**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

FAIR LINES AMERICA FOUNDATION, INC.,	Case No. 1:21-cv-1361-ABJ
Plaintiff,	
v.	**PLAINTIFF'S COMBINED OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT AND CROSS-MOTION FOR SUMMARY JUDGMENT**
UNITED STATES DEPARTMENT OF COMMERCE and UNITED STATES BUREAU OF THE CENSUS,	
Defendants.	

Pursuant to Fed. R. Civ. P. 56 and Local Rule 7(h), Plaintiff Fair Lines America Foundation, Inc. ("Fair Lines"), respectfully opposes the Defendants United States Department of Commerce and Bureau of the Census's Motion for Summary Judgment, ECF No. 13, and cross-moves for summary judgment. This motion is supported by the accompanying Memorandum of Points and Authorities in Support of Plaintiff's Combined Opposition to Defendants' Motion for Summary Judgment and Cross-Motion for Summary Judgment; Plaintiff's Combined Statement of Material Facts Not in Genuine Dispute and Response to Defendants' Statement of Material Facts Not in Genuine Dispute; and the Declarations of Adam Kincaid, Executive Director of Fair Lines (Ex. 1) and Dr. Steven Ruggles, Regents Professor of History and Population Studies at the University of Minnesota and director of the University's Institute for Social Research and Data Innovation (Ex. 2), with accompanying appendices. A proposed Order is also attached.

Wherefore, Plaintiff respectfully requests that this Court deny Defendants' motion for summary judgment and grant Plaintiff's cross-motion for summary judgment.

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Dated: October 1, 2021

Respectfully submitted,

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CERTIFICATE OF SERVICE

I do hereby certify that, on this 1st day of October 2021, the foregoing was filed electronically with the Clerk of Court using the CM/ECF system. The system instantaneously generated a Notice of Electronic Filing which served all counsel of record.

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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FAIR LINES AMERICA FOUNDATION, INC.,	Case No. 1:21-cv-1361-ABJ
Plaintiff,	
v.	**MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF PLAINTIFF'S COMBINED OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT AND CROSS-MOTION FOR SUMMARY JUDGMENT**
UNITED STATES DEPARTMENT OF COMMERCE and UNITED STATES BUREAU OF THE CENSUS,	
Defendants.	

INTRODUCTION

Plaintiff Fair Lines America Foundation's ("Plaintiff" or "Fair Lines") brings its Combined Opposition to Defendants' Motion for Summary Judgment, ("Defs.' MSJ") ECF No. 13, and Cross-Motion for Summary Judgment in this Freedom of Information Act ("FOIA") action seeking information from Defendants the U.S. Department of Commerce ("Commerce") and the U.S. Census Bureau ("Census Bureau") regarding the 2020 Census. Because the law requires Defendants to produce the information Plaintiff requests, there are no genuine issues of material fact, and Defendants rely on purely speculative arguments to support their withholding the information, Plaintiff respectfully requests that its Cross-Motion for Summary Judgment be granted and that Defendants' Motion for Summary Judgment be denied.

In conducting the 2020 Decennial Census, the Census Bureau for the first time ever used a methodology it termed "Group Quarters Count Imputation" ("GQCI") to fill in apparently missing or incomplete data for certain group housing facilities—ranging from jails, prisons, nursing homes,

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military bases, to colleges and universities.[1] Although the use of this new methodology has potentially very significant implications ranging from allocation of federal funds to apportionment of seats for the House of Representatives, the particulars of the GQCI methodology was not publicly revealed through any sort of notice and comment process; to this day, its nature and the extent of how many people were added (and in what states) through the GQCI methodology remains undisclosed to the public.

Due to its concerns about the Census Bureau's lack of transparency in its methodology, Plaintiff filed a FOIA Request seeking information to help inform the public about the impact of GQCI on the 2020 Census, as well as the extent to which it was employed in the enumeration. In response to Plaintiff's Request seeking "summaries, 'tabulations[,] and other statistical materials,' 13 U.S.C. § 8(b)," related to the group quarters population data for Census Day, April 1, 2020, Compl. ¶ 2, ECF No. 1, the Census Bureau revealed some information about their various attempts to test different methods of GQCI. In the first set of documents the Census Bureau produced, however, certain crucial information about the extent to which the Census Bureau used GQCI in ascertaining the actual enumeration was withheld by the Census Bureau under its new interpretation of the privacy protections of Title 13 of the Census Act, 13 U.S.C. §§ 8(b) and 9.

Through substantial narrowing of its initial Request, the information now requested by Plaintiff is simple: Plaintiff only seeks "documents identifying the <u>total population</u> (number of individuals) <u>imputed statewide</u> by the Census Bureau for <u>group quarters</u>" for each U.S. state. Pl. Mot. for Preliminary Inj., Ex. 3, ECF No. 8-4 at 7 (emphasis in original); *see also* Defendants'

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[1] The Census Bureau defines "group quarters" as "places where people live or stay in a group living arrangement that is owned or managed by an organization providing housing and/or services for the residents." U.S. Census Bureau "2020 Census Group Quarters," *available at* https://www.census.gov/newsroom/blogs/randomsamplings/2021/03/2020-census-group-quarters.html) (last accessed Sept. 29, 2021).

Statement of Material Facts ("Defs.' SOF"), ECF No. 13-2 ¶ 48. Although Defendants acknowledge the existence of these aggregate numbers, and that Defendants are able to identify and extract the data from their existing records in a secure database, *see* Second Declaration of Vernon E. Curry ("Second Curry Decl."), ECF No. 13-4 ¶ 18; Defs.' SOF ¶ 52, Defendants are withholding this information from Plaintiff in full because they assert the information is exempt from disclosure pursuant to FOIA Exemption 3, 5 U.S.C. § 552(b)(3), in conjunction with 13 U.S.C. §§ 8(b) and 9. Exemption 3 exempts information from disclosure only if a statute "*requires* that the matters be withheld from the public in such a manner *as to leave no discretion* on the issue," 5 U.S.C. § 552(b)(3)(A)(i) (emphasis added), or "establishes particular criteria for withholding or refers to particular types of matters to be withheld," *id.* § 552(b)(3)(A)(ii).

This case thus presents a straightforward issue of law appropriate for this Court's resolution on summary judgment: does Title 13 prevent disclosure under FOIA of state-wide aggregated data that does not contain "information reported by, or on behalf of, any particular respondent," 13 U.S.C. § 8(b), and that consists entirely of information that does not include responses from particular establishments or individuals? *Cf.* 13 U.S.C. § 9(a)(2). Plaintiff contends that the statutory language resolves the question on its own: where, as here, the requested tabulations or data by definition "do not disclose the information reported by . . . any particular respondent," 13 U.S.C. § 8(b), and no such confidential information can be identified from release of the requested data, 13 U.S.C. § 9(a)(2), the inquiry ends there, and that data is thus not "require[d] . . . [to] be withheld," 5 U.S.C. § 552(b)(3)(A)(i), under FOIA Exemption 3. The Census Bureau imputed (i.e., made up) the requested group quarters data to fill in gaps caused by the *absence* of responses from individuals or establishments to the Census; Defendants fail to meet their burden of demonstrating

how publication of numbers that it created *without individual responses* could possibly reveal or

lead to identification of Title 13-protected individual responses.[2]

Attempting to circumvent the plain language of Title 13, Defendants rely exclusively on

unsubstantiated speculation by the Bureau's chief scientist, John Abowd, that release of this

aggregate imputed data could eventually lead to a future sophisticated breach of individuals'

privacy through the methods of database re-identification and/or reconstruction. *See* Defs.'

