 2012Hun-Ma190.192.211.262.325, 2013Hun-Ma781, 2014Hun-Ma53 (consolidated), October 30, 2014.

82. That court had previously held that a disparity of 50% in population between the most and least populous districts in the National Assembly was allowable. *Id.* at (1). The Court noted that this, however, could lead to a situation where "the worth of one person's vote . . . could be 3 times more than that of another person's vote." The court concluded that this would be "an excessive inequality in the worth of votes." *Id.*

83. That court also acknowledged that the 50% disparity that they had allowed between the largest and smallest district ran afoul of international law, and therefore ordered that the maps be redrawn with a maximum population disparity of 33.3%. *Id.* (5)-(6).

The United Kingdom and Canada

84. The United Kingdom famously lacks a written constitution, yet it too has a long history of struggling with malapportionment. Parliament was rarely redistricted, such that by the early 1800s, around a quarter of its members were chosen by fewer than 50 electors. *See* William Carpenter, *The People's Book, Comprising their Chartered Rights and Practical Wrongs* 406 (1831), *available at* https://archive.org/stream/peoplesbookcompr00carp#page/406/mode/2up. Many of these "rotten boroughs" like Old Sarum – an unpopulated hill that sent two MP's to

London – or Dunwich, which continued to send representatives to parliament despite having mostly fallen into the sea, are the stuff of reapportionment legend.

85.   The Reform Act of 1832 abolished many of these rotten boroughs, among many modernizations of election law it advanced. *See* Eric J. Evans, *The Great Reform Act of 1832* (1983). The march toward population equality has been slow, but British courts have been willing to review apportionments. *See R v. Boundary Commission for England* [1983] 1 QB 600 (appeal from Eng. and Wales). Today, the UK allows for a population range of no more than 10 percent between the most- and least-populated district. *See* Parliamentary Voting System and Constituencies Act 2011, part 2, § 11.2(1) (UK) (permitting total population range of up to 10 percent).

86.   In Canada, the Canadian Charter of Rights and Freedoms declares that "[e]very citizen of Canada has the right to vote in an election of members of the House of Commons or of a legislative assembly . . ." *Charter* §3. Canadian courts interpreting this charter have held that the purpose of the right to vote "cannot be less than to guarantee to citizens their full democratic rights in the government of the country and the provinces." *Dixon v. British Columbia (AG)*, 59 DLR 4th (BC S Ct 1989) (Canada). That court wrote that "equality of voting power is fundamental to the Canadian concept of democracy." *Id.* at 16. It also observed that "[t]he concept of representation by population is one of the most fundamental democratic guarantees. And the notion of equality of voting power is fundamental to representation by population." *Id.* at 17.

87.   That court however, declined to impose absolute equality on Canadian provinces. It offered insight into the American situation, observing that the insistence on strict equality was "a reaction to marked and entrenched voting disparities, reflecting an acute departure from the ideals espoused by the founding fathers . . . . the disparities [in *Baker*] were as high as 19 to 1 and

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in *Reynolds v. Sims* up to 41 to 1, being based on the 1900 census despite massive intervening population growth and urbanization." *Id.* at 22. It, however, still concluded that "relative equality" of voting was essential to the functioning of democratic government and should be the "dominant consideration" when drawing lines, and that deviations must be justified by valid factors. *Id.* at 29-31. The court struck down British Columbia's lines where a ratio of 15-to-1 between the largest and smallest riding was present. *Id.* at 32.

88. Two years later, the Supreme Court of Canada declined to strike down a map, concluding that although absolute voting parity was not required, "[r]elative parity of voting power is a prime condition of effective representation." *The Attorney General for Saskatchewan v. Roger Carter, QC*, [1991] 2 SCR 158 (La Forest). But once again, the court emphasized that deviations from absolute parity "may be justified on the grounds of practical impossibility or the provision of more effective representation. . .. Beyond this, dilution of one citizen's vote as compared with another's should not be countenanced." *Id.*

Other Countries

89. Other countries have tended to address issues of malapportionment in their constitutions or statutes. For example, the High Court of Australia rejected a challenge to the federal electoral system in 1975, *McKinlay v. Comm.* 135 C.L.R. 1, 33 (High Ct. 1975) (Australia) (Barwick), a decision it later re-affirmed for Western Australia, *McGinty v. Western Australia*, 186 C.L.R. 140, 165 (High Ct. 1996) (Australia)(Brennan). Those cases arose in a unique posture, however, as voters had rebuffed strict one-person-one-vote in referenda. Moreover, the former case involved a situation where the range involved was approximately 20% while in the latter case, lightly populated areas brought about a situation where the largest district had three times the

population of the smallest. *Id.* In other words, Australia was not as severely out of compliance with international standards as was the U.S. when its court acted.

90. Today, Australia requires that their Electoral Commission "as far as practicable, endeavour to ensure that the number of electors enrolled in each Electoral Division in the State or Territory will not, at the projection time determined under section 63A, be less than 96.5% or more than 103.5% of the average divisional enrolment of that State or Territory at that time." Commonwealth Electoral Act of 1918 § 73(4). It must also project forward to attempt to ensure that this ratio will not be exceeded 3 years and 6 months in the future. *Id.* § 63A.

91. In New Zealand, districts are required to be equipopulous, Electoral Act of 1993 § 35, provided that "[w] here, in the opinion of the Commission, General electoral districts cannot be formed consistently with the considerations provided for in section 35 so as to contain exactly the quota, the Commission may for any General electoral district make an allowance by way of addition or subtraction of General electoral population to an extent not exceeding 5%." *Id.* § 36. It is worth noting that the constitution of New Zealand expressly shields these districts from judicial review. *Timmons v. Governor-General*, Wellington High Court (Apr. 21, 1983).

92. In the 2010 elections, Croatia's legislature was elected by proportional representation in 10 multimember districts that had not been redrawn in over a decade. Croatia's constitutional court concluded that "both the legality and the general democratic character of the elections depend on the equal distribution of the voters in the general constituencies" and that therefore "the constituencies must not differ by more than +/- 5%" in the number of electors. *The Constitutional Court of the Republic of Croatia* No. U-X-6472/2010 Zagreb (Dec. 8, 2010) ¶ 6, *available at* http://www.codices.coe.int/NXT/gateway.dll/Codices/Full/EUR/CRO/ENG/CRO-2010-3-018?f=templates$fn=document-frameset.htm$q=$uq=$x=$up=1. Interestingly, when the

government claimed that it did not have sufficient data to redistrict, the court instead examined

vote returns and decided that the variation of up to 25% was sufficiently suggestive of excessive

malapportionment.

93.   In France, the Conseil Constitutionnel repeatedly warned the French government

that excessive population deviations – that is, those not warranted by "precise urgent necessities"

could result in the Court invalidating the map. *E.g.*, Decision No. 86-208 DC *Conseil*

Constitutionnel [CC] (July 2, 1986). It later instructed the nation's legislature twice to redraw the

boundaries, and concluded that a maximum deviation of 20% "was possible only in exceptional

cases, with proper justification." Decision no. 2008-573 DC, *Conseil Constitutionnel* ¶ 23 (Jan 8.

2009); Conseil Constitutionnel, Observations about Elections of 2007 (July 7, 2005) (France);

Conseil Constitutionnel, Observations about Legislative Elections of June 9 and 16, 2002, May

21, 2003 (France).

94.   In Pakistan, there is a statutory ban on courts reviewing the work of the redistricting

commission, but courts will nevertheless hear constitutional challenges. *See Arshad Mehmood v.*

Commissioner/Delimitation Authority, 2014 P.L.D. Lahore 221 (pak); *Sheikh Attiq-ur-Rehman v.*

Syed Ali Murtaza, 2014 Y.L.R. 1215 (2014), *available at* www.supremecourt.gov.pk. In the

Election Act of 2017, Pakistan limited the variation in constituency sizes to a maximum of 10%.

See   https://democracy-reporting.org/pakistans-2018-delimitation-of-electoral-districts-analysis-

of-preliminary-results/

95.   The Constitutional Court of the Republic of Georgia recently concluded that

"electoral legislation should aim to set electoral districts' boundaries in a way to ensure equality

of votes and adequate representation." *Nanuashvili v. Parliament of Georgia,* N1/3/547, GEO-

2016-2-007, ¶ 22, *available at*

http://www.codices.coe.int/NXT/gateway.dll/CODICES/full/eur/geo/eng/geo-2016-2-007?f=templates$fn=document-frameset.htm$q=%5Brank%3A%5Bsum%3A%5Bstem%3A1%2F3%2F547%5D%5D%5D$x=server$3.0#LPHit1.

96.   Even though achieving strict equality may be impossible, the court observed that differentiation is allowed "only in cases when it is legitimately reasoned." *Id.* ¶23. This court also cited to the Venice Commission recommended thresholds of 10%-15%. The court then declared Georgia's electoral districts unconstitutional. *Id.* ¶¶ 32, 41.

97.   In October 2015, the Constitutional Court of Lithuania was confronted with elections occurring under maps where the country's largest constituency was 50% larger than the smallest. The court declared the country's districts unconstitutional. The court deemed rough equality between the districts to be "an important precondition for ensuring the equivalence of the votes of all voters and the equal importance of the votes of all voters in determining the results of voting. The legislator, in exercising this duty arising from the Constitution and determining the corresponding legal regulation, cannot create preconditions to deny, distort, or unduly restrict equal suffrage." The Constitutional Court of the Republic of Lithuania, on the Compliance of Article 9, Paragraph 1 of the Republic of Lithuania Law on the Election of the Republican of Lithuania (convention of 6 November 2012) to the Constitution of the Republic of Lithuania, No. KT27-N16 (Oct. 20, 2015) available at www.lrkt.lt/en.

98.   That court summarized the overall international approach to malapportionment, writing: "[s]umming up the reviewed practice of foreign state constitutional justice institutions, it needs to be noted that constituencies must be formed in accordance with the right to equal electoral

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rights: constituencies must be made up of the same number of inhabitants or electors as possible, and the differences in this number must be constitutionally justified." *Id.*

99. Other common thresholds are 5 percent (*e.g.*, Albania, and Yemen); 10 percent (*e.g.*, Italy, the Ukraine); 15 percent (*e.g.*, Armenia, Germany, and the Czech Republic) and 20 percent (*e.g.*, Zimbabwe and Papua New Guinea). IFES Report, *supra*, at 63, n.8. Hungary has a maximum deviation of 15%, unless particular justifications are offered; these deviations in any case may not exceed 20%. *See* Joint Opinion on the Act on the Elections of Members of Parliament of Hungary, OSCE/ODIHR and European Parliament (2012).

