# RETHINKING REDISTRICTING: STATE ALTERNATIVES TO FEDERAL CENSUS DATA

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### Abstract

*In 2020, the decennial census and State redistricting process was challenged in ways never before experienced. As the COVID-19 pandemic halted the timely release of federal census data to begin the redistricting process, states scrambled to obtain population figures to redistrict within their own constitutional and statutory timetables. In some instances, states resorted to inaccurate and unreliable population data sets. In the background, today's increasingly interconnected world and availability of data-centric approaches to problem solving thrives. This Note argues that states should consider alternative population data sets to the federal census to begin the redistricting process. Where states and localities have already launched civic-tech centers to improve the public sector through modern technology, application to the redistricting function of state government is becoming increasingly possible. This Note aims to arm states with census alternatives through future investment in tech-governance to positively shape the early stages of the redistricting process and to avoid the pitfalls exposed in the 2020 redistricting cycle. Importantly, alternatives advanced in this Note are viable under federal and state constitutional and statutory mandates. Absent sole reliance on a decade-by-decade federal census, redistricting may occur more frequently and a narrower focus toward population figures gathered by state-centered alternatives will increase public trust in governance.*

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## I.   INTRODUCTION

April 1—a day widely recognized for laughs and practical jokes—becomes slightly less foolish in the United States once every ten years.[1] By this day, on each year ending with "0," people in the United States are called to fulfill a well-known civic obligation through answering a series of demographic-based questions in completion of the federal decennial Census.[2] The information derived from the federal census accomplishes a variety of objectives, including the allocation of funding to state and local government, governmental planning and decision making, and federal and state emergency response efforts.[3] The most well-known use of federal census data, however, occurs through the political process, where the legislatures of each state reapportion and redistrict their federal and state district boundaries.[4]

Redistricting—the redrawing of a state's legislative and federal congressional maps—is a function carried out by the states.[5] Until 1962, federal courts refused to hear challenges to state redistricting cases on grounds of non-justiciability based on the inherent political and legislative nature of such controversies.[6] This pattern took a new course, however, in a series of Warren-Court-era decisions, including the landmark case, *Baker v. Carr*, an opinion that held challenges to redistricting based on malapportionment were justiciable in federal courts on Fourteenth Amendment grounds.[7] Additionally, *Reynolds v.*

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1. *What is Census Day?*, CENSUS COUNTS, https://censuscounts.org/what-is-census-day [perma.cc/LH9X-5RFV] (last visited Oct. 30, 2022).

2. *See* Mark Mather & Paola Scommegna, *Why Is the U.S. Census So Important?*, POPULATION REFERENCE BUREAU (Mar. 15, 2019), https://www.prb.org/resources/importance-of-u-s-census [perma.cc/DL9R-U7WV] (explaining the census count process and purpose).

3. *Id.*

4. Mather & Scommegna, *supra* note 2.

5. *See Redistricting and the Supreme Court: The Most Significant Cases*, NAT'L CONF. STATE LEGISLATORS (NCSL) [hereinafter NCSL *Signifcant Cases*] (Sept. 14, 2021), https://www.ncsl.org/research/ redistricting/redistricting-and-the-supreme-court-the-most-significant-cases.aspx [perma.cc/WE4X-DTXW] (providing summaries of key redistricting Supreme Court cases across issues dealing with population, independent commissions, race, and partisanship).

6. *See id.* ("For decades, the U.S. Supreme Court declined repeated invitations to enter the 'political thicket' of redistricting, *Colegrove v. Green*, (1946), and refused to order the legislatures to carry out their duty.").

7. Baker v. Carr, 369 U.S. 186, 186 (1962).

*Sims* announced the "one person, one vote"[8] rule for the composition of state legislative districts, requiring "substantial equality of population among the various districts established by a state legislature."[9]

Over time, satisfying the constitutional mandate in *Reynolds* was accomplished, in part, after a state received population data from the United States Census Bureau every ten-years following completion of the decennial census.[10] Importantly, neither the Supreme Court nor Congress have ever *required* that states rely solely on federal census data to begin the redistricting process,[11] or that states adhere to a rigid ten-year time framework for doing so.[12] Highlighting this potential area for misconception and common presumption among individuals and state officials is especially telling in the wake of the most-recent, 2020 census.[13]

The unprecedented nature of a global pandemic, natural disasters, and presidential challenges disrupted the traditional time frame for states to access federal census data,[14] exposing an under-preparedness by states to respond effectively.[15] Many states' constitutional and statutory clocks ran out as the pandemic hindered redistricting efforts.[16] Such difficulties underscored that a conventional reliance by the states to redistrict upon the receipt of federal census data every ten years is not necessarily the only avenue for doing so.[17] Moreover, the 2020 delay in obtaining federal census data identifies several additional concerns with respect to census use.[18] One such concern questions the accuracy of the federal census in adequately accounting for individuals in low-income communities and people of color.[19] In the 2010 census, approximately nine percent of African Americans in the United States were unaccounted for.[20]

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8.   Reynolds v. Sims, 377 U.S. 533, 558 (1964).

9.   *Id*. at 559; Wesberry v. Sanders, 376 U.S. 1, 18 (1964) (establishing that federal Congressional districts be roughly equal in population).

10.   *State Redistricting Deadlines*, NCSL (Mar. 29, 2021), https://www.ncsl.org/research/redistricting/state-redistricting-deadlines637224581.aspx [perma.cc/6AA4-EGGN].

11.   *See* Wendy Underhill, *Must States Use Federal Census Data for Redistricting? Not Always*, NCSL (June 20, 2019), https://www.ncsl.org/blog/2019/06/20/must-states-use-census-data-for-redistricting-not-always.aspx [perma.cc/6B4V-DUCX] ("Sure, in practice all the states have used census data for decades, but *must* they?").

12.   *See Reynolds*, 377 U.S. at 583 ("In substance, we do not regard the *Equal Protection Clause* as requiring daily, monthly, annual or biennial reapportionment, so long as a State has a reasonably conceived plan for periodic readjustment of legislative representation.") (emphasis added).

13.   Michael Wines & Emily Bazelon, *A New Delay for Census Numbers Could Scramble Congressional Elections*, N.Y. TIMES (Feb. 11, 2021), https://www.nytimes.com/2021/02/11/us/us-census-figures-delay.html [perma.cc/Q52F-PLTA].

14.   Tara Bahrampour, *Independent Report Finds no Obvious Problems With the 2020 Census*, WASH. POST (Sept. 14, 2021, 9:00 AM), https://www.washingtonpost.com/local/social-issues/2020-census-quality-asa-report/2021/09/14/9ce73414-14ea-11ec-a5e5-ceecb895922f_story.html [perma.cc/4B2S-LLBL].

15.   Wines & Bazelon, *supra* note 13.

16.   *Id.*

17.   Mather & Scommegna, *supra* note 2.

18.   *See* Kori Hale, *Being Undercounted in the U.S. Census Costs Minority Communities Millions of Dollars*, FORBES (Mar. 24, 2020, 9:40 AM), https://www.forbes.com/sites/korihale/2020/03/24/being-undercounted-in-the-us-census-costs-minority-communities-millions-of-dollars [perma.cc/8NDW-44SD] (discussing the miscount of African Americans in the federal census extending back to the 1940 census and disparity in access to federal funding).

19.   *Id.*

20.   *Id.*

As a result, district maps drawn based on federal census data continue to falter with respect to specific minority groups.[21] A similar data deficiency occurred in the most recent census as well.[22] Thus, the traditional method of census tracking, based on door-to-door interviews, is becoming an outdated practice in the face of alternative demographic data records and new data now available.[23] It is unsurprising that the traditional in-person interview process done through field representatives stalled in the face of the COVID-19 pandemic.[24] Further, as populations rapidly change, states may be more willing to gather demographic figures at a more frequent rate, rather than every ten years, a new practice this Note suggests has potential to provide more accurate, real-time information for purposes of redistricting.[25]

With such considerations and concerns from the most recent census, states should consider alternative data access points to the federal census, localized within each state in the early stages of the redistricting process. Data-driven, intra-state avenues produced at consistent rates will both increase the predictability in population changes and allow redistricting bodies to construct maps with greater frequency. Further, as this Note will explain, a more proactive approach to redistricting will  reduce the simmering partisan controversy that traditionally boils over shortly after the ten-year mark,[26] and establish important safeguards to mitigate the force of unprecedented societal disturbances to the traditional use of the decennial census to begin redistricting.[27]

Part II of this Note briefly discusses a historical overview of key redistricting jurisprudence and the difficulties presented in the COVID-19 pandemic.[28] Part III presents a state-by-state analysis and survey[29] of data requirements and redistricting procedure through the lens of state constitutions, statutes, and evaluates recent federal litigation in the wake of 2020 that exposed unique issues with the 2020–2021 redistricting cycle.[30] This section also defends the feasibility of advanced data-sharing and sampling techniques  to modernize states' ability to obtain consistent demographic data for redistricting.[31] Part IV

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21.    Barrett, *infra* note 289.

22.    *See id.* (examining 2020 census undercount rates of minority populations).

23.    *See* Hansi Lo Wang, *How Many People of Color Did the 2020 Census Miss? COVID Makes it Harder to Tell*, NPR (Nov. 18, 2021, 12:58 PM), https://www.npr.org/2021/10/08/1043506293/2020-census-results-accuracy-undercount-populations-post-enumeration-survey  [perma.cc/BL82-AH44] ("About 1,100 of the bureau's field representatives—who, like all federal government employees, must be fully vaccinated . . . will try to interview people at some 14,000 housing units while wearing masks and practicing social distancing.").

24.    *Id.*

25.    Kenneth Terrell, *13 States That Grew the Fastest in the 2020 Census*, AARP (Apr. 27, 2021), https://www.aarp.org/politics-society/government-elections/info-2021/census-2020-data-results.html [perma.cc/95WE-PBRC].

26.    Joseph Ax & Jason Lange, *Analysis: In U.S. Battle over Redistricting, Competition is the Biggest Loser*, REUTERS (Feb. 9, 2022, 9:31 AM), https://www.reuters.com/legal/government/us-battle-over-redistricting-competition-is-biggest-loser-2022-02-09 [perma.cc/6Q42-XV59] ("Republican and Democratic lawmakers across the United States are drawing political maps that will likely deepen polarization . . . .").

27.    Bahrampour, *supra* note 14.

28.    *Id.*

29.    *Redistricting and the Use of Census Data*, NCSL (May 26, 2021) [hereinafter NCSL *Use of Census Data*], https://www.ncsl.org/research/redistricting/redistricting-and-use-of-census-data.aspx [perma.cc/84X5-VVZK].

30.    *See infra* Part III (analyzing redistricting issues).

31.    *Id.*

recommends several alternate data access approaches be explored, including quasi-governmental innovation centers as a framework for implementing such alternatives in the redistricting context. Finally, in Part IV(B) legal and policy implications stemming from state-based alternatives are recognized.

## II.   REDISTRICTING LAW AND CENSUS CHALLENGES

Article I, § 4 of the United States Constitution affords the legislatures of each state the authority to determine the method for re-drawing federal legislative boundaries.[32] The Constitution is silent, however, concerning the redistricting of state legislative boundaries.[33] Of course, state maps are still subject to federal oversight and judicial review where a party alleges non-compliance with the "one person, one vote" principle,  requiring districts be roughly equal in population.[34] Before discussing the redistricting process, two terms, "reapportionment" and "redistricting," must be explained.[35] Redistricting a process conducted by the legislatures of each state,[36] and  reapportionment, are connected in the sense that reapportionment occurs before redistricting.[37] However, the functions of each process is distinct.[38] Reapportionment is the first step that accounts for changes in population and ensures that districts and political subdivisions are representative of population shifts to allocate congressional seats.[39] Here, a collective effort among the states with more federal oversight is required because the allocation of federal congressional districts in each state depends on the shifting populations in other states.[40]

Redistricting is the process that follows where the physical boundaries or "lines" in each state and federal legislative district are reconstructed.[41] Unlike federal reapportionment—subject to more stringent population equality requirements[42]—the physical line-drawing process affords states with greater discretion.[43] Traditionally, redistricting occurs each decade following the state's

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32.    *Redistricting*, BALLOTPEDIA, https://ballotpedia.org/Redistricting [perma.cc/VJ6V-5AQR] (quoting U.S. CONST. art. I, § 4) ("The Times, Places and Manner of holding Elections for Senators and Representatives, shall be prescribed in each State by the Legislature thereof; but Congress may at any time by Law make or alter such Regulations . . . .")) (last visited Oct. 30, 2022).