Memorandum in Supp. of MSJ, ECF No. 13-1 at 8. Defendants' conjecture about a chain of

unlikely (if not impossible) events that may take place at some future time should not trump Title

13's plain requirements. The policy determination of what information Title 13 should protect

belongs to Congress, and the legal determination of what information falls within the scope of its

statutory protections ultimately belongs to this Court, not to the Bureau and its chief scientist.

Furthermore, Dr. Abowd's assertions regarding imputed data are also completely unsubstantiated,

as demonstrated by the analysis of Plaintiff's expert, Professor Steven Ruggles.[3] *See* Declaration

of Dr. Steven Ruggles, Ex. 2. Professor Ruggles' determination that "[t]here is *no possible means*

by which the number of imputed cases could be used in combination with other statistics to allow

for identification of an individual," Expert Report of Dr. Steven Ruggles ("Ruggles Report"), Ex.

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[2] In fact, the Census Bureau has historically released information concerning the number of people added to each state's population count through "household imputation" for apportionment purposes. *See* D'Vera Cohn, *Imputation: Adding People to the Census*, Pew Research Center (May 4, 2011), https://www.pewresearch.org/social-trends/2011/05/04/imputation-adding-people-to-the-census/ (last accessed Sept. 29, 2021); *Utah v. Evans*, 536 U.S. 452, 457 (2002). Defendants are thus adopting a new and unprecedented approach and interpretation of Title 13's requirements.
[3] Professor Ruggles is Regents Professor of History and Population Studies at the University of Minnesota and directs the University's Institute for Social Research and Data Innovation. His research on this subject has been published in a recognized peer-reviewed academic journal covering demography. *See* Steven Ruggles & David Van Riper, *The Role of Chance in the Census Bureau Database Reconstruction Experiment*, Population and Pol'y Rev. (2021), *available at* https://link.springer.com/article/10.1007/s11113-021-09674-3 (last accessed on Sept. 29, 2021) [hereinafter *The Role of Chance in the Census Bureau Database Reconstruction Experiment*].

2, App'x A at 5 (emphasis added), clearly contradicts Defendants' central argument that these numbers must be withheld to protect individual privacy. This alone is fatal to their motion for summary judgment. *Cf. Ambrosini v. Labarraque*, 966 F.2d 1464 (D.C. Cir. 1992) (finding that an expert's report is sufficient to defeat summary judgment where the expert states a sufficient factual basis based on his scientific knowledge and review of the case).

Simply put, Defendants cannot assert that the release of imputed group quarters data threatens to compromise private individual responses when the Census Bureau's GQCI data does not include individual responses. On the contrary, the Bureau created this data to compensate for a *lack of* individual data. Furthermore, the fact that Plaintiff only requests statewide totals of these imputed numbers, rather than county-level or institution-level totals, renders Defendants' objection even more indefensible. At a minimum, it cannot be said that Title 13 clearly "*requires* that [this data] be withheld from the public." 5 U.S.C. § 552(b)(3)(A)(i) (emphasis added). Because there is no genuine issue of material fact in this case, and the plain language of Title 13 and controlling caselaw require that this information be disclosed under FOIA, Plaintiff is entitled to summary judgment, and Defendants' motion for summary judgment must therefore be dismissed.

BACKGROUND

I.   GROUP QUARTERS COUNT IMPUTATION IN THE 2020 CENSUS

A. Constitutional Framework

As the Constitution mandates, an "actual Enumeration" of the population of the United State—i.e., the decennial Census—must be conducted every ten years "in such Manner as [Congress] shall by Law direct" to reapportion the number of seats allocated to each state in the House of Representatives. U.S. Const., art. I, § 2, cl. 3. The state population totals are also used "to allocate federal funds to the States and to draw electoral districts." *Dep't of Com. v. New York*,

139 S. Ct. 2551, 2561 (2019). Congress has delegated the taking of the census to the Secretary of Commerce "in such form and content as he may determine," 13 U.S.C. § 141(a); the Census Bureau "The Secretary is assisted in the performance of that responsibility by the Bureau of the Census and its head, the Director of the Census." *Wisconsin v. City of New York*, 517 U.S. 1, 5 (1996) (citing 13 U.S.C. §§ 2, 21).

In the late 1990s, the Census Bureau proposed using statistical methods to "adjust" census numbers used in the apportionment using various statistical methods. The Supreme Court rejected this method because the Census Act prohibited the proposed uses of statistical sampling in calculating the population for purposes of apportionment. *Dep't of Com. v. U.S. House of Representatives*, 525 U.S. 316, 334 (1999); *see also id.* at 349 (Scalia, J., concurring) ("[A]n apportionment census conducted with the use of 'sampling techniques' is not the 'actual Enumeration' that the Constitution requires."). Several years later, Utah challenged the Census Bureau's use of "household imputation" to fill in data on certain missing households—essentially by borrowing data from a nearby neighbor and "imputing" that information to the missing household. In a divided opinion, the Supreme Court approved this use of household imputation as not inconsistent with the Constitution's "actual Enumeration" requirement and determined it was not a prohibited use of statistical sampling. *Utah v. Evans*, 536 U.S. 452, 457 (2002).[4]

B. **Complications with 2020 Census and Group Quarters Count Imputation**

Administration of the 2020 Census was fraught with setbacks and delay. For instance, in late 2020, well after Census Day had passed, public reporting described "processing anomalies" of census records for the 2020 national tally that "if left unfixed, could miscount millions of

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[4] Group quarters count imputation was not raised or addressed in that lawsuit. Counsel is unaware of any prior census that "imputed" any group quarters residents.

people."[5] "[M]ajor inconsistencies" unearthed by the Census Bureau largely centered around "the information it has gathered this year about residents of college dorms, prisons and other group living quarters—a category that, for the 2020 census, included around 8 million people."[6] These complications were only compounded by the fact that 2020 was the rollout year for the Census Bureau's application of "differential privacy," or the intentional introduction of "statistical noise," *see* Second Declaration of John M. Abowd ("Second Abowd Decl."), ECF No. 13-3 ¶ 44, to the 2020 Census data in an effort to protect the confidentiality of respondents' census records under an apparently brand new interpretation of Title 13.

As a result of the processing anomalies and major inconsistencies in the group quarters data, on February 12, 2021, the Census Bureau publicly announced that the first release of its redistricting data, which was originally scheduled to be delivered to the states by March 31, 2021, would be delayed until September 30, 2021.[7] On March 15, 2021, following lawsuits filed by the State of Ohio and the State of Alabama, the Census Bureau announced that there would be a public release of the "legacy format" summary redistricting data (which states are assured they can rely on for accuracy in conducting redistricting) on August 16, 2021.[8] The Bureau explained that its

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[5] Hansi Lo Wang, *Millions of Census Records May Be Flawed, Jeopardizing Trump's Bid to Alter Count*, NPR (December 5, 2020), https://www.npr.org/2020/12/05/943416487/millions-of-census-records-may-be-flawed-jeopardizing-trumps-bid (accessed on July 18, 2021) [hereinafter *Millions of Census Records May Be Flawed*]; *see also* Wang, *6-Month Delay in Census Redistricting Data Could Throw Elections Into Chaos*, NPR (February 12, 2021), https://www.npr.org/2021/02/12/965823150/6-month-delay-in-census-redistricting-data-could-throw-elections-into-chaos (accessed on July 18, 2021).

[6] *Millions of Census Records May Be Flawed, supra.*

[7] Press Release, *Census Bureau Statement on Redistricting Data Timeline*, U.S. Census Bureau (Feb. 12, 2021), https://www.census.gov/newsroom/press-releases/2021/statement-redistricting-data-timeline.html (accessed on July 18, 2021) [hereinafter *Feb. 12, 2021 Census Press Release*].