100. The Venice Commission identifies other thresholds employed by countries: 5 percent (Malta, Macedonia); 10% (Azerbaijan (for "distant or impassable places" only; 5% everywhere else); 15% (Kazakhstan, Hungary, Russia). Report of Constituency Delineation and Seat Allocation adopted by the Council for Democratic Elections December 2017, Venice Commission ¶ 85.

Overall

101. The end of malapportionment is now viewed by American scholars as foundational to our democracy. Professor Robert G. Dixon, Jr., wrote that "'One man-one vote' should be perceived as the symbol of an aspiration for fairness, for avoidance of complexity, for intelligibility in our representational process – indeed, for a sense of meaningful membership in the polis." "The Warren Court Crusade for the Holy Grail of 'One Man-One Vote,'" 1969 *Sup. Ct. Rev.* 219, 268. Bernard Grofman and Howard Scarrow, two students of reapportionment and redistricting, said that "the doctrine of 'one person, one vote' has been elevated to the status of moral platitude." "Current Issues in Reapportionment," 4 *Law & Pol'y Q.* 435, 438 (1982). C. Herman Pritchett, a leading U.S. political scientist and student of the court wrote "I believe that [one person, one vote]

comes closer to summarizing current notions of democracy in representation than any other." "Equal Protection and the Urban Majority", 58 Am. Pol. Sci. Rev. 869, 872 (1964). Robert Dahl, an eminent political theorist, concluded that "one person, one vote" was a necessary condition for democratic government. Robert A. Dahl, *Polyarchy: Participation and Opposition* 2 (1971).

102.   Scholars taking an international perspective have agreed. Estonian political scientist Rein Taagepera considers malapportionment to be a "pathology" in electoral systems. Rein Taagepera & Matthew S. Shugart, *Seats & Votes: The Effects and Determinants of Electoral Systems* 17-18 (1989). Likewise, British political scientists Graham Gudgin and Peter J. Taylor describe malapportionment as "ethically unjustifiable." *Seats, Votes & the Spatial Organization of Elections* (1979).

TASK 2: IDENTIFY THE EXTENT OF MALAPPORTIONMENT IN BELIZE

103.   As seen above, international standards of democracy emphasize the importance of equally populated divisions. This secures the right to vote by helping to ensure that no vote counts more than any other votes. Permissible deviations vary by country, but center on a range of 10% to 15%. Larger deviations are sometimes allowed in remote or sparsely populated areas.

104.   This is reflected in section 90(1) of the Belize Constitution, which requires that electoral divisions "have nearly as may be an equal number of persons eligible to vote."

105.   Having reviewed the appropriate data in Belize, I conclude that passive malapportionment in Belize is extreme, under any existing standard for malapportionment. It exceeds even the threshold that prompted the Supreme Court to act in *Wesberry.*

106.   In many ways, this task is the most straightforward of the three tasks, as the parties appear to be in agreement that the divisions as currently constituted are malapportioned. *See Affidavit in Objection to Application for the Appointment of an Independent Expert and the*

Preparation of an Expert Report ¶18 (**Exhibit 3** at 83-84). The question then is to determine whether these deviations violate norms of democracy and render an election held under the current boundary lines undemocratic.

107. To accomplish this, I utilized the shapefiles and programming software described *infra* ¶¶ 122 - 128 to recreate Belize's electoral divisions under the most current registration numbers available.

108. Tables 1 through 3 illustrate the extent of malapportionment in Belize. Belize currently has 163,974 electors. When divided by the number of divisions, which is presently set at 31, that works out to an "ideal" population of 5,289.5 electors in each division.

109. Table 1 sets out the current population of each electoral division. It then gives the deviation from the ideal population for each division, and then converts this deviation to percentages.

110. The Venice Commission would allow for a maximum deviation of 10%, with occasional deviations in excess of 15% allowed only in extreme circumstances. Using this as the standard, only four of Belize's Electoral Divisions conform with international standards of democracy. Those are Dangriga (-7.8%), Cayo North East (deviation of -4.6%), Corozal South West (0.5%), and Orange Walk Central (1.9%).

111. The most permissive scheme described above – that of South Korea – allows for deviations between the largest and smallest division of as large as 33.3%. Using that standard, just nine of Belize's 31 divisions, or just over one-in-four, comply with international standards of democracy. To the list above, we can add Port Loyola (-11.5%), Corozal Bay (-0.5%), Cayo West (10.9%), Toledo East (17.8%), and Corozal South East (18.5%).
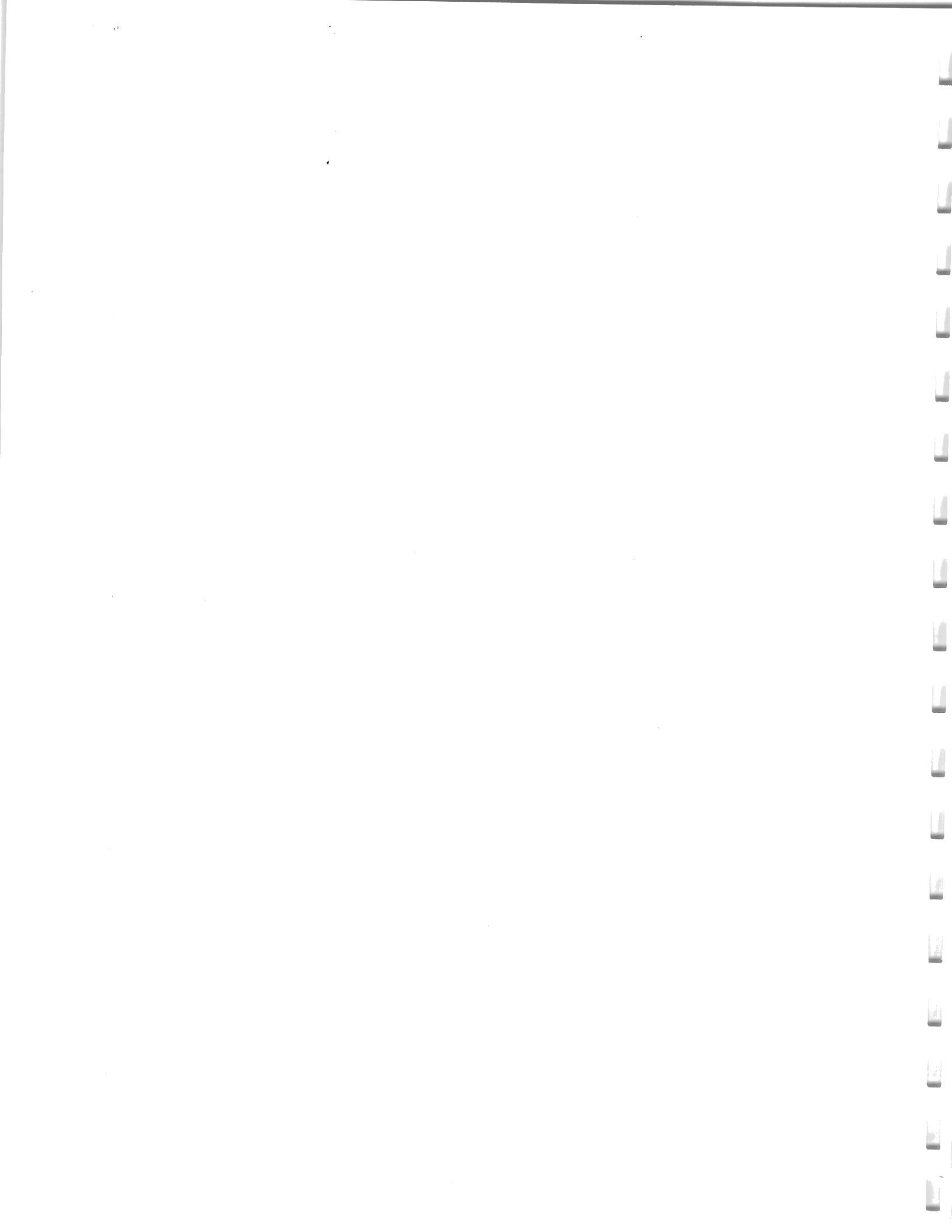
Table 1: Malapportionment in Belize Electoral Divisions

District	Division Name	Electors	Deviation	Deviation %
Belize District	Belize Rural Central	6509	1220	23.1%
Belize District	Belize Rural North	4293	-996	-18.8%
Belize District	Lake Independence	4152	-1137	-21.5%
Belize District	Freetown	3234	-2055	-38.9%
Belize District	Collet	3625	-1664	-31.5%
Belize District	Port Loyola	4679	-610	-11.5%
Belize District	Queens Square	2372	-2917	-55.2%
Belize District	Mesopotamia	2279	-3010	-56.9%
Belize District	Albert	2413	-2876	-54.4%
Belize District	Fort George	1663	-3626	-68.6%
Belize District	Pickstock	3327	-1962	-37.1%
Belize District	Caribbean Shores	3775	-1514	-28.6%
Belize District	Belize Rural South	7491	2202	41.6%
Cayo District	Cayo West	5868	579	10.9%
Cayo District	Cayo North	6853	1564	29.6%
Cayo District	Cayo North East	5045	-244	-4.6%
Cayo District	Cayo Central	7216	1927	36.4%
Cayo District	Cayo South	6746	1457	27.5%
Cayo District	Belmopan	7947	2658	50.3%
Corozal	Corozal South West	5314	25	0.5%
Corozal	Corozal South East	6265	976	18.5%
Corozal	Corozal North	6750	1461	27.6%
Corozal	Corozal Bay	4732	-557	-10.5%
Orange Walk	Orange Walk North	7268	1979	37.4%
Orange Walk	Orange Walk East	6318	1029	19.5%
Orange Walk	Orange Walk Central	5389	100	1.9%
Orange Walk	Orange Walk South	6441	1152	21.8%
Stann Creek	Dangriga	4874	-415	-7.8%
Stann Creek	Stann Creek West	8439	3150	59.6%
Toledo	Toledo West	6467	1178	22.3%
Toledo	Toledo East	6230	941	17.8%

112.   Overall, the deviations range from 59.6% in Stann Creek West, to -68.6% in Fort Georgia, an overall deviation of 128.1%, far beyond what is typically tolerated in a Western Democracy.