33.    *Id.*

34.    *See* Reynolds v. Sims, 377 U.S. 533, 558 (1964) (articulating the one person, one vote principle).

35.    *Redistricting Systems: A 50-State Overview*, NCSL (Mar. 29, 2021), https://www.ncsl.org/research/redistricting/redistricting-systems-a-50-state-overview.aspx [perma.cc/KQ7G-D8R2].

36.    SARAH J. ECKMAN, CONG. RSCH. SERV., R45951, APPORTIONMENT AND REDISTRICTING PROCESS FOR THE U.S. HOUSE OF REPRESENTATIVES 1 (2021).

37.    *Id.* at 7.

38.    *Id.* at 1.

39.    *Id.*

40.    *Id.* at 2, 18 (noting that some "elements of the process are addressed through federal legislation, such as the overall number of House seats or method of distributing seats among the states.").

41.    *Id.* at 7.

42.    U.S. CONST. art I, § 2.

43.    NCLS, *supra* note 35.

receipt of the census information. However, in the last cycle, receipt of the data was problematic.[44]

As noted, the method for drawing new maps varies by state, with the most common route controlled by members of the legislators in each state.[45] Redistricting and passing maps by legislatures operates much like regular legislation and is thus highly contentious among state senators and representatives.[46] Of the thirty-four states that do place redistricting or mapping into the hands of legislative bodies, the process usually begins with a "first draft" by legislative committees, is voted on by each respective chamber of the legislature, and is then subject to veto by the Governor.[47] Two states, Connecticut and Maine, even require supermajorities in each house to move maps forward.[48] Others, following a more recent trend, have employed outside entities, including independent commissions, advisory commissions, politician commissions, and backup commissions to minimize political influence by state legislators in the process.[49] Support for outside parties is grounded in the idea that political interests of legislators can compromise the integrity of elections.[50] Conversely, opponents have cited concerns that limiting the control of elected officials violates the Elections Clause in the U.S. Constitution,[51] but this argument was rejected in 2015 when the Supreme Court decided *Arizona State Legislature v. Arizona Independent Redistricting Commission*.[52]

Once a map has been adopted by the state legislature, issues commonly arise that trigger challenges under the Fourteenth Amendment's Equal Protection Clause, to protect certain minority groups and ensure equally populous districts.[53] Generally, federal litigation over newly drawn maps is grouped into population cases and racial vote dilution or discrimination cases.[54] Over time, federal courts have established several constitutional redistricting requirements that states must comply with to avoid a map being found unconstitutional.[55]

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44.   ECKMAN, *supra* note 36, at 1; *2020 Census Delays and the Impact on Redistricting*, NCSL (Sept. 23, 2021),          https://www.ncsl.org/research/redistricting/2020-census-delays-and-the-impact-on-redistricting-637261879.aspx [perma.cc/Y9MH-S8L9].

45.   *See Who Draws the Lines?*, LOY. L. SCH: ALL ABOUT REDISTRICTING, https://redistricting.lls.edu/redistricting-101/who-draws-the-lines [perma.cc/2BC4-AJEP] (discussing several methods by which states engage in redistricting).

46.   Tim Robinson, *Q&A: What is Redistricting and Why is it Controversial?*, U. VA. TODAY (Sept. 21, 2021),          https://news.virginia.edu/content/qa-what-redistricting-and-why-it-controversial          [perma.cc/LSR7-B8Z8].

47.   LOY. L. SCH: ALL ABOUT REDISTRICTING, *supra* note 45.

48.   *Id.*

49.   *Id.*; A rise in independent redistricting commissions occurred after the Supreme Court's 2019 decision in Rucho v. Common Cause, 139 S. Ct. 2484 (2019), holding claims based on partisan gerrymandering to challenge state congressional districts were non-justiciable.

50.   *Redistricting Commissions*, BALLOTPEDIA, https://ballotpedia.org/Redistricting_commissions [perma.cc/72WQ-W4VJ] (last visited Oct. 30, 2022).

51.   *Id.*

52.   *Id*.

53.   Reynolds v. Sims, 377 U.S. 533, 558 (1964).

54.   NCSL *Significant Cases*, *supra* note 5.

55.   ECKMAN, *supra* note 36, at 8.

First, the *Reynolds* bright-line rule governs the population requirements in each state and federal legislative districts under "one person, one vote."[56] Generally speaking, a state's drawing of federal congressional districts must produce maps that are nearly identical.[57] On the other hand, the courts are more flexible with state legislative districts where the maximum deviation between state districts is roughly ten percent.[58] Notably, ten-percent is not a bright-line rule and additional factors, including the finding of discrimination to a certain minority group, may lead a court to invalidate a map with even the smallest deviation in population.[59] Section two of Voting Rights Act (VRA), the most common federal statuary basis to challenge state legislative maps adjusted the constitutional standard of review from a required showing of discriminatory purpose or intent to a more flexible showing of discriminatory result.[60] The results test was outlined in detail by a Senate Committee on the Judiciary Report which provided a list "totality of the circumstances" factors to guide courts when evaluating violations of the VRA.[61]

With that, as long as the federal and constitutional standards are adhered to, state governments enjoy wide latitude to manage the complex mechanics in the early stages of the redistricting process.[62] Though reapportionment of federal House of Representative seats is conducted by a uniform process that requires the federal census, the Constitution is silent regarding state legislative redistricting and notably, the use of the federal census toward state redistricting altogether.[63] Here, the only judicial finding in *Reynolds* is that maps derived from federal census data are typically in a safe harbor that offer protection from Fourteenth Amendment population challenges.[64] Nevertheless, as the Court emphasized, "[just because] the Equal Protection Clause requires that both houses of a state legislature be apportioned on a population basis does not mean that states cannot adopt *some reasonable plan* for *periodic revision . . . .*"[65] *Reynold's* key language now has force nearly sixty later.[66] Today, as

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56.   NCSL *Significant Cases, supra* note 5; *Reynolds*, 377 U.S. at 559.

57.   Karcher v. Daggett, 462 U.S. 725, 744 (1983) (striking down a population deviation of .06984% between maps, reasoning that federal congressional districts must be equal in population absent a legitimate state objective).

58.   Mahan v. Howell, 410 U.S. 315, 333 (1973).

59.   *E.g.*, Chapman v. Meier, 420 U.S. 1 (1975); *see also* 52 U.S.C. § 10301 (2014) (stating that redistricting efforts shall not abridge any citizen's right to vote "on account of race or color").

60.   *Section 2 of the Voting Rights Act*, U.S. DEPT. OF JUST., https://www.justice.gov/crt/section-2-voting-rights-act [perma.cc/UG8X-JHCZ] (last visited Oct. 30, 2022) (explaining the evolution of the standard for evaluating racial discrimination in redistricting cases).

61.   *Id.*

62.   NCSL *Use of Census Data*, *supra* note 29.

63.   *See* Vikram David Amar & Jason Mazzone, *Evaluating the Republican Federal Court Challenge to Illinois's Recently Adopted Redistricting Plan*, JUSTIA: VERDICT (June 22, 2021), https://verdict.justia.com/2021/06/22/evaluating-the-republican-federal-court-challenge-to-illinoiss-recently-adopted-redistricting-plan [perma.cc/LM5A-B6PA] (discussing Supreme Court precedent holding the Equal Protection Clause does not mandate States use the federal census data to conduct redistricting).

64.   *Id.* (quoting Reynolds v. Sims, 377 U.S. 533, 583 (1964)).

65.   *Id.*

66.   *Id.*

extraordinary world events and a widely contentious political climate took hold, it goes without saying that 2020 in and of itself was "anything but predictable."[67]

In particular, the COVID-19 pandemic shocked the census-taking process, leading to a frenzy of confusion as the Bureau grappled with how to respond, effectively conduct the count, and provide the states with data and information by their expected deadlines in state constitutions and statutes.[68] Further, 2020 brought new challenges to United States Census takers in gathering accurate and updated demographic information by mail and in person.[69] Typically, data is collected through in-person mail canvassing, and through use of the internet;[70] the emergence of the pandemic forced a delay in the completion of the most recent census and in turn, delayed many state governments' abilities to properly redistrict.[71] Thus, many states faced with difficulties in passing maps that complied with the timing limitations under their own existing legal frameworks.[72]

As technology moves to the forefront, intuitive methods to alter the decennial census are being considered for the 2030 census.[73] Here, it was argued that the census should focus *less* on the addresses of individuals, the primary means by which the census accounts for changes in population, and more toward existing digital records and data to conduct the count.[74] The units of measurement should thus turn away from households and more toward recurring information such as tax and employment records.[75] This approach may lead to a more accurate count and achieve greater efficiency in decennial census tracking moving forward.[76] The suggestions that follow in this Note incorporate the benefits and advancements of digitalization recognized to improve population counts and apply several data-forward alternatives to the census in light of concerns present with the census in recent redistricting efforts.

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67. *See* Christi Zamarripa, *What Is Going on With the 2020 Census?*, NCSL (Sept. 8, 2020), https://www.ncsl.org/research/redistricting/what-is-going-on-with-the-2020-census-magazine2020.aspx [perma.cc/ABG6-W5TS] (explaining the unique problems associated with the 2020 census and response by the census bureau).

68. *Id.*

69. *Id.*

70. *How the Data are Collected*, U.S. CENSUS BUREAU, https://www.census.gov/programs-surveys/gov-finances/technical-documentation/methodology/how-the-data-are-collected.html [perma.cc/6H98-XP4C] (July 6, 2022).

71. Michael Macagnone, *Census Delay Sends Redistricting Ripples Nationwide*, ROLL CALL (Jan. 29, 2021, 8:07 AM), https://rollcall.com/2021/01/29/census-delay-sends-redistricting-ripples-nationwide [perma.cc/M6PG-5GS8].

72. *See* Zach Montellaro, *Delayed Census Data Kicks Off Flood of Redistricting Lawsuits*, POLITICO (May 1, 2021, 7:00 AM), https://www.politico.com/news/2021/05/01/redistricting-lawsuits-485161 [perma.cc/2KTG-NHYG] ("That delay has upended the redistricting process in dozens of states that have deadlines that are incompatible with the new release calendar, which has sent states scrambling to the courts for relief.").

73. *See* Jeffrey Mervis, *Researchers Think They've Found a Much Better Way to Conduct the 2030 U.S. Census*, SCIENCE (July 25, 2017), https://www.science.org/content/article/researchers-think-they-ve-found-much-better-way-conduct-2030-us-census [perma.cc/A44B-2FA2] (discussing alternative methods to conduct the decennial census in the future).