[8] Press Release, *U.S. Census Bureau Statement on Release of Legacy Format Summary Redistricting Data File*, U.S. Census Bureau (Mar. 15, 2021) https://www.census.gov/newsroom/press-releases/2021/statement-legacy-format-redistricting.html (accessed on July 16, 2021); Important Dates, U.S. Census Bureau, https://2020census.gov/en/important-dates.html (accessed on May 21, 2021).

delays were necessary largely to allow for time to address difficulties and irregularities it

encountered while gathering and tabulating group quarters data for the 2020 Census due to the

COVID-19 pandemic.[9] Specifically, the Bureau's Chief of Decennial Statistical Studies Division

acknowledged on the Bureau's public website that it "had to adapt and delay some of the ways we

counted group quarters because of the COVID-19 pandemic," and that, consequently, "[a]fter the

end of data collection, when we began processing census data from group quarters, we realized

that many of them were occupied on April 1, 2020 (the reference day for the census), but didn't

provide a population count."[10] The Bureau also explained the significant impact such group

quarters data discrepancies can have for obtaining an accurate population count:

> [W]hen we enumerated [group quarters] in midsummer, some group quarters said
> they were vacant but they were actually occupied on April 1. If not corrected, such
> cases could lead to an undercount. If the corrections were not properly coordinated
> with our procedures to remove duplicated people, they could contribute to an
> overcount.[11]

Accordingly, the Bureau announced that it would employ new GQCI procedures for

counting unresolved group quarters, even though that method "had never before [been] conducted"

for group quarters previously.[12] Specifically, GQCI is a methodology (with details not yet fully

made public) developed to address deficiencies in the Census Bureau's count of persons residing

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[9] *Feb. 12, 2021 Census Press Release*, *supra*; *see also* Press Release, *Census Bureau Statement on Modifying 2020 Census Operations to Make Sure College Students Are Counted*, U.S. Census Bureau (Mar. 15, 2020), https://www.census.gov/newsroom/press-releases/2020/modifying-2020-operations-for-counting-college-students.html (accessed on July 18, 2021); Press Release, *2020 Census Operational Adjustments Due to COVID-19*, U.S. Census Bureau, https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/operational-adjustments.html (accessed on July 18, 2021).

[10] Pat Cantwell, *How We Complete the Census When Households or Group Quarters Don't Respond*, U.S. Census Bureau (April 16, 2021), https://www.census.gov/newsroom/blogs/random-samplings/2021/04/imputation-when-households-or-group-quarters-dont-respond.html (accessed on July 18, 2021).

[11] *Id.*

[12] *Id.*

in group quarters, which include college dormitories, residential treatment centers, skilled nursing facilities, group homes, military barracks, prisons, and worker dormitories. Ruggles Report, Ex. 2, App'x A at 2. When the Census Bureau identified some 43,000 group quarters units for which they lacked a population count, GQCI methods were used to assign an estimated or "imputed" population count for every unit that the Census Bureau believed to be occupied on census day. *Id.* at 2–3. The methods were also used to add population to group quarters units whose population count was "much lower" than expected. *Id.* at 3; Pl. Mot. for Preliminary Inj., Ex. 4, ECF No. 8-7 at 259.

Although the Census Bureau had never previously used imputation to estimate the size of uncounted group quarters units, imputation has been used to fill in missing information about individuals residing in households since the 1960 Census. Ruggles Report, Ex. 2, App'x A at 3. As a general matter, imputation is universally accepted in the demographic research community as a method that improves the accuracy of the population count, *id.*, and its use at the household level has been upheld by the Supreme Court, *Evans*, 536 U.S. 452. In the past, the Census Bureau has released detailed information—down to the block level—on the number of imputed persons in each locality. Ruggles Report, Ex. 2, App'x A at 3. However, the Census Bureau now argues that it cannot release the number of people added to each state through GQCI because it would allegedly violate the privacy guarantees in Title 13. *See* ECF No. 10. Public uncertainty about reliability of the data remains high and questions about the Bureau's imputation methodology remain largely unaddressed by the Bureau. *See* Ruggles Report, Ex. 2, App'x A at 3–4, 9 n.2.

II. FACTUAL BACKGROUND

A. Plaintiff Requests Information to Which It Is Entitled Under FOIA and Files Complaint Challenging Defendants' Redactions.

On March 31, 2021, Plaintiff[13] submitted a FOIA request ("the Request") seeking

summaries, tabulations, and other statistical materials derived from, summarizing, or otherwise

relating to the original underlying group quarters population data reported for the 2020 Census,

rather than the underlying raw data itself and the methodology. *See* Compl. Ex. C, ECF No. 1-3 at

3–4. Specifically, Plaintiff stated that it does not "seek disclosure of the underlying raw group

quarters population data itself as originally 'reported by, or on behalf of, any particular respondent'

to the Bureau, 13 U.S.C. § 8(b)," nor "any 'publication whereby the data furnished by any

particular establishment or individual under this title can be identified,' 13 U.S.C. § 9(a)(2)."

Compl. Ex. C, ECF No. 1-3 at 3–4; *see also* Ex. 1 ("Second Kincaid Decl.") ¶ 6.

On April 13, 2021, the Census Bureau's FOIA Section Chief affirmed that the Request had

been received and that a search had commenced. *See* Compl. Ex. F, ECF No. 1-6 at 1. However,

after the FOIA statutory twenty-business-day deadline (calculated from the date Fair Lines emailed

the Request to the Census Bureau) passed on April 28, 2021, *see* 5 U.S.C. § 552(a)(6)(A)(i), Fair

Lines had still received no determination from Defendants regarding the Request, including no

decision on its application for expedited processing. Second Kincaid Decl., Ex. 1 ¶¶ 8–9. After

the April 13 email from the Census Bureau, Plaintiff received no further communications from the

Census Bureau until it filed its Complaint with this Court on May 18, 2021, s*ee id.* ¶ 9; Compl.

ECF No. 1, having constructively exhausted all administrative remedies, 5 U.S.C. §

552(a)(6)(C)(i).

On May 25, 2021, Defendants sent a letter (dated May 24, 2021) to Plaintiff's counsel

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[13] Plaintiff Fair Lines is a Section 501(c)(3) non-profit organization interested in openness and transparency in government, with an emphasis on educating the public and ensuring fair and legal enumeration, apportionment, and redistricting processes. To that end, Fair Lines reviews and publicizes records in the possession of Defendants in light of the Census Bureau's public announcements of its difficulties and various concerns regarding the gathering and counting of GQCI data for the 2020 Census. *See* Second Kincaid Decl., Ex. 1 ¶ 4.

partially granting and partially denying Plaintiff's FOIA request, providing Plaintiff with 988

pages of redacted responsive records. Pl. Mot. for Preliminary Inj., Ex. 4, ECF Nos. 8-5 to 8-7. Of

those, 166 pages were either fully or partially redacted. *See id.* No records from 2021 were included

in the production; *i.e.*, all produced (visible) records were dated December 2020 and earlier. *See

id.* Defendants claimed all withheld portions were redacted "pursuant to FOIA Exemptions 3 and

5, Title 5, United States Code, Sections 552(b)(3) and (b)(5)." *Id.* Of greatest relevance to this

action, Defendants asserted that information withheld under Exemption 3 is "protected by Title

13, United States Code, Section 9," which Defendants interpret to mean "requires that census

records be used solely for statistical purposes and makes these records confidential." *Id.*