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113.   Put differently, the vote of an elector in Ft. George counts five times as much in the House of Representatives as the vote of an elector in Stann Creek West.

114.   The malapportionment is especially severe when we look at the district level. Table 2 gives the number of electors in each district, and compares it to the number of divisions under the current plan.

Table 2: Malapportionment Among Belize Districts

District	# Electors	# of Divisions	% of Electors	% of Divisions
Belize	49,812	13	30.4%	41.9%
Cayo	39,675	6	24.2%	19.4%
Corozal	23,061	4	14.1%	12.9%
Orange Walk	25,416	4	15.5%	12.9%
Stann Creek	13,313	2	8.1%	6.5%
Toledo	12,697	2	7.7%	6.5%

115.   As you can see, Belize District presently has 30% of the electors, but 42% of the divisions. The underrepresentation this creates in other districts is spread across the other districts, but is especially pronounced in Cayo, which has 24.2% of the electors but only 19.4% of the divisions, and Orange Walk, which has 15.5% of the electors and only 12.9% of the divisions.

116.   Finally, we can evaluate the "within district" deviations in Belize. Although, to my reading, the Constitution of Belize does not specifically require that electoral divisions be contained completely within a single district (as the United States does with individual states), the divisions are presently drawn in such a manner. I calculated a separate ideal population for divisions drawn within each particular district. So, for example, Belize District has 13 divisions and 49,812 electors, suggesting an ideal division population within Belize District of 3,832 (49,812/13 = 3,831.6). The most populous electoral division in Belize District is Belize Rural South, with 7,491 electors, or almost twice the ideal amount for that division. By contrast, Ft. George has only 1,663 electors, or just 43% of the ideal division population for Belize District. This creates a within-district deviation of 152.1%, well in excess of even the 33.3% maximum

deviation from South Korea. In fact, every district, with the exception of Toledo and Orange Walk has a within-district deviation that exceeds that allowed by South Korea. Only Toledo would meet the legal standard in most Western democracies.

Table 3: Malapportionment Within Belize Districts

District	Within-District Deviation
Belize	152.1%
Cayo	43.9%
Corozal	35.0%
Orange Walk	29.6%
Stann Creek	53.6%
Toledo	3.7%

117.   In short, malapportionment in Belize is severe, to the point where it "debas[es] the weight of [electors'] votes." *Wesberry*, 376 U.S. at 4. It would be difficult to consider elections held under these maps consistent with international standards of democracy.

TASK 3: PROVIDE ALTERNATIVE MAPS, DESCRIBING ADVANTAGES AND DISADVANTAGES OF EACH

118.   In this section I provide step-by-step instruction for the creation of maps, describing the process of producing maps, and then providing three sample maps, with disadvantages and advantages for each. The goal of this section is to demonstrate that with modern map drawing technology, legal maps can be drawn up within a matter of days, if not hours, even under disadvantageous circumstances.

The Data Collection/Creation Process

119.   On 13 August, shortly after I was appointed as an expert in this matter, I sent correspondence to the Elections and Boundaries Division and the Statistical Institute of Belize informing them of my appointment as an expert witness in this matter and requesting documents. Letter from Sean Trende to Elections & Boundaries Division, (13 August 2020); Letter from Sean Trende to Leopold Perriott, (13 August 2020) **Exhibit 6**. In particular, I requested shapefiles for

the country of Belize at various levels of government, and a list of registered electors, with geocoded information or, at a minimum, the polling area to which they were assigned. *Id.* As explained later, shapefiles are files that function as the building blocks of map drawing. Geocoded data would provide the latitude and longitude for the electors' homes, which would allow map-drawers to tie the individual electors to a variety of shapefiles.

120.   The Elections & Boundaries Division stipulated that it had no requested shapefiles relating to the boundaries of Belize. After requesting an extension of time to produce documents, on Friday, 28 August, at 4:44pm (Eastern U.S. Time), the Elections and Boundaries Division produced an excel spreadsheet of electors with their addresses. The Elections and Boundaries Division, now represented by the Attorney General, further stipulated that it had no geocoded information for these electors. I again requested that they provide the polling area for each elector. Letter from Sean Trende to Samantha Matute, (1 September 2020) (**Exhibit 7**). On 3 September, the Attorney General stated that the Elections and Boundaries Division would not be willing to identify the polling area for each elector, as they believed it was outside of the scope of discovery ordered by this Court. Letter from Samantha Matute to Sean Trende (3 September 2020) (**Exhibit 8**). On 14 September, I urged the Attorney General to reconsider, explaining my need for the information, and pointing to language in the court's order that supported my position. Letter from Sean Trende to Samantha Matute, (14 September 2020) (**Exhibit 9**). The Attorney General has not responded to this letter.

121.   On 24 August, I resubmitted my request to the Statistical Institute of Belize, as the person to whom I had directed my initial request had retired. Letter from Sean Trende to Diana Castillo[-]Trejo, (24 August 2020) (**Exhibit 10**). On 7 September, the Statistical Institute of Belize took the position that since it was not a party to the litigation, it was not subject to the discovery

order, and would therefore not provide responsive documentation. It suggested that it might be willing to provide responsive files for a fee. Letter from Diana Castillo-Trejo to Sean Trende, (7 September 2020) (**Exhibit 11**). I immediately asked, via e-mail, for a list of shapefiles it would be able to provide, and what their fee would be. On 14 September, I formally sent a follow-up letter asking for a list of shapefiles the Institute might be willing to provide and the fee for each file. Letter from Sean Trende to Diana Castillo[-]Trejo (14 September 2020) (**Exhibit 12**). The Institute never responded.

122.   Having been frustrated in my efforts to obtain information that I needed from the relevant Belizean entities, I set about to produce the information needed from scratch. I engaged Marion Cayetano, an expert in the use of geographic information system (GIS) with deep knowledge of the geography of Belize, to produce the polling areas shapefile using the Elections and Boundaries 5 June 2009 descriptions (available on the Elections and Boundaries department website). The shapefile that he produced was used to represent polling areas in the sample maps presented below.

123.   The Belize Elections and Boundaries Department website has a set of descriptions for the polling areas in each of the existing thirty-one electoral divisions in Belize, which can be found at the following link: http://elections.gov.bz/modules/wfdownloads/viewcat.php?cid=110. Those descriptions became the basis for the preparation of a GIS data file known as a shapefile. The shapefile presents the geographic boundaries generated from the description.

124.   Using software known as ArcGIS a team of consultants prepared lines that geographically represent the boundaries of the polling areas in each district using a technique known as "heads up digitizing." Polling areas were constrained to district boundaries. Because the descriptions rely on other data such as land tenure boundaries, rivers, roads, waterbodies, and

northings and eastings, etc., the digitizing team accessed those geographic data to convert the descriptions into a shapefile data.

125. The next step was to convert the PDF file for Electors for May 2020 found at the following link http://elections.gov.bz/modules/wfdownloads/singlefile.php?cid=313&lid=1333, to a CSV file. This file gives the number of male and female electors for each polling area registered as of May 2020. Using data management techniques, the number of male and female electors per polling area was added to the geographic data that represent the respective polling area.

126. Finally, the completed shapefile was reprojected to WGS Web Mercator Auxiliary Sphere using an appropriate transformation algorithm. The final shapefile geographically represents the distribution of polling areas across Belize and can be overlaid with other Belize data in the same projection.

127. Next, I engaged Clark Bensen, an American redistricting expert with whom I have worked in the past, to update the polling area data for Electors for June 2020 and to break down the Belmopan area by enumeration district. He edited the shapefiles to include this updated data, and converted the data into a format that my software (described below) can use.

128. All of this was accomplished within a matter of weeks, demonstrating how swiftly this type of data can be produced even under unfavorable circumstances.

The Map Drawing Process

129. Once I obtained the final shapefiles on 16 September, I was able to begin drawing maps. For all my maps, I utilized Maptitude for Redistricting, a common map producing software for which I have a license.

130. I began my maps by opening the relevant shapefile and converting it into a map. This process is showing in Figure 1, below.

Figure 1: Opening Screen of Maptitude for Redistricting
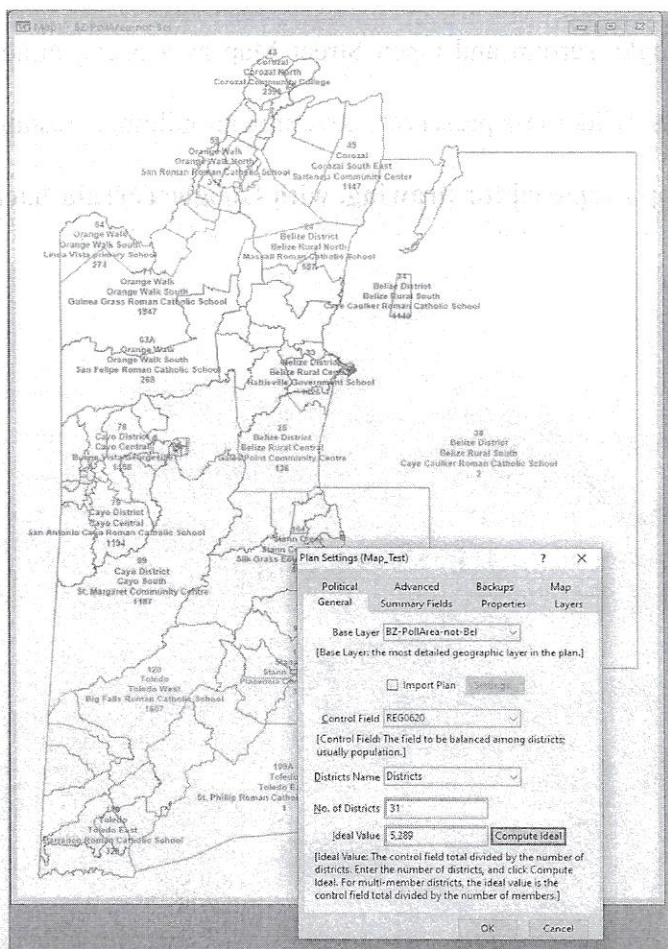
131. The background image contains the shapes of the polling areas in Belize. As you can see, there is an identification number for the polling area, the division to which the polling area belongs, the current division to which the polling area is assigned, the name of the polling area, and then the population of the polling area. As you zoom into the map, information for the smaller polling areas become available.