74. *Id.*

75. *Id.*

76. *Id.*

## III.  ANALYSIS

### A.    State-by-State Redistricting Guidelines

The redistricting of congressional and state legislative maps is a critical function of state government.[77] The Constitution, in Article I, § 2, requires "congressional apportionment to be based on . . . the U.S. population. However, the Constitution is *silent* on what data is to be used for redistricting."[78] That said, the use of federal census data has traditionally operated as a mechanism for states to begin the redistricting process.[79] That said, constitutional and statutory provisions of states differ with respect to how redistricting must or *should* be carried out in the first place.[80] This Section will discuss the requirements outlined in various constitutional and statutory redistricting provisions of several states and argue that flexibility exists for states to use alternative population data and access avenues beyond the federal census.[81] The following table identifies "Group I" and "Group II" states based on constitutional and statutory language that is either an "express requirement" (Group I), or more permissive (Group II) toward the use of the federal census for redistricting. The states are abbreviated and grouped accordingly:[82]

| Group I: Express Requirement | Group II: Permissive Use |
|---|---|
| Alaska, Wash., Idaho, Or., Wyo., S.D., Iowa, Colo., Neb., Utah, N.M., Kan., Ariz., Okla., La., Miss., Tenn., Fla., Va., N.J., Mass., Del. | Cal., Nev., Mont., N.D., Minn., Wis., Ill., Ky., W. Va., Mich., N.C., Ga., Pa., Md., Conn., R.I., Vt., Ala., S.C., N.H., Me., N.Y., Ohio, Ark., Haw., Tex., Ind.[83] |

The twenty-two Group I states contain provisions in their constitutions or statutes providing for more express direction toward federal census use in the redistricting process.[84] Tennessee's Constitution provides that "[d]istricts shall be reapportioned at least every ten years based upon the most recent federal census."[85] Further, in Virginia, "[t]he whole number of persons reported in the most recent federal decennial *census by the United States* . . . shall be the basis for determining district populations."[86] The statutory and constitutional language in VA and TN[87] align with the other twenty Group I States.[88] However, with that, it is still unclear whether the provisional language in Group I must be

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77.  NCSL *Use of Census Data*, *supra* note 29.
78.  *Id.* (emphasis added).
79.  *Id.*
80.  *Id.*
81.  *Id.*
82.  *Id.*
83.  The District of Columbia is excluded.
84.  NCSL *Use of Census Data*, *supra* note 29.
85.  TENN. CONST. art. VII, § 1.
86.  VA. CODE ANN. § 24.2-304.04 (2020) (emphasis added).
87.  TENN. CONST. art. VIII, § 1; VA. CODE ANN. § 24.2-304.04 (2020).
88.  *Redistricting and Use of Census* Data, NCSL, *supra*, note 29.

construed as an absolute requirement[89] that necessarily forecloses other means of data usage. Indeed, it is possible that drafters simply failed to consider any other alternative in gathering data during the redistricting process.

Group II states have more flexibility in their constitutional and statutory language for redistricting data access.[90] Seventeen "do not explicitly identify a data source for . . . redistricting,"[91] and others keep open the possibility of using other data sources, or contain additional safeguards "if [the federal decennial census] is unavailable."[92] The Illinois Constitution provides that in "the year following each Federal decennial census *year*, the General Assembly by law shall redistrict the Legislative Districts and the Representative Districts."[93] Notably, no explicit direction toward data usage for redistricting is outlined in the Illinois Constitution or the Illinois Election Code.[94] Maine and New York even keep open the possibility of a state-run census or "an alternative data source,"[95] and a minority of states are mixed with constitutional and statutory guidance over data use for distinct chambers of government.[96]

Consequentially, ample room exists, based on the current construction of state constitutions and laws to reexamine data access in the redistricting sphere.[97] Importantly, the constitutional and statutory language in many Group I states remains ambiguous toward interpretation of an explicit requirement or direct guidance toward federal census data use, especially in light of unpredicted societal circumstances.[98] Thus, when the constitutions and statutes were drafted, alternatives to the census and a more explicit direction toward census use were perhaps not considered. Though the decennial census has operated as the primary vehicle, current state laws across Groups I and II do not necessarily *prohibit* other means for demographic data access.[99] As will be discussed further, *infra*, the availability of growing advancements in data-governance techniques provides an alternative and supplemental framework for new data sampling and sharing techniques. This, coupled with a recent development in

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89. *Id.*

90. *Id.*

91. *Id.*

92. ILL. CONST. art. IV, § 3(b); OHIO CONST. art. XI, § 3.

93. ILL. CONST. art. IV, § 3(b) (emphasis added).

94. *Id.* (providing no requirement that a specific data source be used to redistrict); ILL. COMP. STAT. 5/; While the phrase "[a]ll population figures shall be determined by the federal census" is used three times in the Illinois Election Code, such language appears *exclusively* in the section of the code for determining population figures to establish the amount of polling places *during* an election. ILL. COMP. STAT. 5/19A-10(c), (d), and (e).

95. *See* ME. CONST. art. IV, Pt. 1, § 2 ("The number of Representatives shall be divided into the number of inhabitants of the State exclusive of foreigners not naturalized according to the latest Federal Decennial Census *or a State Census previously ordered by the Legislature to coincide with the Federal Decennial Census . . .*") (emphasis added); NCSL *Use of Census Data*, *supra*, note 29.

96. *See* NCSL *Use of Census Data*, *supra*, note 29 ("Arkansas explicitly requires the use of federal census data to be used for the redistricting of the members in the state House of Representatives. However, the Arkansas Constitution *does not* use explicit language when addressing the redistricting of the members in the state Senate.") (emphasis added).

97. *Id.*

98. *Id.*

99. *Id.* (providing examples of explicit references to the possibility of other data sources across states).

redistricting technology and increased public participation in redistricting,[100] will alter the decade-by-decade status-quo for redistricting and mitigate the societal and political challenges in the future.[101]

### B.    *Case Illustration: McConchie v. Illinois State. Bd. Elections*

It is important to emphasize that current events are only a few small pieces in a larger, highly contentious political puzzle dealt with by states in the redistricting process.[102] Thus, even absent a global pandemic, legal battles surrounding the census are inevitable and almost always follow every decade.[103] That said, while this Note recognizes the major significance of the 2020 census as a call to action, it also acknowledges the relevancy and force of general redistricting concerns that have culminated to this point.[104]

In June 2021, Illinois Republicans sued the democratic-controlled Illinois General Assembly in federal court, alleging the legislative maps first passed at the end of May 2021 (June Maps) were unconstitutional.[105] At the heart of the Republicans' challenge was the fact that the maps were passed before the federal census data was released in Illinois, but after the Illinois constitutional deadline to redistrict passed.[106] Republicans argued that the June maps violated the "one-person, one-vote" rule set forth in *Reynolds* because the original data-set used by the legislature relied primarily on the American Community Survey (ACS), a less reliable data-set than the federal census, and resulted in unconstitutional population deviations.[107]

Thus, it was argued that the original maps were voided to begin with because they were never "effective" by June 30 as required in the Illinois Constitution,[108] rendering the maps invalid.[109] After the June Maps, additional maps (September Maps) were passed in response to an emergency special

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100.    *See* Carl Smith, *Can New Technology Tools Keep Redistricting Honest and Fair?*, GOVERNING (Sept. 16, 2021),      https://www.governing.com/now/can-new-technology-tools-keep-redistricting-honest-and-fair [perma.cc/PFK6-PFY7] (discussing a level of "heightened . . . public engagement . . . accompanied by a new generation of powerful, no-cost technology tools developed by a nonpartisan community that includes programmers, mathematicians, data scientists, election law experts and social scientists").

101.    Bahrampour, *supra* note 14.

102.    *See generally Redistricting Case Summaries*, NCSL (Sept. 1, 2017), https://www.ncsl.org/research/redistricting/2010-redistricting-cases.aspx [perma.cc/CQS4-VHTR] (providing summaries of key redistricting challenges by states extending back to the 1980s).

103.    *Id.*

104.    *Id*.

105.    Second Amended Complaint for Declaratory, Injunctive, and Equitable Relief at 2, McConchie v. Ill. State. Bd. of Elections, 577 F. Supp. 3d 842 (N.D. Ill. 2021) (No. 21-cv-03091) [hereinafter McConchie Complaint].

106.    *Id.* at 2–3.

107.    *Id.* at 2–3, 20. The ACS is less reliable given the scope of the population polled. ACS polls only a limited grouping of the population and does not gather data on granular block levels like the federal census. *See generally* DIFFERENCES BETWEEN THE ACS AND THE DECENNIAL CENSUS, U.S. CENSUS BUREAU (Sept. 2020), https://www.census.gov/content/dam/Census/library/publications/2020/acs/acs_general_handbook_2020_ch09 .pdf [perma.cc/KQ5Q-56F9] (highlighting key features of the ACS).

108.    McConchie Complaint, *supra* note 105, at 3; *see* ILL. CONST. art IV, § 3(b) ("If no redistricting plan becomes effective by June 30 [of the year after the Federal census], a Legislative Redistricting Commission shall be constituted not later than July 10.").

109.    McConchie Complaint, *supra* note 105, at 3.

legislative session at the end of August 2021.[110] The September Maps were also contested by the Republicans in *McConchie*.[111] Here, Republicans based their malapportionment claim in part on statistics in the delayed federal census data that was finally released on August 12, 2021, claiming that new maps presented "population deviations . . . *three times* the 10% limit set by the Supreme Court . . . ."[112]

On October 19, 2021, the Northern District of Illinois opined that the June redistricting plan violated the Equal Protection Clause of the Fourteenth Amendment.[113] In finding for the Republicans on this claim, the court declared that "the June Redistricting Plan does not even approach a passing grade under *Reynolds'* one-person, one-vote principle," and rejected the arguments raised in defense of the maps.[114] First, the court invalidated expert testimony stating the ACS data was "the best alternative data source,"[115] and also citing persuasive precedent that found clear statistical errors with the data.[116] In fact, "the Census Bureau itself state[d] that ACS data should not be used for redistricting," and several cases in the opinion have agreed.[117]

Second, according to the court, neither the text, nor the structure of the Illinois Constitution required Illinois to redistrict by June 30.[118] Here, June 30 is merely a date to provide a backup plan if the state cannot redistrict by that time.[119] In addressing the final argument in the court's October 19 opinion and order, the court declined to grant relief that Republican's requested: a legislative redistricting commission that Republicans argued should have been established because valid maps were not passed by June 30 under the Illinois Constitution.[120] This request, as the court concluded, was "far-fetched" given how inevitable redistricting challenges are every 10 years and the time-consuming nature of establishing a commission.[121] Litigation thus continued, as the court directed the General Assembly to propose revisions to the September maps.[122] These revisions were filed on November 10, 2021, for review,[123] and the court released a final opinion and order on December 30, 2021, consolidating three cases to

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110.   *Id.* at 4.

111.   *Id.*

112.   *Id.* at 3 (emphasis in original).

113.   McConchie et al., v. Scholz, 567 F. Supp. 3d 861, 869 (N.D. Ill. 2021) (per curiam).

114.   *Id.* at 886 (noting that the calculated maximum population districts in the House Districts were 29.88%).

115.   *Id.* at 887–88.

116.   *See id.* (citing Mo. State. Conf. of the NAACP v. Ferguson-Florissant Sch. Dist., 201 F. Supp. 3d 1006, 1022 (E.D. Mo. 2016), *aff'd* 894 F.3d 924, 932 (8th Cir. 2018)).

117.   *Id.*

118.   *Id.* at 888 ("The only reference to June 30 is by way of a contingency plan: Section 3(b) continues, '[i]f no redistricting plan becomes effective by June 30 of that year, a Legislative Redistricting Commission shall be constituted no later than July 10.'") (alteration in original) (quoting ILL. CONST. art. IV, § 3(b)).

119.   *Id.*

120.   *Id.* at 892–93.