B. Parties' Counsel Confer Over Production and Plaintiff Agrees to Narrow Scope of Requested Information.

Counsel for both parties met on May 26, 2021, in a telephonic consultation, with Plaintiff's

counsel requesting that Defendants (1) review the May 25 production to clarify which exemption

applied to each redaction, (2) produce all post-December 2020 responsive records, and (3) produce

the responsive emails referenced in the May 19 correspondence. In a follow-up email on May 26,

Plaintiff's counsel agreed to narrow the scope of the unresolved email search to "all responsive

emails sent or received between March 31, 2020 and March 31, 2021," *see* ECF No. 8-4 at 19–20

(5.26.21 Torchinsky email), and reiterated his client is seeking "only *aggregated* numbers on a

statewide or county-wide level" that were counted as a result of group quarters imputation

procedures. *Id.* Plaintiff's counsel also clarified that Plaintiff was not requesting any exempt

"underlying raw group quarters population data as originally 'reported by, or on behalf of, any

particular respondent' to the Bureau," *id.* (quoting 13 U.S.C. § 8(b)), nor was Plaintiff seeking any

"'publication whereby the data furnished by any particular establishment or individual under this

title can be identified,'" *id.* (quoting 13 U.S.C. § 9(a)(2)), or other "'individual reports,'" *id.*

(quoting 13 U.S.C. § 9(a)(3)). Both parties' counsel also discussed the remaining, but not yet produced, responsive records, all of which were created after December 2020. *See* ECF No. 8-4 at 16–17 (6.16.21 Torchinsky email).

On May 27, 2021, Defendants' counsel conveyed that his client had agreed to review the May 25 production to "determine whether they stand by those redactions" and to clarify the basis for each redaction. ECF No. 8-4 at 19 (5.27.21 Kossak email). Defendants' counsel was unable to provide a timetable at that point for completing this process. *Id.* Plaintiff's counsel responded with a request to receive additional documents on a rolling basis as they were ready for release, to which Defendants' counsel did not reply. *See id.* (5.27.21 Torchinsky email). The following day, the Census Bureau granted Plaintiff's requests for expedited processing of the FOIA request. Pl. Mot. for Preliminary Inj., Ex. 5, ECF No. 8-8.

On June 8, 2021, because Plaintiff had not heard from Defendants or received either the reprocessed May 25 production or any of the requested emails, Plaintiff's counsel emailed Defendants' counsel requesting an update. ECF No. 8-4 at 18 (6.8.21 Torchinsky email). Defendants' counsel did not have an answer at that time, and eventually responded over a week later on June 16, 2021, stating that Defendants would release the re-processed May 25 production to Plaintiff by June 24, 2021. *Id.* at 17 (6.16.21 Kossak email). Defendants' counsel did not provide any information on the status of the requested emails at that time. *Id.* On June 21, 2021, Defendants filed an answer to Plaintiff's complaint. ECF No. 7.

On June 24, 2021, Plaintiff's counsel emailed Defendants' counsel to ask when the reprocessed records would be released and if Defendants had provided any answers on the additional emails and post-December 2020 records. ECF No. 8-4 at 15 (6.24.21 Torchinsky email). Defendants' counsel responded that the re-processed records would not be provided to Plaintiff by

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the promised June 24 deadline because Defendants claimed to have run into "unexpected technical difficulties" and that they hoped "to have the document available by the end of [June]." *Id.* at 15 (6.24.21 Kossak email). In response, Plaintiff's counsel explained that given the potentially time sensitive nature of the information contained in these records, and because the parties' agreement had been unilaterally pushed back by Defendants, he would consult with his client about seeking a preliminary injunction regarding the withheld records. *Id.* at 14 (6.25.21 Torchinsky email).

In a June 25 email, Defendants' counsel provided specific pages corresponding with particular justifications for the redactions from the May 25 production. *Id.* at 12–14 (6.25.21 Kossak email). Defendants stood by all of their redactions and asserted that the majority of the information withheld was redacted "to ensure that every information product released by the Census Bureau adheres to the confidentiality requirement of Title 13 and other applicable statutes," making that information all allegedly exempt from disclosure under FOIA Exemption 3. *Id.* The email also indicated Defendants had found 2,600 emails that were potentially responsive to the Request, and that Defendants would agree in the Joint Status Report due on July 20, 2021, to "using their best efforts to process 300 pages of potentially responsive records per month, with the first release of any nonexempt, responsive records by July 30, 2021." *Id.*

Having finally received explanations for the redactions in the May 25 production, and after a Zoom call between parties' counsel on June 29, 2021, Plaintiff's counsel provided Defendants' counsel with a list of redactions Plaintiff views to be improper along with an attached excerpt of those pages, ECF No. 8-4 at 10–11, with the most glaring issues arising from withholdings of summary statistical information and tabulations that Plaintiff indicated are subject to disclosure under 13 U.S.C. § 8(b). *See* Pl. Mot. for Preliminary Inj., Ex. 7, ECF No. 8-7. Plaintiff's counsel also requested an update on the status of the search for the responsive emails and post-December

2020 records. ECF No. 8-4 at 11.

Defendants' counsel responded in a July 6, 2021 email, providing Plaintiff with only two responsive post-December 2020 records. *See* Pl. Mot. for Preliminary Inj., Ex. 6, ECF No. 8-9. In the same correspondence, Defendants' counsel again defended all of the redactions in the May 25 production, asserting that because of the "risk of re-identification attacks on aggregated data releases" in the modern age of computing power and sophistication, Defendants "generally avoid[] the release of intermediate work product because it can be used in combination with other intermediate work products, official publications, and the final product to re-identify individual respondents and their data items"; accordingly, Defendants maintain that release of *any* of the aggregate or summary data withheld from Plaintiff would violate Title 13's confidentiality provisions. *See id.* Defendants' counsel asserted that Plaintiff "[has] not identified any particular reason why the redacted data is needed urgently," even though Defendants had previously granted Plaintiff's request for expedited processing on May 28, 2021. *Id.*; ECF No. 8-4 at 18 (5.28.21 Kossak email). Finally, Defendants' counsel indicated that Defendants had identified 917 potentially responsive emails (in contrast with the "2,600 potentially responsive emails" mentioned in Defendants' June 25 email, *see* ECF No. 8-4 at 12–13 (6.25.21 Kossak email)) containing 25,899 pages of material, and reaffirmed Defendants' initial offer to attempt review of 300 pages of emails per month for potential release to Plaintiff. ECF No. 8-4 at 7–10 (7.6.21 Kossak email).[14]

On July 10, 2021, Plaintiff's counsel responded that because of the significant and time sensitive nature of Plaintiff's request, it would be seeking a preliminary injunction requesting production of the improperly withheld/redacted, non-exempt pages of the May 25 production,

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[14] At the production rate proposed by the Census Bureau, it would take more than 7 years for the Plaintiff to receive all of the responsive records.

particularly in light of the Census Bureau's impending August 16 release of the legacy format

summary data and the redistricting process that would commence in earnest immediately

afterward. ECF No. 8-4 at 7 (7.10.21 Torchinsky email). Plaintiff's counsel also proposed

substantially narrowing the scope of Defendants' search, now requesting that they provide

"documents identifying the total population (number of individuals) imputed statewide by the