132. A pop-up box allows you to select the "Control Field" – here the number of registered electors as of June 2020 (REG0620). It also prompts you to insert the number of districts
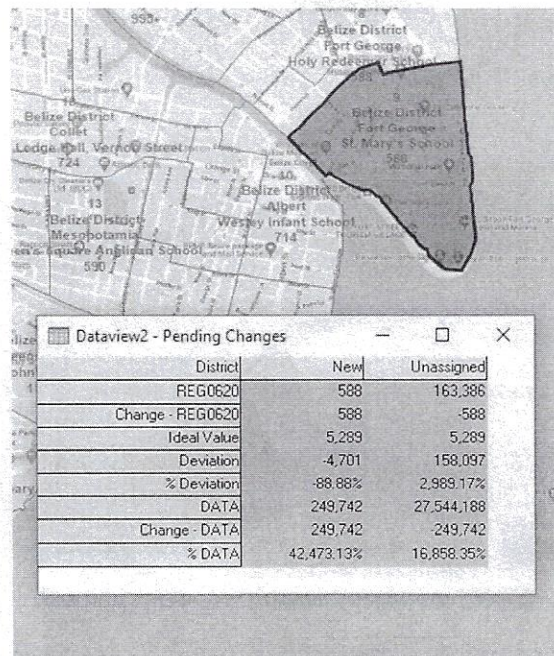
you plan on drawing, from which it calculates the ideal number of electors in each division. While

it is not required, I prefer to put a background on the map. For these maps, I chose Google Terrain,

which provides information about the geographic features as well as a road map. I toggled back-

and-forth between Google Terrain and Open Street Map as a background. The latter provides

information about parks, wilderness preserves, government buildings, restaurants, and the like.

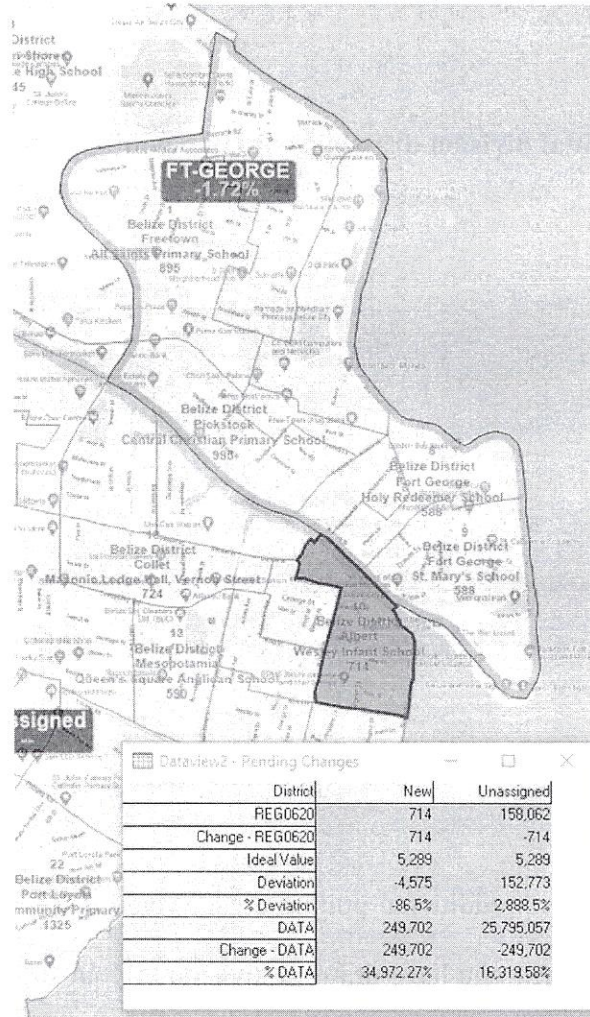**Fig. 2: Map prepared for drawing, with Google Terrain background**
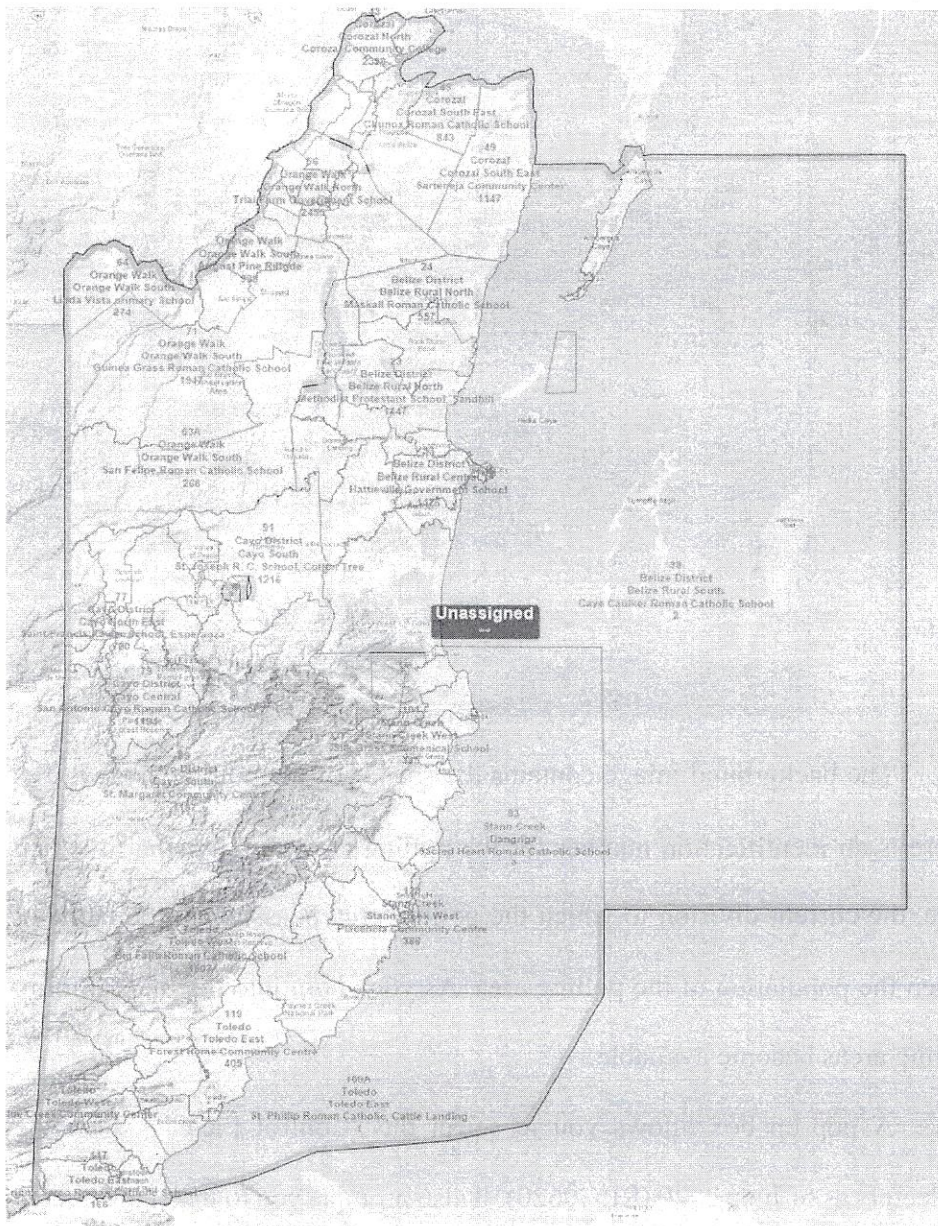
133.   Drawing maps is then exceptionally simple. As you click on polling areas, Maptitude assigns that polling area to a new division. It tells you in the "new" column how many electors reside in that division (given the data provided by Mr. Bensen), the ideal population value, the deviation from the ideal division population, and the percent deviation from the ideal division population.

Fig. 3: Initial division drawing, with one polling area selected

| Dataview2 - Pending Changes | — □ × | |
District	New	Unassigned
REG0620	588	163,386
Change - REG0620	588	-588
Ideal Value	5,289	5,289
Deviation	-4,701	158,097
% Deviation	-88.88%	2,989.17%
DATA	249,742	27,544,188
Change - DATA	249,742	-249,742
% DATA	42,473.13%	16,858.35%

134.   As you click on additional polling areas, Maptitude will combine those polling areas to create divisions. When you have drawn a division to your liking, you save the division and assign it a name. Maptitude then highlights the boundary of the division and displays the name and percent deviation from the ideal population on the map. You are then able to begin a new division elsewhere on the map. Here, I have completed the Ft. George division, which deviates from the ideal population by only 1.72 percent. I have also begun drawing a second district in the Albert area, which has 714 electors as of now.

Fig. 4: Map with Ft. George District Redrawn, Beginning New Albert District

District	New	Unassigned
REG0620	714	158,062
Change - REG0620	714	-714
Ideal Value	5,289	5,289
Deviation	-4,575	152,773
% Deviation	-86.5%	2,888.5%
DATA	249,702	25,795,057
Change - DATA	249,702	-249,702
% DATA	34,972.27%	16,319.58%

135.   Again, the forgoing is intended to emphasize that maps can be produced with modern technology in very short order. It should not take long to produce new maps to replace the severely malapportioned maps Belize currently has.

Allocating Seats to Districts

136.   Before drawing new maps, it was necessary to allocate seats to districts. I examined a variety of methods for allocating seats, including the method of equal proportions utilized in the

40

United States. Unfortunately, there is not a clear answer to how seats should be allocated. As Table 4 demonstrates, a simple apportionment – that is, dividing the number of electors by the ideal division size – entitles Belize District to almost exactly 9.5 divisions, entitles Cayo to almost exactly 7.5 divisions, entitles Stann Creek to almost exactly 2.5 divisions, and entitles Toledo to almost exactly 2.5 divisions. Because of this, some degree of malapportionment is inevitable when district boundaries are strictly adhered to. It is means that it is probably defensible to award either 7 divisions to Cayo and 10 to Belize District, or 8 divisions to Cayo and 9 to Belize District.