121.   *Id.*

122.   *Id.*

123.   *See McConchie v. Ill. State Board of Elections*, LOY. L. SCH.: ALL ABOUT REDISTRICTING (Dec. 30, 2021), https://redistricting.lls.edu/case/mcconchie-v-ill-state-board-of-elections [perma.cc/AZ7Y-GZKU] (providing plaintiff's proposed remedial plan for the newly drawn maps).

find that the final revised maps did not violate section two of the Voting Rights Act or the Equal Protection Clause of the 14th Amendment.[124]

## C.     Further Complications in the 2020–21 Redistricting Cycle

Further context for the redistricting difficulties in 2020 developed in Michigan,[125] where a lawsuit was filed to extend the state's redistricting deadlines.[126] In September 2021, the Michigan Supreme Court dismissed a claim that would require Michigan's independent commission on redistricting to comply with the original September 17 and November 1 deadlines for drawing and passing maps.[127] In doing so, the court marked a clear divergence from express requirements in the Michigan Constitution, basing that decision on the effects of the pandemic.[128]

The challenge, like many in the 2020 redistricting and elections cycle, identifies a novel and perhaps controversial role of the courts during this time through affirmative court action.[129] In deciding delicate matters of election law and redistricting timetables, courts are actively making decisions usually left for state legislative bodies.[130] Though the nature of the pandemic was unprecedented,[131] maintaining the state legislature's strong role in this area supports the separation of powers. With census data access specifically, solidifying viable data alternatives will help preserve the state's role under state constitutions by avoiding census-access concerns.[132] Alternatives will further quell litigation that may amass over matters that presenting courts with difficult questions that question their judicial authority to review.[133]

State constitutional and statutory procedures spelling out the redistricting timetables connect with other provisions that detail the use or non-use of federal census data.[134] Interestingly, the late arrival of federal census data led legislators

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124.   *McConchie*, 577 F. Supp. 3d at 851–52.

125.   *Redistricting Lawsuits in the 2020 Redistricting Cycle*, BALLOTPEDIA, https://ballotpedia.org/Redistricting_lawsuits_in_the_2020_redistricting_cycle [perma.cc/58L8-V8MD] (last visited Oct. 30, 2022).

126.   *Id.*

127.   *Id.*; *see also* Davis v. Indep. Citizens Redistricting Comm'n, 963 N.W. 2d 600, 600 (Mich. 2021) (dismissing the complaint for mandamus).

128.   BALLOTPEDIA, *supra* note 125.

129.   *See* Nicholas Stephanopoulos, *Election Litigation in the Time of the Pandemic*, U. CHI. L. REV. ONLINE, https://lawreviewblog.uchicago.edu/2020/06/26/pandemic-stephanopoulos [perma.cc/3H4W-NNNS] (last visited Oct. 30, 2022) (discussing the doctrines underpinning pandemic-era election law litigation and resultant tensions).

130.   *See* SAMUEL ISSACHAROFF ET AL., 2021 SUPPLEMENT: THE LAW OF DEMOCRACY 11–12 (5th ed. 2021) ("A second intriguing aspect of [COVID-19 election cases] is that federal courts can be seen as exercising the kind of emergency powers normally thought to be the province of only executives and legislatures.").

131.   *COVID-19 Pandemic, an 'Unprecedented Wake-Up Call' for All Inhabitants of Mother Earth*, U.N. (Apr. 22, 2020), https://news.un.org/en/story/2020/04/1062322 [perma.cc/LD4R-BM9Q].

132.   *Cf.* McConchie Complaint, *supra* note 105, at 2 (disputing constitutionality of congressional map passed before census data available).

133.   *Cf.* ISSACHAROFF ET AL., *supra* note 130, at 11–12 (highlighting challenges state courts may face when deciding election-related controversies).

134.   NCSL *Use of Census Data*, *supra* note 29.

to begin questioning their own constitutions.[135] Here, think back to Virginia, a Group I state with more "express" guidance toward use of the census.[136] Virginia was also one of two states, along with New Jersey, that conducts legislative elections in odd years, 2021 being no exception.[137] Virginia, in addition, is required to draw new maps at least every ten years, though doing so during COVID-19 was "practically impossible."[138] Virginia exemplifies the concerns that many other less forgiving Group I states faced in questioning data usage to redistrict during this time.[139] The result, given the nature of the pandemic clashing against Virginia's traditional redistricting framework was a proposed solution—like the *McConchie* plaintiffs in Illinois—suggesting that the state rely on ACS or non-census data to draw new maps.[140]

Former Virginia delegate, Lee Carter, pointed to language in the Virginia Constitution providing that the "receipt of *census* data" marks the beginning of the redistricting process.[141] Virginia's statutory code, however, contains language that directly references the federal decennial census.[142] Thus, in turning to the constitutional language, it suggests that states like Virginia, and other Group I states, may be able to access data by other means beyond the federal census.[143] Specifically, "receipt of *census* data" in Virginia's Constitution may be construed broadly to account for a range of population data.[144] Given the advancement in demographic data technology,[145] the term "census" is evolving. It is thus telling that Carter, a Virginia legislator during this time, made direct reference to other data possibilities, such as the ACS, despite the legislative framework that arguably limits such use.[146]

The challenges discussed shed light on several difficulties facing the redistricting process today. First, reliance on ACS survey data is an insufficient baseline for redistricting.[147] Unlike the decennial census data and new sampling data sampling techniques discussed below,[148] the ACS focuses on geographic units at larger blocks, not "granular . . . levels," and is thus less accurate.[149]

135.  Brad Kutner, *Delayed Census Data Throws Wrench into Virginia House Elections*, COURTHOUSE NEWS SERV. (May 6, 2021), https://www.courthousenews.com/delayed-census-data-throws-wrench-into-virginia-house-elections [perma.cc/2ANU-56D5].

136.  NCSL *Use of Census Data*, *supra* note 29.

137.  Kutner, *supra* note 135.

138*.  Id*.

139*.  See* NCSL *Use of Census Data*, *supra* note 29 (showing that Virginia, along with many other Group I states, does not specifically allow data sources other than federal census data to inform redistricting decisions).

140.  Kutner, *supra* note 135.

141.  *Id.* (emphasis added); VA. CONST. art. II, § 6-A(d) ("The Commission shall submit to the General Assembly plans for districts for the Senate and the House of Delegates of the General Assembly no later than 45 days following the receipt of census data . . . .").

142.  VA. CODE ANN. § 24.2-304.04 (2020).

143.  VA. CONST. art. II, § 6-A(d).

144*.  Id.* (emphasis added).

145*.  See* STATE DATA SHARING INITIATIVE, *infra* note 185 (showing a new toolkit for states to share demographic data).

146.  Kutner*, supra* note 135.

147.  McConchie v. Scholz, 577 F. Supp. 3d 842, 872 (N.D. Ill. 2021) (per curiam).

148.  LIU & ZHANG, *infra* note 207, at 1.

149*.  See* Julie Boland et al., *Why States Should Wait for Census Data to Draw Voting Districts*, BRENNAN CTR. FOR JUST. (June 22, 2021), https://www.brennancenter.org/our-work/analysis-opinion/why-states-should-

Second, because redistricting challenges occur "like clockwork"[150] every ten years and have intensified in recent decades,[151] it is imperative that states consider alternative pathways to mitigate the growing partisan conflict associated.

Finally, the pandemic and the setbacks[152] make it apparent that accessing federal census data in the future may become increasingly difficult if other, more significant interferences to the census were to occur. In the extreme case of wartime or more widespread natural disasters, the ability of the federal government to obtain  population information within a narrow timeline may be extremely difficult if states are not equipped with additional safeguards.[153] Accordingly, based on review of many states, there is flexibility in the state constitutional provisions and statutes that[154] highlight an apparent ability for alternative and additional methods states may look toward to father data for redistricting moving forward.

## D.    Historical Redistricting Criticism

Scholars and political leaders have expressed concern over pre-established methods of redistricting.[155] In Illinois, Ann Lousin, former research assistant for the 1970 Illinois Constitutional Convention and parliamentarian to the Illinois House of Representatives,[156] emphasized that redistricting was a major area of dispute and uncertainty during the debates among delegates in Illinois' last constitutional convention.[157] Put simply, "this is an issue that admits of no easy solution."[158] Lousin's article, published four years off the heels of the 2010 census, provides readers with a rich historical context from 1970 up to that point.[159] Very minimal guidance was given to the states on *how* redistricting should be conducted following the Supreme Court's justiciability decision in *Baker*.[160] Thus, a continued reluctance by legislators to develop alternatives to

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wait-census-data-draw-voting-districts [perma.cc/KT6S-DSMD] (comparing the ACS and federal census and highlighting inaccuracies of the former).

150.    *See McConchie,* 577 F. Supp. 3d at 850–51 (describing the frequency of redistricting challenges).

151.    *See Redistricting: A Story of Divisive Politics, Odd Shapes*, NPR: FRESH AIR, at 00:52 (Sept. 24, 2012), https://www.npr.org/transcripts/161685998 [perma.cc/8YJ2-TT4H] ("Draper says [the redistricting] process is more sophisticated and cynical now, and it's giving us increasingly safe blue and red districts, giving voters a less real choice in elections and making Congress more polarized and less willing to engage in compromise.").

152.    Bahrampour, *supra* note 14.

153.    *See id.* ("[T]he American Statistical Association's 2020 Census Quality Indicators task force had recommended the assessment of the [census] in the wake of unprecedented challenges . . . [including] natural disasters. . . .").

154.    NCSL *Use of Census Data*, *supra* note 29.

155.    Ann M. Lousin, *Where Are We at? The Illinois Constitution After Forty-five Years*, 48 J. MARSHALL L. REV. 1, 19–20 (2015).

156.    *Ann M. Lousin*, UIC LAW, https://law.uic.edu/profiles/lousin-ann [perma.cc/QBB8-WA5P] (last visited Oct. 30, 2022).

157.    Lousin, *supra* note 155 at 19–20.

158.    *Id.* at 20.

159.    *Id.* at 1.

160.    *Id.* at 20 (citing Baker v. Carr, 369 U.S. 186, 188 (1962)).

the current redistricting process in the state[161] is a "continuing and unresolved problem."[162]

One underlying concern with the way Illinois draws maps is the division among districts.[163] For instance, Illinois, and seventeen other states "nest" legislative districts.[164] This means that for every senate district, a certain number of representative districts—usually two or three—must fall within that senate district, leading to greater political controversy between the districts due to forced division and claims that newly drawn districts prevent the creation of districts with aligning interests among the population.[165] Thus, a shift to alternative data sources in the early stages of the redistricting process will provide states with a more frequent opportunity to fine-tune the process that has caused heightened controversy, especially in the most recent redistricting cycle.[166]

Before discussing the breadth of technology and recent modern data trends that will fuel the shift toward alternative data use, it is pertinent to note several disclaimers and points of contention. First, this Note acknowledges, and in fact, supports the positive impact of the federal decennial census.[167] This Note also does not argue that states should stop using the census for redistricting either. Rather, the census should still be considered every ten years as either a primary or secondary source to additional alternative data metrics as they develop. Where the U.S. Constitution only requires an "actual enumeration" or actual count, any data derived that falls within the range of "census-like" accuracy is fair game and should thus be considered.[168]

## E.    Data-Focused Governance & "Big-Data" Sampling

The benefits of the rapidly evolving digital age and expanse in information requires increased cooperation between private sector and government to ensure maximum efficiency.[169] Moreover, the citizen expectation and experience through smartphones and social media platforms in the political process has

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161.    *Id.*; *see also* McConchie v. Scholz*, 577 F. Supp. 3d 842, 852 (N.D. Ill. 2021) (per curiam) (discussing the Illinois redistricting provisions at issue in the lawsuit).

162.    Lousin, *supra* note 155, at 20.

163.    *Id.*

164.    *Nesting*, BALLOTPEDIA, https://ballotpedia.org/Nesting [perma.cc/2WLZ-ERCR] (last visited Oct. 30, 2022).