Census Bureau for group quarters." *Id.* (emphasis in original). Plaintiff further stated that "[w]e

seek these group quarters totals, both resolved and unresolved, tabulated by state. To be clear, we

don't request county-level or local-level numbers—only state-level group quarters imputation

figures. We also do not seek any household imputation numbers, or numbers reflecting

demographic factors like age, race, or sex." *Id.*

C. Plaintiff Files and Withdraws Motion for Preliminary Injunction.

On July 19, 2021, Fair Lines filed a motion for preliminary injunction, in which it sought

an order requiring Defendants "to produce all responsive non-exempt records and data improperly

withheld from the May 25 production within 10 days of the date of the Court's Order, or before

August 15, 2021, whichever is earlier." Fair Lines' Mot. for Preliminary Inj. at 1, ECF No. 8. Fair

Lines also requested that the Court order Defendants to "produce all non-exempt responsive

records and data from Defendants' identified potentially responsive emails (that have not yet been

produced to Plaintiff) as soon as practicable, and order Defendants to produce a Vaughn Index

specifically describing in detail each record and portion thereof withheld as exempt within the

same timeframe." *Id.*

Three days earlier, on July 16, 2021, Defendants' counsel informed Fair Lines that they

had "no reason to believe" the requested information would appear in an email because that in

formation is kept on a secure database (the Decennial Response Processing System). ECF No. 8-

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4 at 2 (7.16.21 Kossak email). Defendants have since conceded that an appropriate query against the Decennial Response Processing System can extract the number of individuals imputed for group quarters, aggregated for each state. Second Curry Decl. ¶ 18; Defs.' SOF ¶ 52.

On July 26, 2021, Defendants filed their opposition to Plaintiff's motion for preliminary injunction. Defs.' Opp'n, ECF No. 10. On July 28, 2021, Plaintiff filed a notice stating that it was withdrawing its preliminary injunction motion. ECF No. 11. Plaintiff indicated that it was doing so because of Defendants' "suggestions and implicit threats that they may decide to delay their already-delayed August 16, 2021 public release date of the 'legacy' format redistricting data, as a consequence of Plaintiff's Motion for Preliminary Injunction before this Court." *Id.* at 2; *see also* ECF No. 10 at 38 ("As Dr. Abowd explains, were the Court to order the release of the redacted information in the records already produced, or produce unredacted the state-by-state GQCI totals, the effect on the schedule for delivering redistricting data would likely be substantial. The Census Bureau cannot ascertain the length of the delay, but [it could be] potentially for as long as six months beyond August 16, 2021." (citing First Abowd Decl. ¶¶ 75–76)).

D. Briefing of Summary Judgment Motions.

On July 29, 2021, the Court issued a Minute Order that the parties must meet and confer and propose a schedule for further proceedings. After the parties met and conferred, on August 6, 2021, the Court approved the parties' joint proposed schedule for briefing summary judgment, ECF No. 12. On September 10, 2021, Defendants filed their motion for summary judgment. ECF No. 13.

Separately, on August 2, 2021, the Census Bureau's FOIA office issued to Plaintiff a final determination in response to its FOIA request. Second Curry Decl. ¶ 19. This letter informed Plaintiff that in addition to the productions made, there were certain records responsive to their

narrowed request for imputed group quarter information, tabulated by state, that could be extracted

from a database with an appropriate query. *Id.* The letter also informed Plaintiff that those records

(52 in total, one for each of the 50 states, one for the District of Columbia, and one for Puerto Rico)

were withheld in full pursuant to FOIA Exemption 3 in conjunction with 13 U.S.C. §§ 8(b) and 9.

Second Curry Decl. ¶ 19. Additionally, some of the redacted data from the 988-page May 25

production includes state-level group quarters numbers reflecting population totals enumerated for

that state. Second Abowd Decl. ¶ 68.

Plaintiff's substantially narrowed request at this stage is simple: it now only seeks these

aggregated GQCI numbers on a statewide level.[15] The only redactions from the 988-page

production it now challenges are Defendants' redactions of such statewide totals of imputed group

quarters data.[16] To date, Defendants have refused to produce any statewide group quarters

population data in response to the modified Request, and Plaintiff has not received any of the

improperly withheld pages or redacted information from the May 25 production containing that

same data, preventing Plaintiff's access to information not exempt from disclosure under Title 13.

Second Kincaid Decl., Ex. 1 ¶ 14.

STANDARD OF REVIEW

Summary judgment is appropriate if the moving party demonstrates that "no genuine

dispute [about] any material fact" exists and that it "is entitled to judgment as a matter of law." Fed.

R. Civ. P. 56(a). When applying this standard, the court must view the evidence and draw

reasonable inferences from the underlying facts as established in the record in the light most

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[15] As noted in its counsel's May 26, 2021 email to Defendants' counsel, Plaintiff's agreement to narrow the scope of its request should in no way be construed as waiving its right to pursue the other information sought in its original request should it deem it necessary to do so later on. ECF No. 8-4 at 19–20.

[16] Redacted descriptions of internal computer file locations, individual institutions' group quarters data, are not being challenged by Plaintiff.

favorable to the non-moving party. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587-88 (1986). An issue of fact is "genuine" "if the evidence is such that a reasonable jury could return a verdict for the non-moving party" on the issue. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). An issue of fact is "material" if under the substantive law it is essential to the proper disposition of the claim. *Id.*

"When more than one party moves for summary judgment, each party must carry its own burden of proof." *Nat'l Ass'n of Home Builders of the United States v. Babbit*, 949 F. Supp. 1, 3 (1996). "On cross-motions for summary judgment, the court shall not grant summary judgment unless one of the parties is entitled to judgment as a matter of law." *Id.* When the unresolved issues are preliminarily legal, however, summary judgment is particularly appropriate. *Id.*

The moving party bears the initial burden of production on a motion for summary judgment to make a prima facie demonstration of the absence of a genuine issue of material fact and entitlement to judgment as a matter of law. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). When the moving party will also bear the burden of proof at trial, summary judgment is appropriate against the moving party if it "fails to make a showing sufficient to establish the existence of an element essential to that party's case." *See id.* at 322. In FOIA cases, "[t]he burden [of proof] is, of course, on the agency resisting disclosure." *EPA v. Mink*, 410 U.S. 73, 93 (1973) (citing 5 U.S.C. § 552(a)(3)).

ARGUMENT

I. **PLAINTIFF'S REQUESTED INFORMATION IS NOT EXEMPT UNDER TITLE 13 OF THE CENSUS ACT.**

A. **Title 13's Plain Language Protects the Confidentiality of Information Reported by Individual Respondents, Not Statewide Tabulations of Imputed Numbers— FOIA Thus Requires Disclosure of Plaintiff's Requested Information.**

"[T]he starting point for [a court's] analysis is the statutory text." *Desert Palace, Inc. v.*

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Costa, 539 U.S. 90, 98 (2003). Thus, when interpreting statutory language, "a court should always turn first to one, cardinal canon before all others. . . . courts must presume that a legislature says in a statute what it means and means in a statute what it says there." *Connecticut Nat. Bank v. Germain,* 503 U.S. 249, 253-54 (1992). Accordingly, "when the statute's language is plain, the sole function of courts—at least where the disposition required by the text is not absurd—is to enforce it according to its terms" as Congress drafted it. *Hartford Underwriters Ins. Co. v. Union Planters Bank, N.A.*, 530 U.S. 1, 6 (2000). "[I]f the statutory language is unambiguous and the statutory scheme is coherent and consistent," the court's inquiry ends there. *Barnhart v. Sigmon Coal Co.,* 534 U.S. 438, 450 (2002); *Germain*, 503 U.S. at 254 (holding that the "judicial inquiry is complete" where the words of a statute are unambiguous). Here, because the plain language of Title 13's protections does not extend to statewide tabulations of imputed data, that data is subject to mandatory disclosure under FOIA. This alone is sufficient for the Court to grant Plaintiff's motion for summary judgment, as explained further below.