Table 4: Simple Apportionment of Belize Divisions

| District	# Electors	# of ideal divisions
Belize	49,812	9.418
Cayo	39,675	7.501
Corozal	23,061	4.360
Orange Walk	25,416	4.805
Stann Creek	13,313	2.517
Toledo	12,697	2.400

The Problem With Ambergris Caye and Southern Belize

137. Two other issues present themselves consistently throughout these maps and must be addressed up front. The first issue is that Ambergris Caye is a single polling area. Its population, however, exceeds the ideal population by 20%. Thus, any map will begin with substantial malapportionment, since Ambergris Caye could not be broken up given the data I have in my possession. Of course, the 20% population deviation would still represent a smaller malapportionment than that found in 18 divisions under the current map. This is a fast-growing area, however, so malapportionment would be expected to worsen here over time.

138. To address this issue, Ambergris Caye is consistently bordered by a division that is *underpopulated* by approximately 20%. The idea is that, with better information, 20% of the population of Ambergris Caye could be shifted over to that bordering division, creating two equipopulous divisions without having to disturb the remainder of the map.

41

139. The other issue arises in southern Belize. As described above, Toledo and Stann Creek are entitled to almost exactly 2.5 divisions apiece. As shown in Figure 5, it is possible to improve upon the current malapportionment by evening out population discrepancies between the two divisions in Toledo and creating a new division based in Placencia in southern Stann Creek. There is little within-district malapportionment using this approach. There is, however, still substantial malapportionment on a national scale.

Fig. 5: Divisions in Stann Creek and Toledo, respecting district boundaries
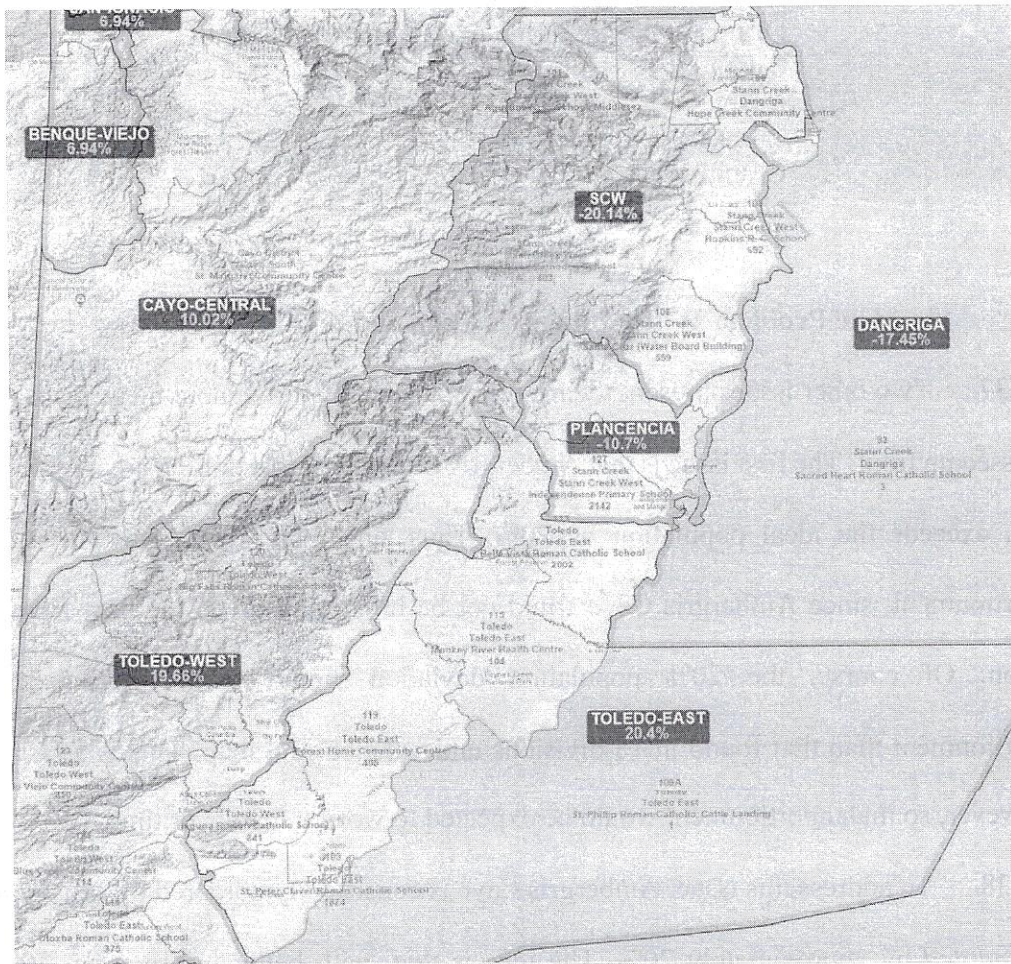

140. This malapportionment will likely abate over time in Stann Creek as this District is growing. The malapportionment in Toledo, however, is likely to be particularly severe by the time

of the next redistricting. The malapportionment could probably be justified under international standards given the relatively sparse population there, but it is not ideal.

141. This is simply unavoidable if Toledo and Stann Creek are kept separated. There is, however, an alternative.

142. Stann Creek and Toledo combine for almost exactly five divisions. As such, they can be combined easily to produce divisions with almost no malapportionment. Figure 6 demonstrates this.

Fig. 6: Divisions in Stann Creek and Toledo, combined
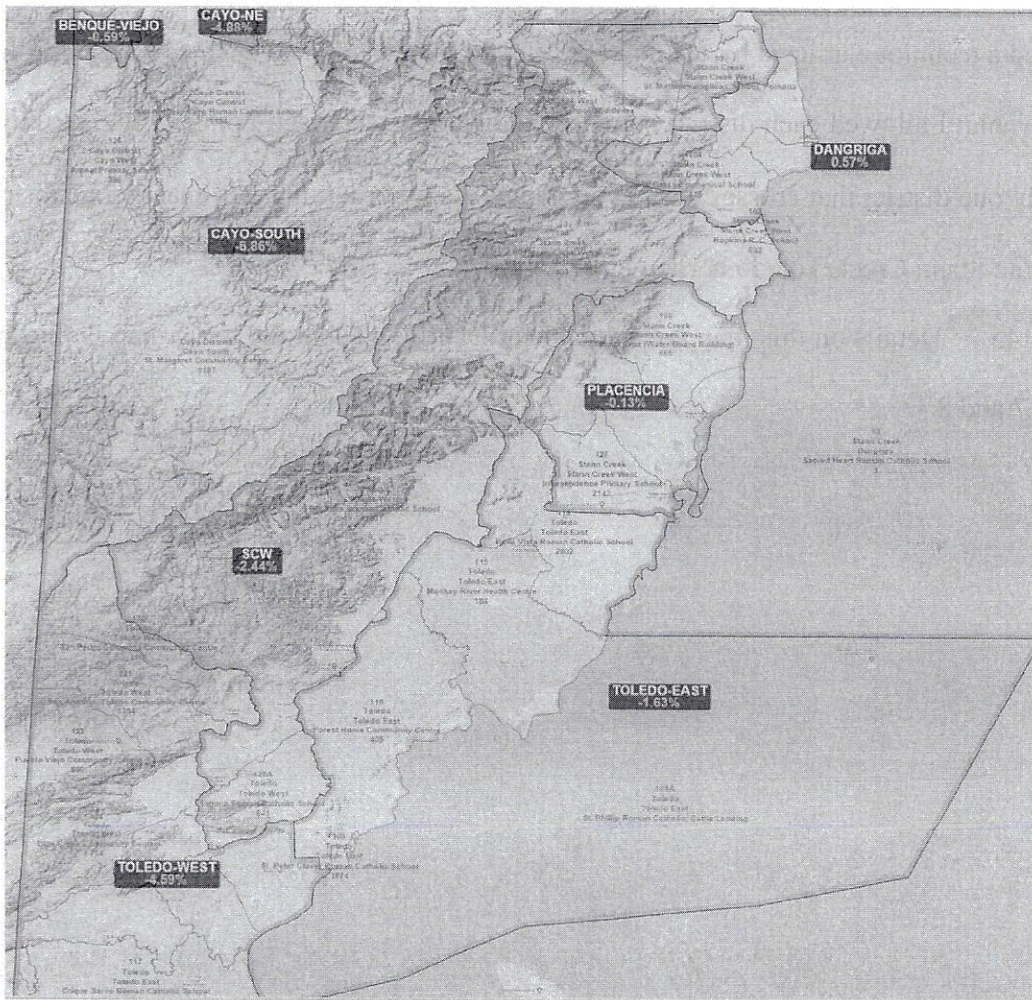
143.   Because of this, in my maps that otherwise respect district boundaries, I nevertheless combine Stann Creek and Toledo, to produce maps with minimal malapportionment. It should be kept in mind that the districts drawn in Figure 5 could be substituted if there was a goal to respect district boundaries strictly.

Map #1: Strict Equality of Population, Minimal Traversals.

144.   For the first map, I drew divisions aimed at producing strict equality of population. This is obviously impossible, for reasons described immediately above, when respecting district boundaries. To help remedy this, while still attempting to respect geographic boundaries, I employed a technique utilized by courts in the United States in places such as North Carolina and Pennsylvania: I allowed each district boundary to be traversed exactly once. That is to say, there is exactly one district that crosses the Cayo/Orange Walk border, there is exactly one district that crosses the Stann Creek/Toledo border, and so forth.