165.    Lousin, *supra* note 155 at 20; *see also* BRUCE E. CAIN & KARIN MAC DONALD, THE IMPLICATIONS OF NESTING IN CALIFORNIA REDISTRICTING 2 (2007), https://statewidedatabase.org/resources/redistricting_research/Nesting_&_Redistricting.pdf [perma.cc/9UVB-J8XY] ("The results show that nested districts, no matter whether they are constructed through aggregation or division, impede the creation of majority minority districts and lead to more city and county splits than non-nested districts do.").

166.    NPR: FRESH AIR, *supra* note 151, at 03:58.

167.    Mather & Scommegna, *supra* note 2.

168.    Underhill, *supra* note 11.

169.    *See* Yasar Jarrar, *What is the Role of Government in the Digital Age?*, WORLD ECON. F. (Feb. 13, 2017), https://www.weforum.org/agenda/2017/02/role-of-government-digital-age-data [perma.cc/W857-CJVY] ("Many government entities followed tried and tested private sector frameworks, and a lot of good outcomes were delivered in terms of better public policies and improved government services.").

created more direct access by citizens in civic engagement.[170] Interactions have become "horizontal, empowering, and spontaneous. . . . the exact opposite of the traditional hierarchical, bureaucratic, and rules-based systems government developed over the decades."[171]

Governing in the digital age, through the rise of e-commerce, and "an unprecedented level of global connectivity" has led to "enormous volumes of data."[172] In fact, approximately three billion people are using the internet today, up from 2.3 *million* in 1990.[173] This growth has led to what is commonly referred to as the "4 V's" of big data—volume, variety, velocity, and veracity—to describe the sheer amount of new data, the types of sources available, the growing accuracy with data, and speed at which data is utilized.[174] That said, large tech companies like Microsoft, Google, Facebook, Airbnb, and Uber are major players in holding onto data.[175] Such platforms also gain consent by users to share personal information in exchange for online connectivity.[176] A rise in open access of data, notwithstanding regulatory complications and privacy concerns, would eventually allow governments to "capture and process overwhelming amounts of data . . . ." and bridge the gap between the private and public sectors.[177] Thus, a stronger interplay between the private and public sectors through Public-Private Partnerships (PPPs) will advance governmental efficiency and operate to properly allocate funding for such initiatives moving forward.[178]

The COVID-19 pandemic, despite the many upending and ongoing societal challenges it caused, opened space for immense and unprecedented use of modern "big data" analytics in the public health space.[179] Tools like artificial intelligence, mortality risk calculators, and even web-based tracking for hospital bed availability were developed through collaboration with the private and public sectors.[180] Though the data tools used here are central to the healthcare

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170. *See* Kevin Körner, *Digital Politics: AI, Big Data and the Future of Democracy*, DEUTSCHE BANK 2 (Aug. 22, 2019), https://www.dbresearch.com/PROD/RPS_EN-PROD/PROD0000000000497768/Digital_politics%3A_AI%2C_big_data_and_the_future_of_d.PDF?undefined&realload=d2XIayi3uHEYGS600mZFlZknnNas32Ni7l6zKvTNa6wnJVpAyyxG1Ujael4rW2wx [perma.cc/NLW5-QLSL] ("For billions of people, the digital transformation for which the smartphone is synonymous, has brought enormous benefits and convenience. This has enriched societal discourse through new forms of multilateral communication.").

171. Jarrar, *supra* note 169.

172. *Id.*

173. *Id.*

174. Alba Díaz, *The Four V's of Big Data*, OPEN SISTEMAS (June 16, 2020), https://opensistemas.com/en/the-four-vs-of-big-data [perma.cc/SZM6-UVM4].

175. Jarrar, *supra* note 169.

176. *Id.*

177. *Id*.

178. *Id.*; *see also* Frank Beckers & Uwe Stegemann, *A Smarter Way to Think About Public-Private Partnerships*, MCKINSEY & CO. (Sept. 10, 2021), https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/a-smarter-way-to-think-about-public-private-partnerships [perma.cc/6VZ6-GYML] ("PPPs can also spread a project's cost over a more extended period and can thus free up public funds for investment in sectors in which private investment is impossible or otherwise inappropriate.").

179. *See* Jessica Kent, *Intersection of Big Data Analytics, COVID-19 Top Focus of 2020*, HEALTH IT ANALYTICS (Dec. 24, 2020), https://healthitanalytics.com/news/intersection-of-big-data-analytics-covid-19-top-focus-of-2020 (discussing that the advanced tools used to fight the COVID-19 pandemic "will likely continue to be an integral part of healthcare going forward.") [perma.cc/4ZCD-H8GN].

180. *Id.*

context, new discussions have emerged about the extent to which advanced data analytics can be adopted in *other* contexts.[181] Additional governmental initiatives can now be advanced through a data-centered approach to public services through utilizing the availability of data movement to control the effects of the pandemic.[182] The access and use of consistent data in various state records to carry out important political functions, namely the early stages of the redistricting process, is one additional initiative that can be advanced if public sector state governments maximize and tap into an ability to utilize larger volumes of information for the public good.[183]

Data sharing emerged as a recent technology trend in 2021 to promote public-sector efficiency.[184] Data sharing allows state agencies who collect information from the public (i.e. administrative records, income tax, and insurance records), to grant other government officials or researchers access to carry out additional important functions.[185] Where data was shared across agencies at an accelerated rate in the public health context during the pandemic, it follows that such a technique may be applied to other contexts, including population counting and modernizing the electoral process as a result.[186] Researchers have already looked to broader swaths of public information as a starting point to conduct counts in the future.[187] On this point, the management of new data-sharing techniques has been grouped into two models: government-led and collaborative.[188] The "government-led" model, suggested by its title, maintains control exclusively by public officials to research and utilize a greater subset of data and information, but is controlled exclusively by government research officials to directly impact government services.[189]

Alternatively, the "collaborative model" of data innovation and management emphasizes a shared structure between outside private organizations for data storing, collecting, and analysis.[190] Each model carries advantages and disadvantages in the way of organizational structure between the groups, diversity in expertise from third parties, and maximizing efficiency in responding to staffing demands from an employment standpoint.[191] Regardless of the model a governmental entity chooses to employ, the bottom line is that data should "[be] at the center of governmental decision making . . . ."[192] While

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181.   *Id.*
182.   Kent, *supra* note 179.
183.   *Id.*
184.   *Id.*
185.   *See Data Sharing for Policy Analysis & Program Evaluation*, STATE DATA SHARING INITIATIVE, https://www.statedatasharing.org/data-sharing [perma.cc/G3JZ-W822] (last visited Oct. 30, 2022) (discussing the data sharing process).
186.   *See* Jane Wiseman, *Two Models for Successful Intergovernmental Data Sharing*, DATA-SMART CITY SOLUTIONS (Jan. 11, 2021), https://datasmart.ash.harvard.edu/news/article/two-models-successful-intergovernmental-data-sharing [perma.cc/U8ZB-HN29] (examining government "data integration success cases in the United States and across the globe").
187.   Mervis, *supra* note 73.
188.   Wiseman, *supra* note 186.
189.   *Id.*
190.   *Id.*
191.   *Id.*
192.   *Id.*

there are current drawbacks of states implementing a data-friendlier model of government, it goes without saying that the shift will take time, effort, and additional resources.[193] As argued below, the development of civic-tech innovation centers is one way that state governments can test the validity of data-sharing—or other emerging technological trends—to alter existing governmental processes or functions that could be carried out differently in the future.[194] This will further allow states to set the groundwork for maintaining structures and invest in long-term government initiatives through data to impact public policy.[195]

To illustrate a current project focused on state-based data access, the state data-sharing initiative (SDSI), seeks to promote policymaking decisions in state governments, specifically through economic and workplace development context.[196] While SDSI's aim is narrow in scope, the overall concept seeks to equip state and local governments with greater volumes of administrative data for advanced use through data-sharing techniques.[197] This is just one way in which the implementation of a stronger focus on data governance can impact public policy decisions and positively shape the political landscape.[198] SDSI argues that educating leaders on the value of administrative data, the appropriate use of the data, and adopting structured and transparent policies and procedures for data use is a priority that will promote efficient governmental decision making.[199] Simply put, SDSI seeks to "improve public policy program outcomes by enabling evidence-based policymaking through greater sharing of state administrative records in support of rigorous policy analysis and program evaluation."[200]

Additionally, the promotion of new government technology in the face of "the . . . pandemic[,] has spurred the acceleration of digital innovation across the government sector around the world . . . ."[201] Several emerging technologies aim to better equip state and local government Chief Innovation Officers (CIOs) with the resources needed to the promote efficiency of public services.[202] For example, operationalized analytics focuses on data-driven technologies like

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193. *See* Kil Huh et al., *Using Data to Improve Policy Decisions*, PEW (Aug. 14, 2018), https://www.pewtrusts.org/en/about/news-room/opinion/2018/08/13/using-data-to-improve-policy-decisions [perma.cc/A7UX-33ZC] (discussing efficient use of data in governance and top challenges states face in using data to drive policy).

194.    Quaintance, *infra* note 257.

195.    Huh, *supra* note 193.

196.    STATE DATA SHARING INITIATIVE, *supra* note 185.

197.    *Id.*

198.    *Id.*

199.    *Id.*

200.    STATE DATA SHARING INITIATIVE, https://www.statedatasharing.org [perma.cc/44AM-U56L] (last visited Oct. 30, 2022).

201.    Susan Moore, *Gartner Identifies Top 10 Government Technology Trends for 2021*, GARTNER (Mar. 29, 2021), https://www.gartner.com/en/newsroom/press-releases/2021-03-29-gartner-identifies-top-10-government-technology-trend [perma.cc/B9J3-R5T9].

202.    *See id.* (discussing emerging trends in technology that governments can adopt to promote efficiency). CIOs are public officials employed by state and local governments in several states around the country working toward the advancement of public policy goals through the lens of new technology, *see Chief Innovation Officers in State and Local Government (Interactive Map)*, GOV'T TECH. (Aug. 20, 2018), https://www.govtech.com/people/chief-innovation-officers-in-state-and-local-government-interactive-map.html [perma.cc/3B3C-CQ7N].

machine learning and its role at various stages of governmental decision making to improve the overall quality of public life.[203] By 2024, 60% of investments in these areas will be employed to promote governmental decision making.[204] Further, "multichannel citizen engagement" is a technique allowing for a more active role by citizens in government to enhance communication to address the needs of constituents and increased democratic participation.[205] This tool allows for greater interconnectivity and could be expanded to achieve reliable, consistent, population demographics as well.[206]

Finally, more data requires new techniques to manage it.[207] Doing so also requires a reduction of massive data sets to a manageable size through advanced sampling techniques for effective data processing.[208] Sampling allows data-scientists to "use [fewer] data to get the overall characteristics of the whole dataset."[209] Notably, experimental research, through several modern big-data sampling techniques, found that overall figures "are close to or even exceed the results of the full amount of data."[210]

Regression analysis from sampling, a mathematical sorting of the most impactful variables in a large data set,[211] is one method that has evolved and will produce viable, accurate population statistics within a "big data" set.[212] Where traditional linear regression analysis is susceptible to sampling error,[213] a *modified* regression analysis, termed "information-based optimal subdata selection" (IBOSS) is a newer sampling function that narrows down data points in a subset to the most *informative* points,[214] so "[sub-data] retains most of the information contained in the complete data" and as a result, sampling error is minimized.[215] This is one of several tools available and emerging in big-data sampling to effectively stratify large data sets and will provide redistricting officials with limited error and high accuracy.[216] In fact, sampling from larger data sources may eventually lead to more accurate results than the federal census in the long run.