    1. FOIA's strong presumption of disclosure and the plain language of Title 13 together show Plaintiff's requested data is not exempt.

As a threshold matter, "[t]he FOIA mandates broad disclosure of government records to the public, subject to nine enumerated exemptions. . . . Given the FOIA's broad disclosure policy, the United States Supreme Court has consistently stated that FOIA exemptions are to be narrowly construed." *Wolf v. CIA*, 473 F.3d 370, 374 (D.C. Cir. 2007) (internal citations and quotation marks omitted). This "strong presumption in favor of disclosure places the burden on the agency to justify the withholding of any requested documents." *Dep't of State v. Ray*, 502 U.S. 164, 173 (1991). FOIA's language and construction reflects Congress's purpose and "general philosophy of full agency disclosure unless information is exempted under *clearly delineated statutory language*." *Dep't of Air Force* v. *Rose,* 425 U.S. 352, 360-361 (1976) (quoting S. Rep. No. 813,

89th Cong., 1st Sess., 3 (1965)) (emphasis added).

Contrary to Defendants' argument, the plain language of Sections 8 and 9 of Title 13 unambiguously permits the Secretary of Commerce to release some Census data in response to FOIA requests, including "copies of tabulations and other statistical materials which do not disclose the information reported by, or on behalf of, any particular respondent," 13 U.S.C. § 8(b), as Plaintiff has explicitly requested here. By contrast, these sections expressly protect the underlying raw data originally "furnished by any particular establishment or individual" from identification, *id.* § 9(a)(2), or "individual reports," *id.* § 9(a)(3), from disclosure or publication. The statute is unmistakable in its meaning: it protects the confidentiality of personally identifiable information and raw data as originally furnished by individuals or establishments to the Census Bureau, while permitting disclosure of other tabulations and summary statistical materials that do not disclose such individual information. Principles of statutory interpretation require such provisions to be interpreted "to give effect, if possible, to every clause and word," *Duncan v. Walker*, 533 U.S. 167, 174 (2001), and to "avoid statutory interpretations that render provisions superfluous," *United States v. Anderson*, 15 F.3d 278, 283 (2d Cir. 1994). Yet Defendants' interpretation that these provisions prohibit release of all intermediate work product, or *any* responses that would create additional invariants in the Census Bureau's data set, is directly contradicted by the express statutory provisions of Title 13.

Specifically, Defendants' overbroad interpretation of Section (9)(a)(2) directly conflicts with Section 8(b)'s permitted disclosure of tabulations and other statistical materials that do not disclose personally identifiable information. Section 9(a)(2) prohibits "mak[ing] any publication" whereby personally identifiable data "*furnished* by any *particular establishment or individual*" can be identified. *Id.* § 9(a)(2) (emphasis added). Accordingly, in using this language Congress most

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naturally protected against publications of confidential personal data to third parties (or from which

confidential personal information could be readily determined by third parties), not against all

publications that the Census Bureau deems could potentially lead to the discovery of personally

identifiable information through whatever attenuated series of hypothetical future events it may

anticipate. Section 9(a)(2) must be interpreted harmoniously with its surrounding provisions, and

not so broadly as to render the rest of the statutory disclosure scheme meaningless. *See Maracich*

v. Spears, 570 U.S. 48, 68 (2013) ("The provisions of a text should be interpreted in a way that

renders them compatible, not contradictory. . . . [T]here can be no justification for needlessly

rendering provisions in conflict if they can be interpreted harmoniously.") (quoting A. Scalia & B.

Garner, Reading Law: The Interpretation of Legal Texts 180 (2012)). Adopting the Census

Bureau's expansive interpretation that any data introducing new invariants to its differential

privacy framework is automatically exempt from disclosure under Title 13 if the Census Bureau

so determines, regardless of whether that data was "furnished by any particular . . . individual,"

would permit Section 9(a)(2)'s restriction to swallow up Section 8(b)'s allowance for disclosure

of preliminary summary or tabulated data, rendering the latter provision inoperative and

meaningless in the FOIA context.

If Congress intended to create an exemption to disclosure for all preliminary Census data,

whether tabulations or raw data reported by individuals, it easily could have done so. *See generally*

Norinsberg v. U.S. Dep't of Agric., 162 F.3d 1194, 1200 (D.C. Cir. 1998) ("Had

the Congress intended to [incorporate additional statutory requirements], it could have done

so expressly."). Indeed, it would have been far simpler to create a blanket confidentiality

requirement for all intermediate data (as Defendants essentially assert) than the more detailed and

nuanced scheme the statute currently provides. But that is not what Congress did, and this Court

should not reinterpret Title 13's express language to bar public disclosure of never-before-used "group quarter imputation" numbers, nor should this Court ignore FOIA's express demands to accord with Defendants' preferred understanding of the confidentiality provisions or to prevent disclosure of *any* data that would increase the number of invariants the Bureau set for a particular Census. The judicial inquiry is thus complete on the statutory language alone, and disclosure is required.

> **2. Because Defendants fail to meet their burden of demonstrating that Plaintiff's requested information is clearly exempt under Title 13, it must be disclosed under FOIA.**

Importantly, while Section 8(b) uses discretionary, rather than mandatory, language for disclosure—"the Secretary may furnish"—FOIA *requires* that the Bureau promptly furnish any non-exempt responsive records to a FOIA request. Thus, the requested records at issue here must be promptly provided to Plaintiff. 5 U.S.C. § 552(a)(3)(A) ("[E]ach agency, upon any request for records . . . *shall* make the records promptly available to any person." (emphasis added)). Accordingly, any "tabulations and other statistical materials which do not disclose the information reported by, or on behalf of, any particular respondent" must be turned over to Plaintiff in accordance with its FOIA request, even if that release increases the number of invariants in Defendants' data set. Where there is no credible risk that underlying raw data will be identified because of disclosure, FOIA and Title 13 in conjunction do not leave room for agency discretion when it comes to withholding such summary statistical materials from a FOIA requester.

By contrast, adoption of Defendants' interpretation of these statutes would mean that the agency would enjoy full, unchecked discretion over what data it turns over in response to FOIA requests. As long as the Bureau determines that there is a risk of ultimate disclosure through database re-identification or reconstruction, no matter how small or attenuated, Defendants

maintain the Bureau's decision must be deferred to. The plain meaning of FOIA and Title 13 stand

for a contrary proposition: because Title 13 allows for disclosure of statewide totals of imputed

group quarters data as Plaintiff requests, Defendants must disclose that data pursuant to FOIA.

Even if this Court determines that Title 13 is ambiguous regarding whether Plaintiff's

requested data is protected against disclosure, Defendants still bear the burden of demonstrating

that the requested data is clearly exempt under Title 13. FOIA Exemption 3 permits information

to be withheld under a statutory exemption if the statute "*requires* that the matters [i.e., the

requested information] be withheld from the public in such a manner *as to leave no discretion* on

the issue" for the agency. 5 U.S.C. § 552(b)(3)(A)(i) (emphasis added).[17] Because at a minimum

it cannot be said that the language Title 13 so clearly "requires" Defendants to withhold all imputed

statewide group quarters data "as to leave no discretion" for the agency to decide whether it could

be released at all, Defendants' argument still fails under the best-case scenario for them.

Accordingly, whether Title 13 clearly allows the data to be disclosed as Plaintiff contends, or

whether it is ambiguous regarding whether imputed statewide data is protected, the result is the

same: Defendants must produce Plaintiff's requested data in either event.