145.   Details on this map are available at **Exhibit 13**, but the basic map is illustrated in Figures 7 and 8.

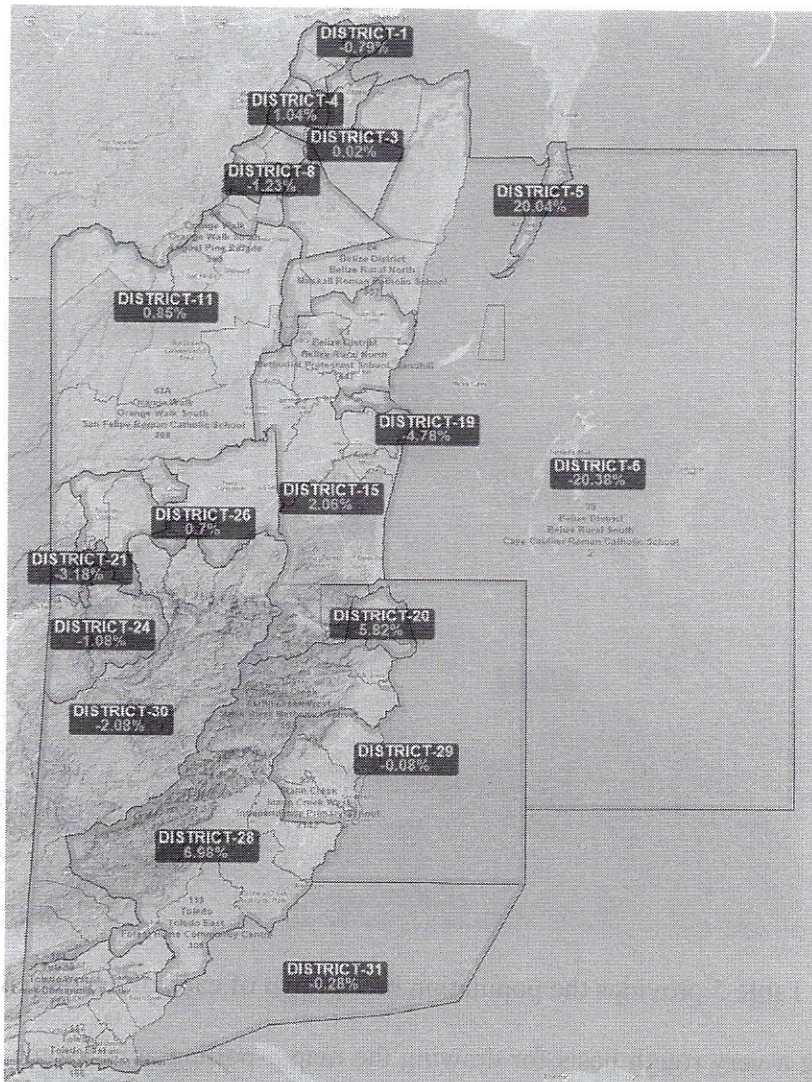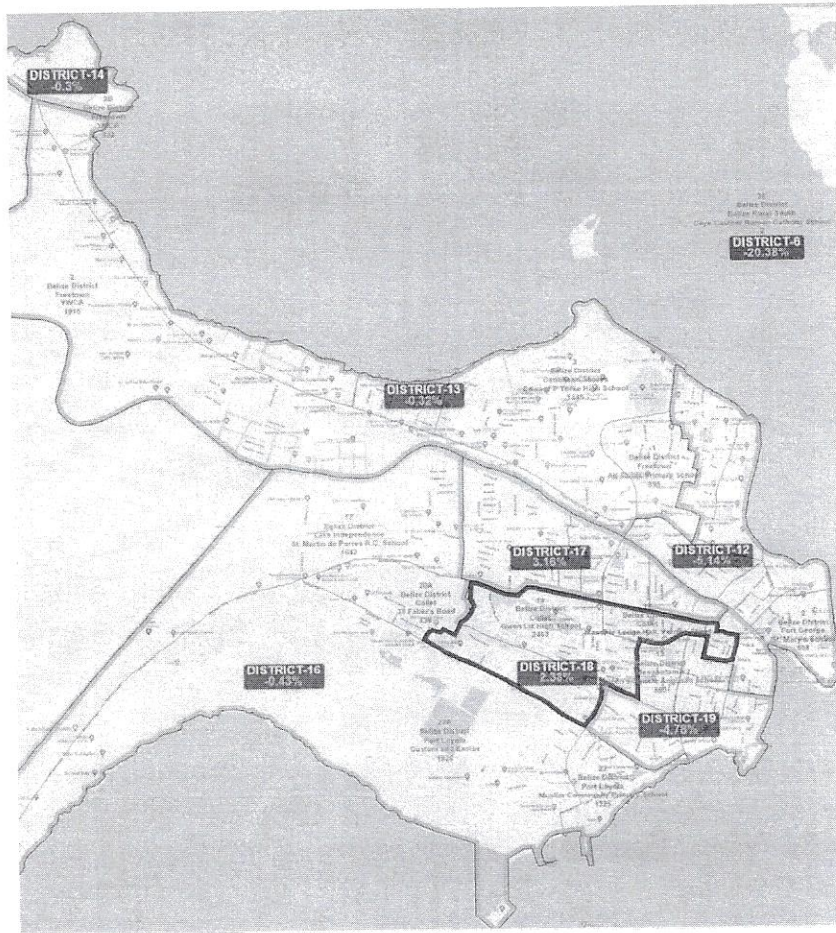**Fig. 7: Strict Equality of Population, Minimal Traversals**

Fig. 8: Strict Equality of Population, Minimal Traversals; Belize City Inset

146.	Table 5 provides the population breakdown of each division in Map 1. As you can see, even using a very rough basis for drawing the map – polling areas, some of which are very large – I was able to produce a map quickly that vastly improves upon the malapportionment found under the current map.

147.	Setting aside the discrepancy between District 5 (Ambergris Caye) and neighboring District 6 (explained *supra* ¶¶ 137-138), the discrepancy between the largest and smallest division is 12.12%. This is, in part, caused by discrepancies in the lightly populated rural areas of Stann Creek and Toledo. The impact of this, however, is relatively slight: A voter in District 28 (the most

heavily populated division) has 1.12 times the voting power as a voter in District 12 (the most

lightly populated division).

Table 5: Summary, Equal Divisions, Minimal Traversals Map

	Division	Population	Deviation	Percent Deviation
1	DISTRICT-1	5247	-42	-0.79%
2	DISTRICT-2	5190	-99	-1.87%
3	DISTRICT-3	5290	1	0.02%
4	DISTRICT-4	5344	55	1.04%
5	DISTRICT-5	6349	1060	20.04%
6	DISTRICT-6	4211	-1078	-20.38%
7	DISTRICT-7	5112	-177	-3.35%
8	DISTRICT-8	5224	-65	-1.23%
9	DISTRICT-9	5391	102	1.93%
10	DISTRICT-10	5260	-29	-0.55%
11	DISTRICT-11	5334	45	0.85%
12	DISTRICT-12	5017	-272	-5.14%
13	DISTRICT-13	5272	-17	-0.32%
14	DISTRICT-14	5273	-16	-0.30%
15	DISTRICT-15	5433	144	2.72%
16	DISTRICT-16	5231	-58	-1.10%
17	DISTRICT-17	5456	167	3.16%
18	DISTRICT-18	5415	126	2.38%
19	DISTRICT-19	5036	-253	-4.78%
20	DISTRICT-20	5597	308	5.82%
21	DISTRICT-21	5121	-168	-3.18%
22	DISTRICT-22	5344	55	1.04%
23	DISTRICT-23	5249	-40	-0.76%
24	DISTRICT-24	5232	-57	-1.08%
25	DISTRICT-25	5252	-37	-0.70%
26	DISTRICT-26	5326	37	0.70%
27	DISTRICT-27	5372	83	1.57%
28	DISTRICT-28	5658	369	6.98%
29	DISTRICT-29	5285	-4	-0.08%
30	DISTRICT-30	5179	-110	-2.08%
31	DISTRICT-31	5274	-15	-0.28%

148. The main benefit of this map is that the divisions really do have minimal deviations

from the ideal. Two-thirds of the divisions are within 2 percent of the ideal value.

149. The main disadvantage of this map is that it pays little attention to valid

considerations other than population equality. Districts are traversed, and the divisions have such

little meaning that it was not sensible to even name them. The next map pays more attention to these considerations.

Map #2: Eight Divisions to Cayo, Nine Divisions to Belize District

150.   This map adheres to the district boundaries, except insofar as Stann Creek and Toledo are combined to ease malapportionment. Under this map, Cayo has eight divisions, while Belize loses four divisions, falling to 9.

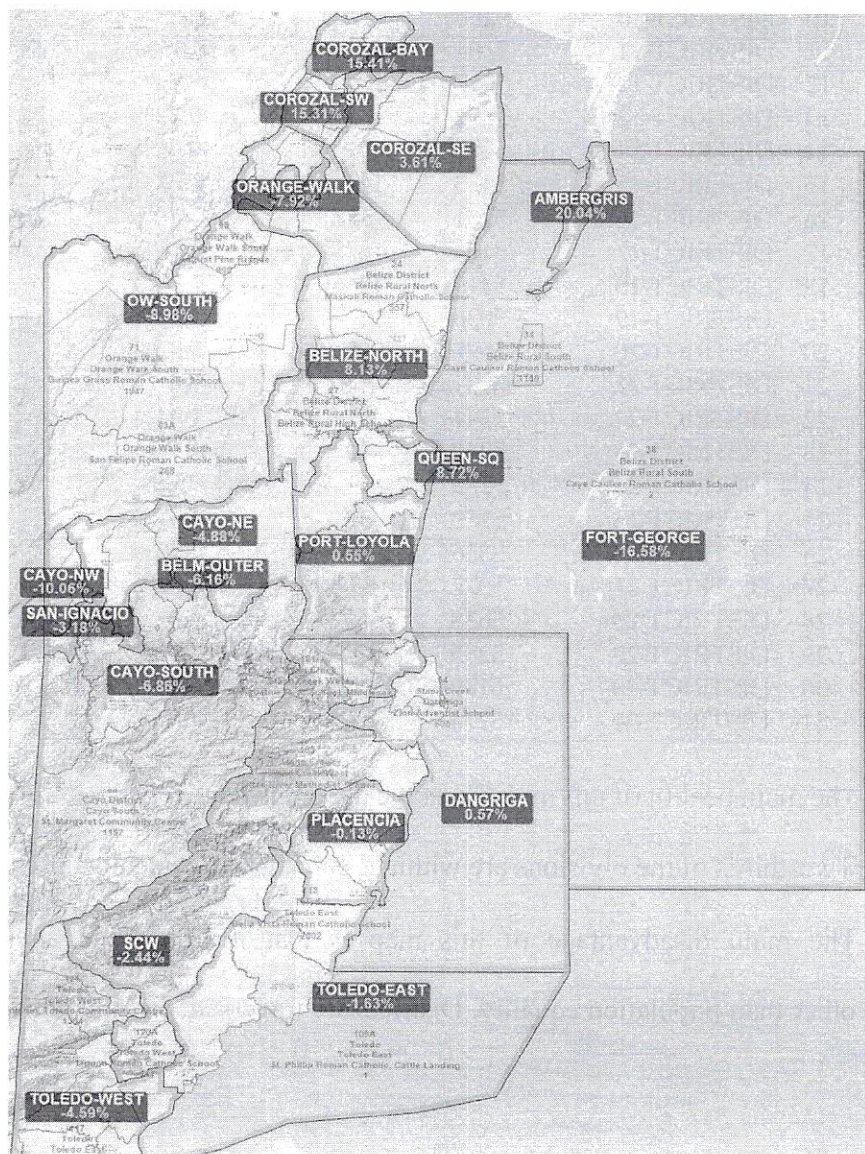### Fig. 9: Eight Divisions to Cayo, Nine Divisions to Belize District