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203.    Moore, *supra* note 201.
204*.    Id*.
205*.    See id.* ("Multichannel citizen engagement is a seamless, bidirectional engagement with constituents across organizational boundaries, while delivering a personalized experience using the preferred and most effective channels to reach them.").
206*.    See id.* (describing the tool as a "bidirectional engagement" that crosses "organizational boundaries," which can be used to "track quantity and quality of citizen participation").
207*.    See* ZHICHENG LIU & AOQIAN ZHANG, A SURVEY ON SAMPLING AND PROFILING OVER BIG DATA (TECHNICAL REPORT) 1 (May 8, 2020), https://arxiv.org/pdf/2005.05079.pdf [perma.cc/BZ5K-FSKQ] ("[S]ampling technology plays an important role in the era of big data, and we also have reason to believe that sampling technology will become an indispensable step in big data processing in the future.").
208*.    Id.* at 13.
209*.    Id.* at 2.
210*.    Id*. at 1.
211.    Amy Gallo, *A Refresher on Regression Analysis*, HARV. BUS. REV. (Nov. 4, 2015), https://hbr.org/2015/11/a-refresher-on-regression-analysis [perma.cc/4BUC-T5XM].
212.    LIU & ZHANG, *supra* note 207, at 10.
213*.    Id.*
214.    HaiYing Wang et al., *Information-Based Optimal Subdata Selection for Big Data Linear Regression*, 114 J. AM. STAT. ASS'N 393, 393 (2019).
215.    LIU & ZHANG, *supra* note 207, at 10.
216*.    See id.* at 1–2 (introducing several big-data sampling techniques).

The adopted use of modern big-data sampling techniques will allow data scientists at the state and local level to utilize the advantages of an existing large-scale data set to produce reliable and efficient figures representative of the population. This process, coupled with the alternative data access platforms discussed in Part IV of this Note, will arm states with alternative tools to avoid the response-rate accuracy concerns inflicted through a traditional questionnaire or survey-based data.[217] Further, sampling techniques on a state-by-state basis, distinct from a country-wide federal survey, localizes population information to smaller data sets to increase counting efficiency. Advancement in sampling techniques, long-term, will permit states to improve the functionality of government broadly.[218] More narrowly, states may utilize sampling to redistrict more effectively and consistently. The next Part of this Note suggests mechanisms to implement and operate both existing and growing data to gather data for redistricting.

## IV.  ALTERNATIVE DATA ACCESS MODELS

The roadblocks in the way of the 2021 redistricting process,[219] along with a rise in litigation and partisan divide over redistricting,[220] presents ample room for solutions to mitigate future concerns. Alternative approaches to data access, in addition to the federal decennial census,[221] are one way of combatting the political and legal difficulties states face each decade. In this Part, the Note first suggests that states allocate investment to utilize the sheer amount of data through sampling techniques discussed in Part III as a baseline to expand the redistricting data access and redistrict with greater frequency.[222] A more consistent approach will fine-tune and improve the map-drawing process where population changes can be accounted for in real time.

Further, a more frequent approach by states will mitigate the partisan contention inherent in the process every ten years[223] through enhanced transparency with voters by increased awareness. A dedicated body focused on accessing and conducting sampling of localized administrative and new forms of data is instrumental to achieving data that are not only more accurate but

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217.  *See* Boland et al., *supra* note 149 (noting that surveys lack the "precision required by the Constitution" due to their margin of error).

218.  *See Data Collection*, U.S. CENSUS BUREAU (Dec. 8, 2021), https://www.census.gov/history/www/innovations/data_collection [perma.cc/V6VM-3EB2] (discussing how developments in statistical sampling have improved the Census Bureau's data collection process).

219.  *See* Montellaro, *supra* note 72 (detailing the various redistricting lawsuits arising out of delayed census data).

220.  *Id.*

221.  Mather & Scommegna, *supra* note 2.

222.  The framework to state investment in new technology as alternatives or additions to the decennial census over time would apply to a state's existing mechanism for redistricting, i.e., using an independent commission, or by their legislature. This Note applies a new data framework through alternative sampling and data access to enhance productivity in the data gathering stage, but does not seek to alter the way state's choose to draw new maps during redistricting.

223.  *See* LaVarr Webb, *Commentary: Grab Some Popcorn . . . the Messy Redistricting Process Will Be Fun to Watch*, UTAH. POL'Y (May 27, 2021), https://utahpolicy.com/politics/59501-commentary-grab-some-popcorn-the-messy-redistricting-process-will-be-fun-to-watch [perma.cc/5KBS-UY34] ("The reality is that it's impossible to keep everyone happy in redistricting.").

positively shape the integrity of redistricting in the future. It should be noted that while increasing accuracy of the census and subsequent redistricting process is a central goal, implementation of alternatives is a long way away.[224] Here, benefits and accuracy of figures stemming from a tried and true decennial census are well recognized.[225] Instead, the alternatives discussed in this Note serve to support states with backup options to maximize the positive effect of technology on governance, and mitigate concerns where the census is susceptible to uncontrolled events akin to the most recent cycle.

Of course, greater redistricting frequency is only possible if officials can access larger quantities of data.[226] Thus, state-run data platforms should be implemented as alternative access modes to the federal census to analyze data.[227] This section first sets the stage with existing state data and then argues that trends in data-sharing and collection discussed above provide an opportunity to maximize the impact of population records to shape redistricting. The Note then discusses operation of quasi-governmental innovation centers with data-sharing and sampling methodology discussed in Part III, a process that saw success during the COVID-19 pandemic and the foreign population register is considered as a further alternative.[228]

### A.    Alternative Redistricting Data-Sources

### 1.    Motor-Vehicle & Pre-existing Administrative Data

The information requested by census takers with the Bureau every ten years is quite simple.[229] It includes a person's name, the relationships in the household, sex, age, date of birth, Hispanic origin, and race.[230] Once the information is recorded and compiled by April 1,[231] it is sent off to the states where the states begin redistricting and reapportionment.[232] The same basic information is

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224.    *See Alternative Futures for the Conduct of the 2030 Census*, U.S. CENSUS BUREAU (Nov. 2016), https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/plan/final-analysis/alternative-futures-2030-census.html [perma.cc/ZR4Z-U84B] (explaining how planning and determining the strategy for the new census occurs at least 8–10 years before it is administered).

225.    *See* Boland et al., *supra* note 149 (noting that the census provides greater specificity and accuracy than other surveys).

226.    *See* LIU & ZHANG, *supra* note 207, at 1 (putting forth the benefits of large amounts of data).

227.    *See* MIT TECH. REV. INSIGHTS, *A New Age of Data Means Embracing the Edge*, MIT TECH. REV. (Aug. 16, 2021), https://www.technologyreview.com/2021/08/16/1031738/a-new-age-of-data-means-embracing-the-edge [perma.cc/9U6K-DYMT] ("The world will shift from one where you have centralized data, what we've been used to for decades, to one where you have to be comfortable with data being everywhere.").

228.     *See* Michael Poulain & Anne Herm, *Central Population Registers as a Source of Demographic Statistics in Europe*, 68 POPULATION 183, 184 (2013) (referring to the United Nations Economic Commission for Europe to define the concept of a population register as "a systematic collection of unit-level data in such a way that updating is possible").

229.    *See* Mather & Scommegna, *supra* note 2 (referring to the census as a "short series of questions").

230.    Beth Jarosz et al., *U.S. 2020 Census FAQ*, POPULATION REFERENCE BUREAU (May 7, 2019), https://www.prb.org/resources/u-s-2020-census-faq [perma.cc/V2XN-C7DL].

231.    CENSUS COUNTS, *supra* note 1.

232.    Mather & Scommegna, *supra* note 2.

contained in states' department of motor vehicle or transportation records of each individual.[233]

Importantly, information contained in a motor vehicle record is protected by both state and federal laws that prohibit generalized publication and disclosure of data to protect privacy.[234] The Drivers Privacy Protection Act (DPPA) however, does contain "permitted use" exceptions for use of demographic-based information in a driving record,[235] including "by any government agency" for "research activities, and for use in producing statistical reports, so long as the personal information is not published, redisclosed, or used to contact individuals."[236] States have adhered to the federal protections contained in the DPPA,[237] thus allowing the use of motor-vehicle data for certain government functions.

Recurring motor-vehicle data is an alternative estimate to the federal census that states should first consider for achieving consistent population figures for fluid redistricting. It fits within legal privacy constraints, is readily available, and is already controlled by the state government.[238] During the 2020 census, the U.S. Census Bureau began asking states to share driver's licensure data for purposes of determining citizenship.[239] This was the Bureau's response to a legal challenge by the Trump Administration to add a citizenship question to the questionnaire, a question that was ultimately struck down.[240] Four states, Iowa, Nebraska, South Carolina, and South Dakota, agreed to share the state records with the federal government, citing that sharing the records is permissible for "government agency functions." [241] Opposition states, including Maine, cited privacy concerns over the sharing of personal, state-based information with the federal government.[242]

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233.    *See The Drivers Privacy Protection Act (DPPA) and the Privacy of Your State Motor Vehicle Record*, ELEC. PRIV. INFO. CTR., https://archive.epic.org/privacy/drivers [perma.cc/6U9M-4N3X] ("[P]ersonal information contained in an individual's motor vehicle record . . . includes the driver's name, address, phone number, Social Security Number, driver identification number, photograph, height, weight, gender, age, certain medical or disability information, and in some states, fingerprints.") (last visited Oct. 30, 2022).

234.    *Id.* (discussing the Drivers Privacy Protection Act (DPPA) and federal statutory provisions for unlawful data use in the U.S. Code); *see also* Spencer Lam, *State-by-State Guide to DMV Records*, VR RSCH. (Jan. 16, 2019), https://www.vrresearch.com/blog/2019/1/16/dmv-records [perma.cc/U5W2-D3WA] (listing state-by-state policies for obtaining motor vehicle records).

235.    18 U.S.C. § 2721(b).

236.    18 U.S.C. §§ 2721(b)(1), (5).

237.    *See Privacy Policy and Terms of Use*, ILL. SEC'Y OF STATE, https://www.ilsos.gov/privacypolicy.html [perma.cc/M9SX-HK9Z] (stating that "personally identifying information submitted" to the Illinois Secretary of State is protected under the DPPA) (last visited Oct. 30, 2022).

238.    Lam, *supra* note 234.

239.    *See* Hansi Lo Wang, *Census Bureau Asks States for Drivers License Records to Produce Citizenship Data*, NPR (Oct. 16, 2019, 3:23 PM), https://www.npr.org/2019/10/16/770648941/census-bureau-asks-states-for-drivers-license-records-to-produce-citizenship-dat [perma.cc/SBB6-8LDZ] (outlining how the Census Bureau asked states to voluntarily share driver's license records in an effort to produce data about U.S. citizenship).

240.    *Id.*

241.    Hansi Lo Wang, *Four States Are Sharing Driver's License Info to Find Out Who's a Citizen*, NPR (July 14, 2020, 6:17 PM), https://www.npr.org/2020/07/14/890798378/south-dakota-is-sharing-drivers-license-info-to-help-find-out-who-s-a-citizen [perma.cc/862K-BUHE].

242.    *See* Nora Flaherty, *Dunlap: Maine Will Not Hand Over Driver's License Info on Citizenship and Race*, ME. PUB. (Oct. 15, 2019, 2:31 PM), https://www.mainepublic.org/politics/2019-10-15/dunlap-maine-will-not-

Though this controversy centered on the citizenship question, the request by the Bureau for state-driving records has broader implications in the way the Bureau recognized driving-record data accuracy.[243] Thus, the bureau's intention to access driving record data supports a perceived viability of the data to assist with not only citizenship but provides an alternative to the traditional census approach.