B. Defendants' Interpretation of Title 13 is Inconsistent with Controlling Caselaw.

As controlling caselaw demonstrates, Section 8(b) of the Census Act permits the Secretary

of Commerce to "furnish copies of tabulations and other statistical materials which do not disclose

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[17] The other basis for withholding information under Exemption 3, that the statute "establishes particular criteria for withholding or refers to particular types of matters to be withheld," 5 U.S.C. § 552(b)(3)(A)(ii), is inapplicable here because Title 13 says nothing about particular criteria for the agency to determine the parameters of when any "publication whereby the data furnished by any particular establishment or individual under this title can be identified," 13 U.S.C. § 9(a)(2), nor does it refer to "particular types of matters" like imputed data or group quarters data that must be categorically must be withheld. This is likely why Defendants only argue the first basis for Exemption 3 throughout their summary judgment brief. *See* ECF No. 13-1 at 6; *see also* Defs.' SOF ¶ 59.

information reported by, or on behalf of, any particular respondent." *In re England*, 375 F.3d 1169,

1178 (D.C. Cir. 2004) (citation omitted); *see also* 14 Am Jur 2d Census § 9 ("The Secretary of

Commerce may also furnish copies of tabulations and other statistical materials which do not

disclose the information reported by, or on behalf of, any particular respondent, and may make

special statistical compilations and surveys for . . . private persons . . . upon payment of the actual

or estimated cost of such work."); *Baldrige v. Shapiro*, 455 U.S. 345, 354-55 (1982) (holding that

while "the Secretary [of Commerce] *may* furnish copies of tabulations and other statistical

materials which do not disclose the information reported by, or on behalf of, any particular

respondent," "raw data *reported by or on behalf of individuals* [is] . . . not available for disclosure"

(emphasis added)).

The D.C. Circuit has addressed the question of what data can be disclosed under Title 13.

It held that Sections 8(b) and 9(a) permit the Secretary of Commerce to provide "private persons"

with "tabulations and statistical materials of a *numerical* nature" in response to FOIA requests,

while excluding "names and addresses of specific individuals or firms reporting data to the Census

Bureau" for purposes of protecting privacy of individual respondents. *Seymour v. Barabba*, 559

F.2d 806, 809 (D.C. Cir. 1977) (emphasis added). As the Court further explained:

> While a list of names and addresses might be considered to be a "tabulation," yet
> this would be contrary to the usual understanding. Our understanding of a
> "tabulation" is a *computation to ascertain the total of a column of figures*, or
> perhaps counting the names listed in a certain group, rather than supplying the
> individual names and addresses. This interpretation is made even clearer by the
> reference in subsection 8(b) to "tabulations and other statistical materials."
>
> We think the authority of the Secretary here to disclose is an authority to disclose
> numerical statistical data which does not identify any person, corporation, or entity
> in any way. *Totals*, perhaps *subtotals* and *divisions by categories*, but nevertheless
> merely *numerical* figures are within this meaning. Individual names and addresses
> are not.

Id. (emphasis added). Here, because Plaintiff seeks statewide "totals" (*i.e.*, computations of total

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imputed group quarters data) and statistical materials "of a numerical nature," *id.*, and this data in no way includes or discloses personally identifiable information from underlying data reported by individuals (because there is no underlying individual data for imputed numbers), Plaintiff's requested imputed data is not exempt from disclosure by the Census Act and must therefore be produced. 5 U.S.C. § 552(a)(3)(A) ("[E]ach agency, upon any request for records . . . *shall* make the records promptly available to any person." (emphasis added)).

Defendants rely on the Supreme Court's review of the legislative history in *Baldrige v. Shapiro* to support their contention that Title 13 exempts essentially limitless swaths of summary-level data from disclosure, thereby exempting the statewide GQCI data responsive to Plaintiff's FOIA request. ECF No. 13-1 at 24.[18] *Baldrige*, however, bolsters Plaintiff's argument that because the data being withheld by Defendants is not raw census data, and indeed does not even aggregate or summarize raw census data, it is ineligible for exemption from FOIA's disclosure requirements. In *Baldrige*, a county requested disclosure of the Census Bureau's master address register, "a listing of such information as addresses, householders' names, number of housing units, type of census inquiry, and, where applicable, the vacancy status of the unit." 455 U.S. at 349. At issue was whether the register was exempt from disclosure under Exemption 3 and Title 13 sections 8(b)

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[18]As Defendants concede, the Supreme Court in *Baldrige* did not address the question raised in this litigation. ECF No. 13-1 at 25. Nevertheless, Plaintiff agrees that the legislative history cited therein and relied on by Defendants is instructive here because it clearly indicates Congressional intent behind Title 13 to protect the "confidentiality of data reported *by individuals*," 455 U.S. at 356 (emphasis added), which data is not implicated by GQCI data because imputed data was invented by Defendants because of the *absence of data reported by individuals*. *See* Ruggles Report, Ex. 2, App'x A at 3. Defendants have failed to put forward any plausible explanation of how individual data is implicated by the release of such statewide totals of imputed data, and instead ask this Court to take them at their word because their expert, Dr. Abowd, asserts without support that individually reported data could be at risk. In fact, Professor Ruggles' published research shows that the conclusions reached by Dr. Abowd are wrong. *See The Role of Chance in the Census Bureau Database Reconstruction Experiment*, https://link.springer.com/article/10.1007/s11113-021-09674-3 (last accessed on Sept. 29, 2021).

and 9(a), the former of which directs the Secretary to "not disclose the information reported by, or on behalf of, any particular respondent" and the latter of which prohibits publication "whereby the data furnished by any particular establishment or individual under this title can be identified." Such census responses or identifying information are considered raw census data exempt from disclosure. *Id.* Despite being "compiled initially from commercial mailing address lists and census postal checks," the master address register in *Baldrige* "was updated from data obtained from neighbors and others who spoke with the follow-up census enumerators," meaning it "include[d] data reported by or on behalf of individuals." *Id.* at 358–59. As such, the Court held that the register included raw census data and therefore fell under section 8(b)'s exemption from disclosure.

Defendants' reliance on *Seymour v. Barabba* fares no better. In *Seymour*, the D.C. Circuit reviewed a FOIA request for Census Bureau data including the names and addresses of certain companies. The court held that not only is such information clearly exempt under Title 13, section 9(a)'s prohibition on releasing identifying information, but also that it is separate from the "tabulations and other statistical materials which do not disclose the information reported by, or on behalf of, any particular respondent" that the Secretary may produce under section 8(b). *Seymour*, 559 F.2d at 808-09. In drawing this distinction, the court clarified that Title 13 requires courts to treat individualized identifying information differently from higher-level computations and summaries that do not implicate the same privacy concerns. *See id.*

Taken together, *Baldrige* and *Seymour* establish that information provided directly by census participants and identifying information such as names and addresses are both exempt from disclosure under Exemption 3 and Title 13 sections 8(b) and 9(a). Plaintiff's modified Request at issue here, however, asks for neither kind of raw data, nor even for summaries or *tabulations* of such raw data. Instead, the Request seeks state-level summaries and tabulations imputed *separately*

from raw census data (keeping in mind that imputed data contains *no* individual census responses), which is even further than the kind of higher-level analytical information that the *Seymour* court described as being not exempt under Title 13. Defendants' attempts to cast such aggregate, non-individualized information as exempt from disclosure because of recent advancements in technology is without support in the courts' interpretations of these exemptions. The imputed data here do not even come close to implicating the same concerns regarding confidentiality of individual participants' responses at issue in those cases, as by its very nature this data is not derived from individuals' responses to Census questions, but rather is created in the absence of such responses. *See* Ruggles Report, Ex. 2, App'x A at 3 ("The data were not furnished by anyone, which is the reason that the Census Bureau had to invent it by means of imputation. Because the units were never counted, the Census Bureau was forced to guess the number of persons in each unit using a new methodology[.]"). The D.C. Circuit's opinion in *Seymour* particularly indicates that the law treats such data as distinct from identifying information found in raw data, undermining Defendants' attempt to conflate the two types of data, and further bolstering Plaintiff's case for disclosure under FOIA.