Fig. 10: Eight Divisions to Cayo, Nine Divisions to Belize District, Belmopan Inset
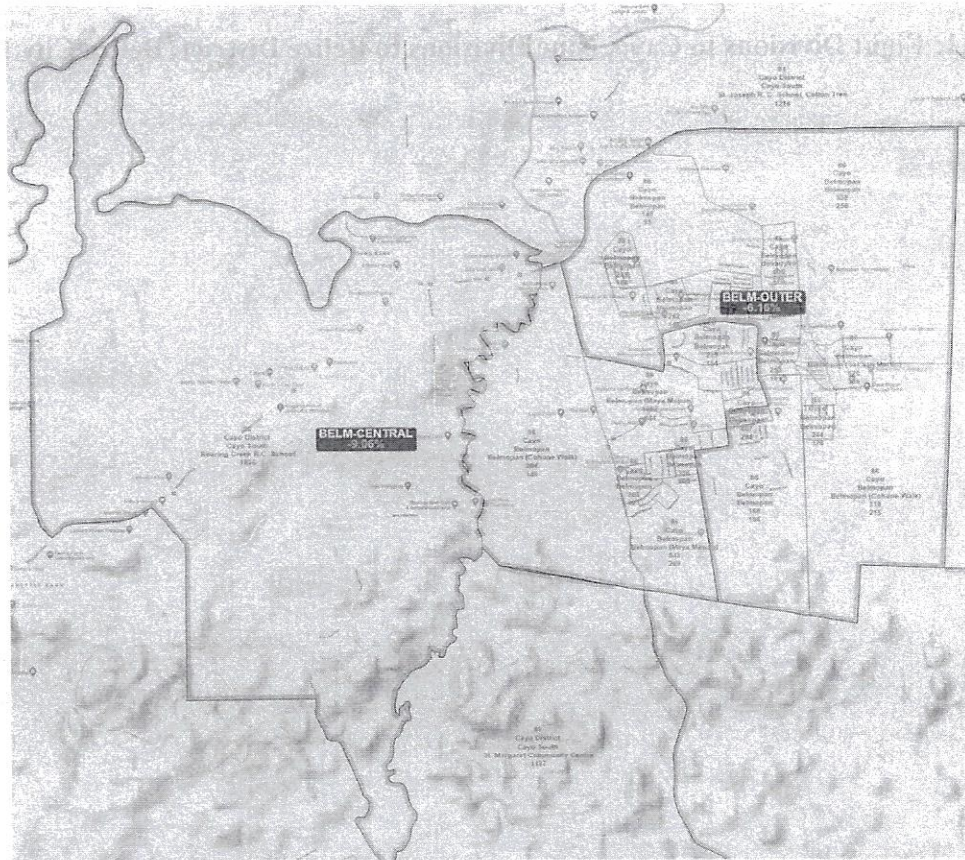
Fig. 11: Eight Divisions to Cayo, Nine Divisions to Belize District, Belize City Inset

151.   This map preserves the Queen Square, Lake Independence, Caribbean Shores, Port Loyola, Collet and Fort George divisions in Belize City, although the latter division will have a portion of Ambergris Caye added to it under this map. A new division is created based around Ladyville.

50

152.   In Cayo, the map recognizes two things. First, Belmopan cannot remain a single division. As such, it is divided into two parts. The first part contains some rural areas to the west, but also much of the core of the city, while another division, "Belmopan Outer," is based more in the suburbs.

153.   Second, the map recognizes population growth in the western portion of Cayo District. Although this is not apparent from these maps (but can be seen in the detailed maps in **Exhibit 14**), Benque Viejo, San Ignacio and Santa Elena all effectively receive their own divisions.

154.   Summaries of the divisions are included in Tables 6 and 7.

Table 6: Summary, Eight Divisions to Cayo, Nine Divisions to Belize District

Division	District	Population	Deviation	Percent Deviation
AMBERGRIS	Belize	6349	1060	20.04%
BELIZE-NORTH	Belize	5719	430	8.13%
CARIBBEAN-S	Belize	5288	-1	-0.02%
COLLET	Belize	5823	534	10.10%
FORT-GEORGE	Belize	4412	-877	-16.58%
LADYVILLE	Belize	5553	264	4.99%
LAKE-INDEP	Belize	5600	311	5.88%
PORT-LOYOLA	Belize	5318	29	0.55%
QUEEN-SQ	Belize	5750	461	8.72%
BELM-CENTRAL	Cayo	4810	-479	-9.06%
BELM-OUTER	Cayo	4963	-326	-6.16%
BENQUE-VIEJO	Cayo	5258	-31	-0.59%
CAYO-NE	Cayo	5031	-258	-4.88%
CAYO-NW	Cayo	4757	-532	-10.06%
CAYO-SOUTH	Cayo	4926	-363	-6.86%
SAN-IGNACIO	Cayo	5121	-168	-3.18%
SANTA-ELENA	Cayo	4809	-480	-9.08%
COROZAL-BAY	Corozal	6104	815	15.41%
COROZAL-N	Corozal	5378	89	1.68%
COROZAL-SE	Corozal	5480	191	3.61%
COROZAL-SW	Corozal	6099	810	15.31%
ORANGE-WALK	Orange Walk	4870	-419	-7.92%
OW-CENTRAL	Orange Walk	5002	-287	-5.43%
OW-SOUTH	Orange Walk	4814	-475	-8.98%
OW-SOUTHEAST	Orange Walk	5618	329	6.22%
OW-WEST	Orange Walk	5112	-177	-3.35%
DANGRIGA	Stann Creek	5319	30	0.57%
PLACENCIA	Stann Creek	5282	-7	-0.13%
SCW	Stann Creek	5160	-129	-2.44%
TOLEDO-EAST	Toledo	5203	-86	-1.63%
TOLEDO-WEST	Toledo	5046	-243	-4.59%

Table 7: Within-Division Summary, Eight Divisions to Cayo, Nine Divisions to Belize District

District	Ideal Pop	Maximum Pop.	Minimum Pop.	Max. Deviation(%)	Min. Deviation (%)	Difference
Belize	5535	5750	5288	4%	-8%	12%
Cayo	4959	5258	4757	6%	-4%	10%
Corozal	5765	6104	5378	6%	-7%	13%
Orange Walk	5083	5618	4814	11%	-5%	16%
SC/Toledo	5202	5319	5046	2%	-5%	7%

155. Besides relatively slight malapportionment, a major advantage of this map is that the Belize City divisions are largely over-apportioned, while the Cayo divisions are under-apportioned. This means that over time, as population continues to shift from Belize City to the other districts, the malapportionment on this map should improve.

156. This is overall a strong map. There is obviously more malapportionment than there was under the "equal divisions" map. Ignoring Ambergris Caye and its neighboring division, the difference between smallest and largest division is 25.47%. This is, unfortunately, inevitable. The way that the voting areas in Corozal are drawn forces a single solution on that district, which results in two overpopulated divisions. With more data, these deviations could be further improved. However, any alternative drawing of the map in Corozal using the current data will worsen malapportionment. This is all, however, very much improved from the current map.

157. The within-district variation is likewise improved from the current map. District vary from 7 percent variation to 16 percent variation. This bumps up against the high end of what the Vienna Commission would allow, but with some 140 voting areas and 31 divisions, it is difficult to improve upon this.

Map #3: Minimum Changes

158. The final suggested map takes an approach that courts utilize in the United States when a legislature and/or the legislature and executive deadlocks or otherwise fails to approve a remedial map. The court will take the current map and, either on its own or with the assistance of

a special master, will change the map as little as possible while still addressing the constitutional or statutory violation. *See Upham v. Seamon*, 456 U.S. 37 (1982).

159. For the minimum changes map, rather than rounding Cayo's 7 divisions up to eight, I round it down to 7. Again, this is to create the smallest changes to the existing map. Likewise, I retain 10 divisions in Belize District, rather than eliminating an additional one and dropping to nine.