The use of driving record data balances both the benefits of a viable data access point with costs reflected by some states in the federal government's use of state-based data. Moreover, in an effort by states to carry out the redistricting government function, states would almost certainly be permitted, notwithstanding any state-based prohibitions, to utilize the records for this purpose.[244] Even amid federal driver-data privacy laws, the use toward government functions falls under a clear exception to the general rule of non-use under DIPPA.[245] As mentioned, Maine, among the majority of states that refused to turn over driver data to the federal government,[246] cited concerns regarding sensitivity and security if state data were left into the hands of the federal government.[247] But in the redistricting context, such privacy and federalism concerns are mitigated in because states are simply taking advantage of information that is already available to them for a purpose they are primarily responsible for.[248]

The access of demographic data through driving records is especially relevant now, considering modern data access techniques in other contexts.[249] To test the validity of driver-data estimates of the population contrasted with census records, the state of Vermont was reviewed based on a smaller sample size with less error.[250] As of December 2021, the number of non-expired motor vehicle operators in Vermont was 498,924.[251] The most recent decennial census total for the population was 643,077.[252] Thus, Vermont currently maintains data for approximately 78% of individuals, not excluding those with expired

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hand-over-drivers-license-info-on-citizenship-and-race [perma.cc/26H3-HN6H] (quoting Me. Sec'y State Matt Dunlap) ("'We sort of believe that the information that's in our databases belongs to the citizens to whom it refers. So we're the custodians of that information - it's not ours to give away,' Dunlap says.").

243.   *See* Wang, *supra* note 239 (stating that the Census Bureau has turned to existing government records to try to fill in gaps in incomplete census survey responses).

244.   18 U.S.C. §§ 2721(b)(1), (5).

245.   ELEC. PRIV. INFO. CTR, *supra* note 233.

246.   Flaherty, *supra* note 242.

247.   *Id.*

248.   *See id*. (stating that the information requested was from the state's records).

249.   *See* discussion *infra* Sections IV.A.2, IV.B of this Note.

250.   *See infra* notes 252–55 and accompanying text.

251.   Motor vehicle records were requested from the state of Vermont for educational use. This information is not available to the public without completion of a public records request. *See Public Records Request*, VT. DEP'T MOTOR VEHICLES, https://dmv.vermont.gov/form/public-records-request [perma.cc/MFM4-8JLM] (last visited Oct. 30, 2022).

252.   *Quick Facts: Vermont*, U.S. CENSUS BUREAU, https://www.census.gov/quickfacts/VT [perma.cc/T6UL-DCLV] (last visited Oct. 30, 2022).

licenses.[253] The numbers provide at least a statistically significant basis as a metric for estimated population numbers over a consistent period.[254]

Given Vermont's notably smaller size in population, it operates as a more feasible test state to assess the consistent data usage by governing bodies in the redistricting context.[255] Testing the validity in smaller states without large variations in urban or rural landscape will more easily account for population change without difficult variables.[256] Through short and long-term investments in tech-focused governance,[257] extrapolating consistent demographics from DMV records and additional administrative sources is a more efficient means and should lead to increased accuracy. With that, data-focused governance is now explored further.

### 2.    Quasi-Governmental Innovation Centers

Data innovation offices across state and local governments are developing among states and cities to maximize advancing technology's effect on governmental decision making.[258] The previous Section of this Note focused on an existing source of administrative data that may be used for redistricting purposes. This Section proposes a method that more states could adopt in the *future* to implement increased use of existing and newer demographic data. Projects coordinated by civic-innovation tech centers are flexible in states across the country depending on the specific needs of the state and locality.[259] While data innovation work is often underfunded by state government, the growing availability of data today and increased public-private sector cooperation will aid in the funding of state projects for newer public initiatives with a focus on long-term investment under the PPP model.[260]

The effects of COVID-19 highlighted that the possibility of widespread sharing of government data in the public health sphere may be possible with other governmental projects as well.[261] Thus, a positive trajectory in data-focused governance enables a new approach to redistricting. Further, privacy protection concerns through increased governmental data access can be alleviated by, first, the fact that demographic data will only be used for a narrow purpose in line with federal privacy laws. And second, increased private-public

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253.    Calculated by taking the number of non-expired motor vehicle operators in Vermont as of December 2021 and dividing it by the most recent decennial census total for the population.

254.    *Id*.

255.    *See Population of the US States and Principal US Territories*, NATIONS ONLINE, https://www.nationsonline.org/oneworld/US-states-population.htm [perma.cc/6A5R-2TNN] (last visited Oct. 30, 2022) (stating that Vermont ranks forty-nine out of fifty in terms of population as of December 2019).

256.    *See supra* Section III.E (analyzing big data sampling).

257.    *See id.*; *see also infra* Section IV.A.2 (discussing quasi-governmental innovation centers).

258.    *See* Zack Quaintance, *What Are Some of Governments' Best Innovation Practices?*, GOVERNING (July 9, 2021), https://www.governing.com/now/what-are-some-of-governments-best-innovation-practices [perma.cc/AAV7-9YYA] (discussing various states and wide-ranging projects facilitated via innovation offices).

259.    *Id.*

260.    *Id.*; *see also* MCKINSEY & CO, *supra* note 178 (discussing PPPs).

261.    Moore, *supra* note 201; *see also* Axel Domeyer et al., *Government Data Management for the Digital Age*, MCKINSEY & CO. (Sept. 20, 2021), https://www.mckinsey.com/industries/public-and-social-sector/our-insights/government-data-management-for-the-digital-age [perma.cc/CHG9-9TP8] ("Of course, the value of public-sector data extends beyond the pandemic to numerous aspects of society and the economy.").

cooperation, data-sharing techniques, and sampling will ultimately promote transparency and accountability of the redistricting process in the long run. Generally, people place more trust in their state and local government officials.[262] A stronger focus on localized data alternatives and proactive redistricting approaches on a state-by-state basis will mitigate privacy concerns in a data-centered world as citizens place greater confidence in the impact of data-governance.

Among state legislators or any entity that a state employs to redistrict, a body charged with maintaining consistent population records devoted to redistricting will be beneficial. It both alleviates the administrative burden and overall political tension that comes to a head when states traditionally receive data and begin redistricting each decade.[263] With more regular data access and analysis, states will avoid the high-stake pressure inherent in such a limited time frame to conduct redistricting. Greater diversity in data access points, coupled with modern sampling techniques to analyze the data and cohesion among legislators, will prioritize bipartisanship and cooperation. Thus, an increased role in state and local action over time, serves an important institutional and democratic purpose to advance transparency and communication with voters.

As many states lean away from central control of state legislative bodies controlling redistricting[264] and rely on bodies like independent commissions, the public input in constructing maps and participating in the process has increased.[265] Following the Supreme Court's *Rucho v. Common Cause* decision, holding claims of partisan gerrymandering are non-justiciable under the political question doctrine,[266] states have recognized political concerns with the redistricting process and are seeking to minimize legislative control.[267] Here, a state-based redistricting body focused on solely on obtaining newer data sets is one step in the direction to support the post-*Rucho* landscape to combat undue partisan influence, a goal also supported by many states.[268] Thus, as the physical map-drawing of redistricting is shifting, a pressing need and interest exists for the access of alternative demographic data in addition to the census. Where states have shown a willingness in some states to modernize and de-politicize the process through outside entities,[269] utilizing data-innovation to establish government tech centers for the access of readily available data will likewise find public support.

262.   Justin McCarthy, *Majority in U.S. Prefer State Over Federal Government Power*, GALLUP (July 11, 2016),                https://news.gallup.com/poll/193595/majority-prefer-state-federal-government-power.aspx [perma.cc/7F5K-4QMM].

263.   *See* Rebecca Tippett, *Challenges of Redistricting*, CAROLINA DEMOGRAPHY (Nov. 18, 2015), https://www.ncdemography.org/2015/11/18/challenges-of-redistricting          [perma.cc/VUK6-BMPA] ("Redistricting is a fundamentally political process and, like many political topics, it is not without controversies.").

264.   LOY. L. SCH: ALL ABOUT REDISTRICTING, *supra* note 45.

265.   *Id.*

266.   Rucho v. Common Cause, 139 S. Ct. 2484, 2506–07 (2019).

267.   *Id.* at 2491–92.

268.   LOY. L. SCH: ALL ABOUT REDISTRICTING, *supra* note 45.

269.   *Id.*

Innovation centers are one way that state investments in technology-focused governance advance redistricting. Through increased public-private cooperation, state governments can enable data-sharing through a central infrastructure with the dual purpose of understanding the privacy concerns of citizens and promoting a robust mechanism for increased data access to maximize the force of government on everyday life.[270] To be sure, obtaining adequate resources to maintain consistent demographics in states and cities with large populations will be challenging. Thus, it is important not to lose sight of the political nature inherent in the redistricting process and pushback that may arise through an increased private-public cooperation structure during redistricting.

Modernized data access platforms for states to conduct redistricting do, however, present *long-term* public confidence and efficiency benefits that should at least be explored. To avoid large-scale funding concerns, innovation centers may be set up in smaller increments for long and short-term evaluation. Additionally, in the first phase of a state-adopted plan, a state may start first by tracking data on the ten-year cycle with comparison to the federal census. Data comparison would then be measured to account for new possibilities that expand the redistricting process and determine the best route moving forward for each state.

Strategically, innovation centers would be placed in populous localities of each state and use data-sharing and sampling. The invocation center will work in tandem with entities controlling the redistricting process in each state, including members of state legislatures. Importantly, acquiring granular block-level demographic data akin to or more reliable than the federal census[271] is a central aim that can be achieved considering the sheer amount of demographic data that exists through localized data. Unlike the ACS data relied upon by the Illinois General Assembly at first in *McConchie*,[272] administrative data shared across private sector platforms for public use, and private-sector demographic data, provides a much larger framework and sample from the population to gather information. As big-data sampling becomes increasingly more accurate,[273] achieving statistical accuracy is thus possible.

Two existing innovation center offices using civic tech and data sharing highlight the operation of this alternative applied to redistricting.[274] First, in 2019, led by the City's Chief Data Officer, a Boston, Massachusetts data warehouse was established to hold data from thirty-one city departments.[275] Boston's consolidation and placement over data infrastructure allowed the city to optimize bus routes around the city and, as a result, led data analysts to more effectively manage traffic around the city by evaluating relative traffic speeds at any given time of day.[276] In North Carolina, the city of Charlotte partnered with

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270. Domeyer et al., *supra* note 261.
271. Jarrar, *supra* note 169.
272. McConchie Complaint, *supra* note 105, at 21.
273. LIU & ZHANG, *supra* note 207, at 2.
274. Wiseman, *supra* note 186.
275. *Id.*
276. *Id.*

an Integrated Data System in the region and across the country to implement a database focused on advancing a variety of public services through increased data-sharing.[277] The project launched in 2020 and employed a variety of experienced staff, such as law enforcement, teachers, and epidemiologists who worked collectively with data experts to promote public welfare in several policy areas, with a goal to resolve issues concerning education and homelessness.[278] Theoretically, an innovation center that cooperates with state legislators or officials responsible for redistricting will seek to strengthen the redistricting process as well. Here, a focus on ingenuity by centralizing and maximizing the effects of data-governance is a touchstone for future policymaking decisions.[279]

Centralized data projects like those in North Carolina, Massachusetts, and elsewhere to safely store, access, and share data records will improve the effectiveness of gathering population demographics. Ideally, an innovation center team positioned in a state would be exclusively dedicated to ensuring that data is properly managed and used only for the narrow purpose of data access to redistrict, thus alleviating privacy concerns, and avoiding administrative burden.

### 3.   *Population Registers*

Other countries have already tapped into a unique tool for consistently tracing population demographics with the population register.[280] The United Nations defines the population register as "an individualized data system . . . of continuous recording . . . to provide the possibility of determining up-to-date information concerning the size and characteristics of that population at selected time intervals."[281]

This definition highlights a central fixture of this Note, that state governments may tap into reliable demographic data on a more consistent basis to promote governmental efficiency.[282] Registers have existed for centuries in parts of Europe and Asia and are prominent in Scandinavia.[283] Functionally, it requires citizens to maintain an updated list of addresses, births, and deaths with their governing bodies over a consistent period.[284]

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277.   *Id.*

278.   *Id.*

279.   *Id.* ("Regardless of which model is chosen, or if a hybrid of the two is used, the most important thing is to continue to place data at the center of government decision-making, so that facts and evidence can provide high quality public service that meets customer needs.").