160. The map is presented in more detail in **Exhibit 15**, but figures 12, 13, and 14 present an overview of the maps.
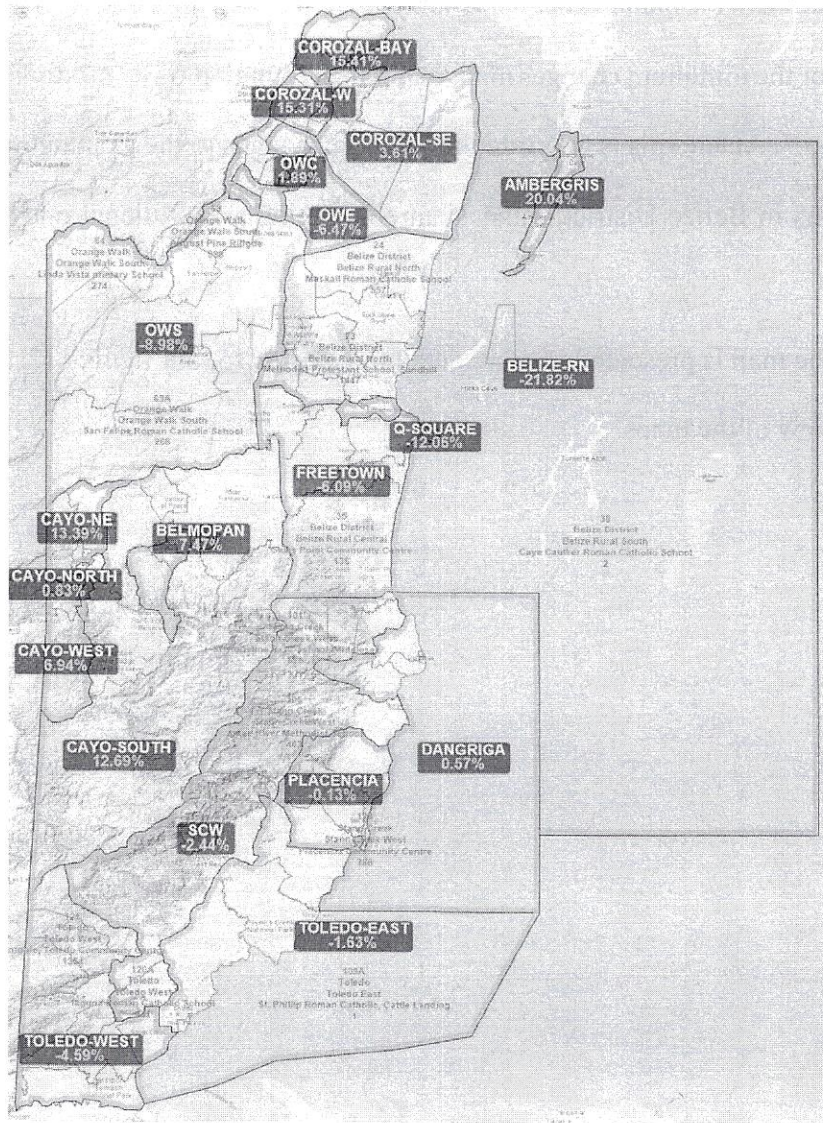
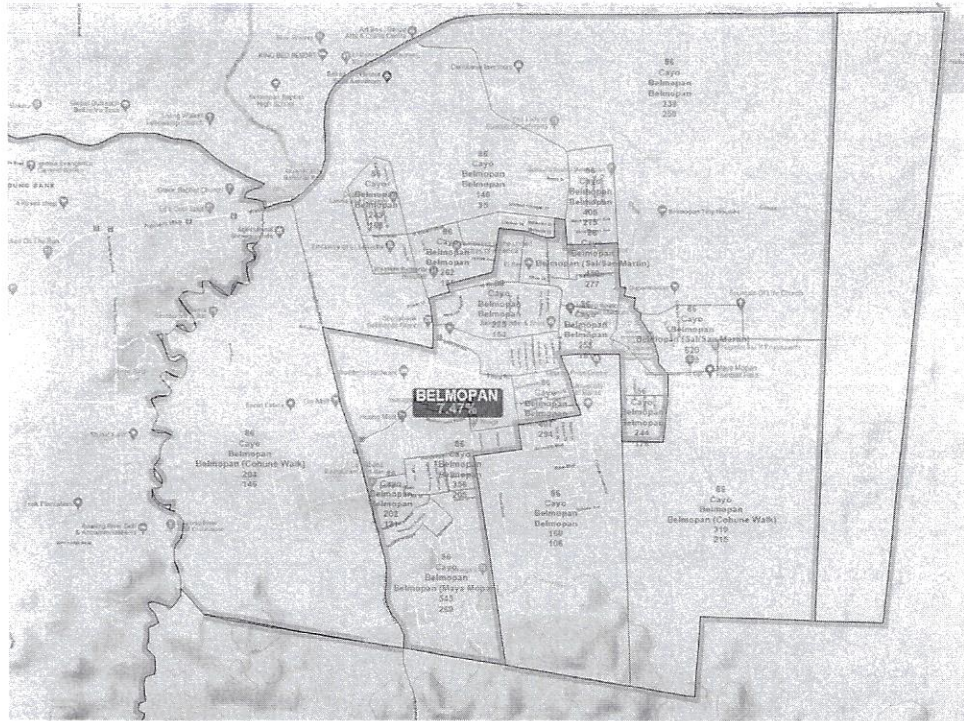# Fig. 12: Minimal Changes

Fig. 13: Minimal Changes, Belmopan Inset

Fig. 14: Minimal Changes, Belize City Inset

161.   A summary of the divisions follows in Tables 8 and 9.

Table 8: Summary, Minimal Changes Map

Division	Population	District	Deviation	Percent Deviation
AMBERGRIS	Belize	6349	1060	20.04%
BELIZE-RC	Belize	5181	-108	-2.04%
BELIZE-RN	Belize	4135	-1154	-21.82%
CARIB-SHORES	Belize	4670	-619	-11.70%
COLLET	Belize	4947	-342	-6.47%
FREETOWN	Belize	4967	-322	-6.09%
FT-GEORGE	Belize	5071	-218	-4.12%
LAKE-INDEP	Belize	5162	-127	-2.40%
PT-LOYOA	Belize	4679	-610	-11.53%
Q-SQUARE	Belize	4651	-638	-12.06%
BELMOPAN	Cayo	5684	395	7.47%
BELMOPAN-B	Cayo	5701	412	7.79%
CAYO-CENTRAL	Cayo	5344	55	1.04%
CAYO-NE	Cayo	5997	708	13.39%
CAYO-NORTH	Cayo	5333	44	0.83%
CAYO-SOUTH	Cayo	5960	671	12.69%
CAYO-WEST	Cayo	5656	367	6.94%
COROZAL-BAY	Corozal	6104	815	15.41%
COROZAL-N	Corozal	5378	89	1.68%
COROZAL-SE	Corozal	5480	191	3.61%
COROZAL-W	Corozal	6099	810	15.31%
OW	Orange Walk	5074	-215	-4.07%
OWC	Orange Walk	5389	100	1.89%
OWE	Orange Walk	4947	-342	-6.47%
OWN	Orange Walk	5192	-97	-1.83%
OWS	Orange Walk	4814	-475	-8.98%
DANGRIGA	Stann Creek	5319	30	0.57%
PLACENCIA	Stann Creek	5282	-7	-0.13%
SCW	Stann Creek	5160	-129	-2.44%
TOLEDO-EAST	Toledo	5203	-86	-1.63%
TOLEDO-WEST	Toledo	5046	-243	-4.59%

Table 9: Within-Division Summary, Minimal Changes

District	Ideal Pop	Maximum Pop.	Minimum Pop.	Max. Deviation(%)	Min. Deviation (%)	Difference
Belize	4981	5181	5288	4%	-10%	14%
Cayo	5668	5997	4757	6%	-6%	12%
Corozal	5765	6104	5378	6%	-7%	13%
Orange Walk	5083	5389	4814	6%	-5%	11%
SC/Toledo	5202	5319	5046	2%	-5%	7%

162.   The advantage of this map is straightforward: It greatly reduces the malapportionment from the current map, and does so without upsetting the political dynamic of the country too greatly. In particular, the divisions for the political leaders of the country are left more-or-less intact. In addition, within-division malapportionment is better than in any of the other maps.

163. The major disadvantages of this map are that *overall* malapportionment is more severe than in other maps. Excluding the divisions involved in the "Ambergris Caye issue" described above, the gap between largest and smallest division is 27 percent. Again though, a large part of that owes to difficulties in evening out the population in Orange Walk using relatively coarse data.

164. The other disadvantage is that the Cayo divisions are relatively overpopulated, while the Belize divisions are relatively underpopulated. This means that we might expect overall malapportionment to worsen over the course of this map's lifespan. For this reason in particular, I would recommend against this map, except as a stopgap measure to allow the legislature more time to address the malapportionment present under Belize's current divisions.

165. The overarching point, however, is that whatever their individual shortcomings, all three maps are superior to the existing map, and bring Belize more closely in line with international standards of democracy. An election held under these maps could be considered free and democratic, while an election held under the existing maps would be much more difficult to label as such. Perhaps most importantly, these maps were all drawn under less-than-ideal conditions, and in a very short amount of time. Fair, legal, and democratic maps could easily be produced quickly for the country.
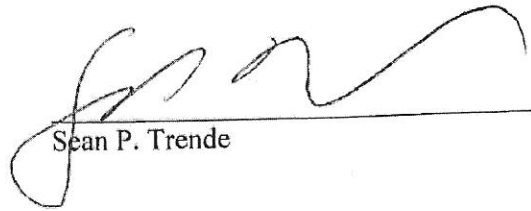
ATTESTATIONS UNDER CPR 32.13(1)(a)-(e) and (2-3)

166. Pursuant to 32.13(1)(a-e) I state as follows:

   a. I have given the details of all literature or other material used in making the report;

   b. The identities of persons who have carried out tests or experiments in the report, to the extent such things were carried out in furtherance of this report, are identified in the report;

c. Likewise, the qualifications of persons who carried out any such tests or experiments is identified in the report and in **Exhibits 16-17**;

d. I have attempted to the best of my ability to summarise the range of opinions on each subject in this report and to give reasons for my opinions;

e. I have provided a summary of these opinions above.

167. Pursuant to CPR 32.13(2)-(4) I state as follows:

a. I have carefully read and understand my duties to the court as set out in CPR 32.3 and CPR 32.4;

b. Accordingly, to comply with these duties, I have attached as appendices to this report all written instructions given to me, in **Exhibit 3** as well as supplemental instructions given to me in **Exhibit 18**. I have received no oral instructions. I have received no other instructions than those disclosed from any party, the party's legal practitioner or any other person acting on behalf of the party. All photographs, plans, calculations, survey reports or other similar documents are attached as appendices to this report.

c. This report includes all matters within my knowledge and area of expertise relevant to the opinions contained in this report; and

d. I have given details in the report of any matters which, to my knowledge, might affect the validity of the report.
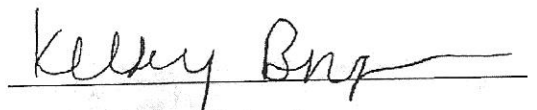
I, Sean P. Trende, swear or affirm that I have read this Expert Report of Sean P. Trende and, to the best of my knowledge and belief, the facts and information stated in this Report are true, accurate, and complete. I understand that if I do not tell the truth, I may be subject to penalties for perjury.

_____
Sean P. Trende

State of Ohio
County of Delaware

The foregoing instrument was acknowledged before me this 10|14|2020 (date) by

Sean Trende (name of person acknowledged.)
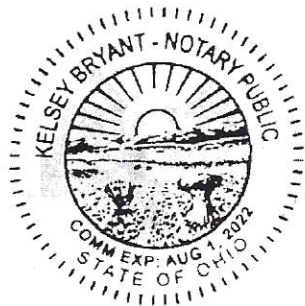
_____
Signature of person taking acknowledgment

(Title or rank)

(Serial number, if any)

Seal