280.   *See* U.N. Stat. Div., *Population Registers*, https://unstats.un.org/unsd/demographic/sources/popreg/popregmethods.htm [perma.cc/98BB-PMDH] (describing the definitions, uses, and requirements of population registers) (last visited Oct. 30, 2022).

281.   *Id.*

282.   *See* Jane Wiseman & Stephen Goldsmith, *Ten Great Ways Data Can Make Government Better*, Data-Smart City Sols. (May 11, 2017), https://datasmart.ash.harvard.edu/news/article/ten-great-ways-data-can-make-government-better-1041 [perma.cc/GQ6M-FCDX] (describing ten ways that government can "use data to improve the efficiency of its operations").

283.   *See* Teresa A. Sullivan, *The U.S. Census Has Its Flaws – but so Has Every Attempt to Count People Throughout History*, Conversation (Mar. 31, 2020, 3:01 PM), https://theconversation.com/the-us-census-has-its-flaws-but-so-has-every-attempt-to-count-people-throughout-history-132635 [perma.cc/2F35-NTUP] (discussing the drawbacks to the federal census and the possible alternatives through population registers).

284.   *Id.*

The United Nations stresses that the overall success of the register toward advancing public policy initiatives depends, in part, on the "continuous and intensive use of registers . . .", coordination between local officials, and reliable technical infrastructure.[285] Additionally, the advantages of "continuously updated demographic data" through a register will allow for the development of more accurate sampling schemes.[286] Though the National Research Council found that applying a population register to the 2000 census would not be feasible, the Council was optimistic about viability in the future.[287] Over twenty years later, the rapid growth in data availability and big-data sampling techniques provides a more viable basis for states to utilize this tool.[288] Thus, with the enhancement in today's expansive digitization of information, advancements in data sharing, and a greater emphasis on data governance, the register operates as an alternative way to locate data for redistricting.[289]

### B.    Assessment of Legal and Policy Implications in the Alternatives

It should be emphasized that flaws toward reaching perfect accuracy for population counting are inevitable, regardless of the methodology. Though the 2020 census results reached high accuracy, despite unprecedented conditions, notable flaws in the count were exposed.[290] In two post-enumeration surveys released by the Census Bureau on March 10, 2022, black and Latino populations were undercounted, while white and Asian populations were overcounted.[291] More recently, the decennial census's post-enumeration analysis found that roughly fourteen states were either over or undercounted by margins of statistical significance.[292]

This Note does not advocate against census use altogether, though the concerns identified by political actors surrounding use of the 2020 census data are impactful when considering the suggested alternatives. Rather, it suggests

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285.    U.N. STAT. DIV., *supra* note 280.

286*.   See* NAT'L RSCH. COUNCIL, MODERNIZING THE U.S. CENSUS 61–63 (Barry Edmonston & Charles Schultze eds., 1995) (discussing the viability of a population register to replace the federal census).

287*.    Id.* at 63.

288*.    See* Debanjan Saha, *How the World Became Data-Driven, and What's Next*, FORBES (May 20, 2022, 2:56 PM), https://www.forbes.com/sites/googlecloud/2020/05/20/how-the-world-became-data-driven-and-whats-next [perma.cc/U8F4-KANR] (describing how the amount of data collected since 2010 has skyrocketed); *see also* Jae Kwang Kim & Zhonglei Wang, *Sampling Techniques for Big Data Analysis*, 87 INT'L STAT. REV. S177 (2019) (proposing two new sampling techniques that eliminate some of the issues associated with current sampling techniques as applied to big data, including selection bias).

289*.    Id.*

290.    Kristina Barrett, *Census Bureau Releases Estimates of Undercount and Overcount in the 2020 Census: Post-Enumeration Survey and Demographic Analysis Help Evaluate 2020 Census Results*, U.S. CENSUS BUREAU (Mar. 10, 2022), https://www.census.gov/newsroom/press-releases/2022/2020-census-estimates-of-undercount-and-overcount.html [perma.cc/3R8W-HT7L].

291*.    Id.*

292*.    See* THE ED. BD., *Who Rigged the Census?*, WALL. ST. J.: OPINION (May 20, 2022, 6:36 PM), https://www.wsj.com/articles/who-rigged-the-census-republican-states-democrats-population-undercount-overcount-biden-administration-11653084199 [perma.cc/3LAS-XQ3R] (discussing inaccuracies in official census results and suggesting certain states may have unfairly lost out on House seats in Florida and Texas); AMERICA COUNTS STAFF, *2020 Census Undercounts in Six States, Overcounts in Eight*, U.S. CENSUS BUREAU (May 19, 2022), https://www.census.gov/library/stories/2022/05/2020-census-undercount-overcount-rates-by-state.html [perma.cc/2BGZ-EQLU].

new and developing data-centered techniques that may be considered and tested by states to achieve better data. Contentious battles between politicians and President Trump over the 2020 census emerged as a result of his proposed changes to the federal census, political interference, and overall accuracy in properly allocating House seats.[293] Despite allegations of census "rigging" between lawmakers and the President, a solution to such controversy lies in a greater emphasis on state-focused data innovation.[294] States and localities utilizing technology to hone in on state populations for redistricting not only maximizes efficiency[295] but softens the hyper-partisan national conversation over the decennial census's impact on the redistricting. In the long run, public confidence will be enhanced not only in elections but through other sectors of public-private life as well.

A potential cost associated with state-centered approaches to data access may be achieving uniformity across the states. States that are ahead in developing an advanced framework may access data at higher rates of accuracy than states that are behind or have not adopted alternatives at all. Such a disparity, however, does not frustrate the purpose, benefits, or even requirement that a federal census be conducted every ten years under the Constitution.[296] Though the census is not necessarily a requirement for state legislative redistricting,[297] it maintains a key role in federal funding objectives and should remain. However, given the latitude and independence prescribed to each state in the redistricting process,[298] combined with the American electoral system where constituents vote for representatives on an intra-state basis,[299] the access of different data across the states produces minimal fairness concerns considering non-uniformity in redistricting data.

Finally, population variations among suggested data alternatives may present unique questions for courts during judicial review. On this point, the use of alternatives in addition to the census seeks to minimize judicial review. Decennial census data traditionally offers a safeguard for states to avoid contravention of *Reynolds'* one-person, one-vote mandate and over time, stronger data seeks to promote stronger compliance with the redistricting legal

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293. *See* Kelly Percival, *Documents Reveal Trump Administration's 'Unprecedented' Attempts to Influence the 2020 Census*, BRENNAN CTR. FOR JUST. (Jan. 25, 2022), https://www.brennancenter.org/our-work/analysis-opinion/documents-reveal-trump-administrations-unprecedented-attempts-influence [perma.cc/N3FZ-EKM8] (highlighting alleged interference by President Trump in the 2020 population count).

294. *See supra* Section IV.A (examining alternative redistricting data sources).

295. *Id.*

296. *See* Alexis Farmer, *What is the Census?*, BRENNAN CTR. FOR JUST. (Mar. 26, 2018), https://www.brennancenter.org/our-work/research-reports/what-census [perma.cc/S5ZH-F8QU] (discussing the mandates of a decennial census and describing key benefits arising from census data).

297. *See* Underhill, *supra* note 11 ("21 states explicitly require the use of federal census data for congressional and legislative redistricting; two more, Arkansas and Texas, are explicit about using the census for redistricting the state House but are not so clear about the Senate. Another 17 states imply that census data will be used . . . .").

298. *See* Rebecca Green, *Briefing on Redistricting: An Academic and Legal Perspective*, U.S. DEP'T OF STATE: FPC BRIEFING (Dec. 3, 2021, 11:00 AM), https://www.state.gov/redistricting [perma.cc/DYE2-HHD3] (highlighting variations across states in the redistricting process).

299. *How to Determine Your Voting Residency*, FED. VOTING ASSISTANCE PROGRAM, https://www.fvap.gov/info/laws/voting-residence [perma.cc/AE79-B6ZA] (explaining that home residence "determines eligibility to vote for federal and state elections . . . .") (last visited Oct. 30, 2022).

framework.[300] Here, while an aim in more consistent population counts in the redistricting process is greater accuracy, the operation of sampling techniques and data-governance may, and likely will, lead to unintended variations in certain population counts.

For instance, if a state chooses to explore a quasi-governmental innovation framework discussed above, officials must balance accuracy concerns to avoid litigation over the source of the data and accuracy. Given the vast expansion in the use of not only "big data," but greater accessibility in existing public data,[301] achieving results as accurate as the federal census is becoming increasingly more feasible. This does not ignore the fact that redistricting lawsuits are predictable and perhaps inevitable.[302] However, in states that do invest to explore alternatives to the federal census, officials will be able to establish in a lawsuit, at least from a factual basis, that a variety of population-access counting tools and data were considered, and that a map did not purely rely on the federal census. Thus, data alternatives will reduce litigation, sampling error and the potential for inaccurate counting during the redistricting process altogether.

## V.  CONCLUSION

In sum, the expanding availability of data access and the difficulties experienced by states during redistricting in 2020 and 2021 present ample opportunities for state governments to look beyond the federal census. Such challenges coupled with growing political tension among lawmakers over the redistricting process present opportunity to alter the mechanics by state-focused, data-driven redistricting alternatives. A greater consistency through alternative data falls within the constraints of the U.S. Constitution's actual enumeration requirement and the laws of many states.[303] Due to growing policy goals in mobilizing data more actively for the public welfare,[304] the use of alternatives is more feasible now than ever before.

Further, increased cooperation by the private and public sectors to innovate governance by utilizing modern sampling techniques and data sharing offers a starting point for states to achieve greater confidence in redistricting altogether. Finally, innovative tools and alternatives will allow states to evaluate existing administrative data more deeply and employ techniques to modernize

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300.   Amar & Mazzone, *supra* note 63.

301.   *See* Bernard Marr, *Big Data: 33 Brilliant And Free Data Sources Anyone Can Use*, FORBES (Feb. 12, 2016, 2:42 AM), https://www.forbes.com/sites/bernardmarr/2016/02/12/big-data-35-brilliant-and-free-data-sources-for-2016 [perma.cc/H4QJ-HM8K] (noting that there are a multitude of free, accessible source of data, including Data.gov, which makes all federal government data available to the public).

302.   Ben Williams, *Redistricting: It's All Over but the Suing*, NCSL (Sept. 15, 2022), https://www.ncsl.org/research/elections-and-campaigns/redistricting-it-s-all-over-but-the-suing-magazine2022.aspx [perma.cc/3CJV-DPYG] ("Litigation in redistricting is so pervasive that most legislators and staffers expect it. In fact, it's a point of pride in the handful of states that don't get sued.").

303.   Amar & Mazzone, *supra* note 63.

304.   Randy Bean, *How the U.S. Federal Government Is Mobilizing to Enable Data-Driven Decision Making*, FORBES (June 1, 2022, 7:18 AM), https://www.forbes.com/sites/randybean/2022/06/01/how-the-us-federal-government-is-mobilizing-to-enable-data-driven-decision-making [perma.cc/76C5-4M89] ("This is the story of the federal government initiative to transform all Federal agencies to enable data-driven decision making in a fast-paced, changing, and competitive world and national economy.").

redistricting. These techniques support a positive trajectory in the redistricting process through reexamination of the status quo at the data-gathering stage and will ultimately maximize the efficiency, strength, and confidence of representative government in United States democracy and elections going forward.