Binding caselaw thus supports that, contrary to Defendants' sweeping and unprecedented interpretation of Title 13, Plaintiff is entitled to the imputed group quarters totals sought in its Request.

C. Disclosure of Statewide Imputed Group Quarters Data Poses No Threat to Individual Privacy or Confidentiality Protected by Title 13.

Notwithstanding Title 13's plain language, confirmed by controlling caselaw, Defendants insist that this Court should interpret Title 13's confidentiality provisions to respond to recent technological advances and computing power that pose a new, heightened risk of "reverse-engineer[ing] releases of aggregated data to identify individual data" that did not exist before. ECF

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No. 13-1 at 26. Defendants argue that even if this data may seem "innocuous in a vacuum," disclosure of data in response to various FOIA requests would "leave the 2020 Census DAS vulnerable to death by a thousand cuts from FOIA requesters seeking data that . . . in the aggregate would likely destabilize the DAS." *Id.* at 8. This argument fails, however, because as Plaintiff's expert report of Professor Steven Ruggles demonstrates, disclosure of statewide imputed group quarters data poses no threat to confidentiality of individual responses, whether in combination with other data through the "mosaic effect," *see* ECF No. 13-1 at 30, or otherwise. Ruggles Report, Ex. 2, App'x A at 2–6. No computer is powerful enough to reverse-engineer individual data that did not exist in the first place.[19] Without this critical piece of Defendants' argument (i.e., the serious threat that publication of the requested data threatens identification of individual responses), the foundation of Defendants' argument collapses. On this basis alone, Plaintiff is entitled to judgment as a matter of law, and Defendants' motion for summary judgment should be dismissed.

     1. Defendants' conjecture about the threat of re-identification and reconstruction attacks from disclosure of state-level imputed group quarters data is unsupported and without merit.

Relying on the conclusory statements of the Census Bureau's chief scientist, John Abowd,[20] Defendants speculate that "[t]he disclosure of the data withheld in this case unobscured

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[19] Although Defendants' response to other future FOIA requests may impermissibly risk disclosure of confidential individual data, that question is not before the Court, and thus has no bearing on this Court's determination of whether Plaintiff's Request does so.

[20] Such conclusory assertions from Dr. Abowd's declaration regarding individuals' confidentiality that might eventually be violated from this disclosure in combination with future unknown disclosures of data are insufficient to meet Defendants' burden on summary judgment. In reviewing this Court's decision on a cross-summary judgment motion in a FOIA case, the D.C. Circuit determined that the CIA's response with a "single, conclusory affidavit . . . [was] insufficient to carry the CIA's burden on summary judgment to prove that no substantial and material facts are in dispute and that it is entitled to judgment as a matter of law." *Morley v. CIA*, 508 F.3d 1108, 1122 (D.C. Cir. 2007) (cleaned up); *see also Matta v. Snow*, Civil Action No. 02-862 (CKK), 2005 U.S. Dist. LEXIS 36194, at *66 (D.D.C. Dec. 16, 2005) (finding that an affidavit

by disclosure avoidance techniques would [introduce] another [group quarters population] invariant. . . . [t]hat would expose a chink in the 2020 Census [Disclosure Avoidance System's] confidentiality armor, which in turn would leave data vulnerable to re-identification and reconstruction in violation of Title 13's confidentiality provisions." ECF No. 13-1 at 27. Specifically, Defendants argue that the data would be left vulnerable because of the "mosaic effect" whereby an attacker can piece together disparate information from multiple sources to recover confidential information. Id. at 30. Defendants are mistaken in their assertion that introduction of a group quarters population introduces an invariant that poses a risk of re-identification or reconstruction of individual responses.[21] As Professor Ruggles explains, "[i]nformation about imputation . . . would not add to the list of invariants, since the group quarters population counts would still have noise infusion; knowing about the size of the imputed population would not allow anyone to infer the true size of the group quarters population." Ruggles Report, Ex. 2, App'x A at 5. In other words, because the *imputed* population by definition does not reveal the size of the actual group quarters population, it is the same as any other data where statistical noise was introduced for purposes of differential privacy, disqualifying it from categorization as a true population invariant for purposes of disclosure avoidance. *Id.*

Defendants, in reliance on Dr. Abowd's declaration, also assert that the "release of state-level summaries can compromise these protections, most easily in the case of small states or for

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is "worthless in the summary judgment context" where it relies on the affiant's "purported belief based on his own speculation"); *Fitzgerald v. Corrections Corp. of Am.*, 403 F.3d 1134, 1143-45 (10th Cir. 2005) ("[C]onclusory allegations without specific supporting facts have no probative value" and a conclusory affidavit is "insufficient to support summary judgment.") (internal citations and quotations omitted).

[21] While Plaintiff does not dispute that disclosure of imputed statewide GQCI data may contravene "the Census Bureau's established disclosure avoidance rules," *id.* at 29, that is not the test for whether information is protected from disclosure under Title 13.

less common types of group quarters facilities." ECF No. 13-1 at 31. Defendants offer only one

concrete example of how disclosing state-level summaries of imputed population data can

jeopardize the confidentiality of the actual population:

> For example, if there were only one of particular type of group quarters facility
> within a geographic area (e.g., a single military/maritime vessel within a state), then
> unprotected state-level GQCI statistics for that type of group quarters could easily
> be leveraged to undermine the disclosure protections afforded to the tabulated
> Census data for that GQ in the published census data products, thus exposing the
> personal information of the facility's residents.

ECF No. 13-1 at 31–32 (citing Second Abowd Decl. ¶ 72). However, as Professor Ruggles states

from his own independent analysis, "[t]his far-fetched scenario actually poses zero disclosure

risk." Ruggles Report, Ex. 2, App'x A at 4. Professor Ruggles offers the following explanation:

> Even if it were somehow possible to infer the number of imputed cases in a
> particular group quarters unit, that would in no way compromise the disclosure
> guarantees of Title 13. If we knew, for example, that the GQCI added 42 persons
> to a vessel in Delaware, that information could not possibly reveal any particular
> person's identity or individual census responses; these imputed cases do not
> describe actual people, but rather they are invented to substitute for actual data on
> people that is not available.

Id. Accordingly, "it would not be possible for the data from particular respondents (whether

establishments or individuals) to be identified from the release of the state-level *imputed* data the

Plaintiff requests here." *Id.* Professor Ruggles concludes that any "assertion that the 2020 Census

data will be left vulnerable to reconstruction and/or re-identification attacks by malicious intruders

is [] without merit" because Plaintiff's requested data "could not conceivably pose a risk of

disclosing information about any particular individual or establishment in the real world." *Id.*

Defendants also contend that in withholding Plaintiff's requested data, they are also

fulfilling their duty as a federal agency under the Office of Management and Budget's ("OMB")

Memorandum M-13-13 "to consider the risks of the mosaic effect when performing their

disclosure reviews . . . to determine whether some combination of existing data and the data

intended to be publicly released could allow for the identification of an individual or pose another security concern." ECF No 13-1 at 30 (citing Second Abowd Decl. ¶ 68). However, this argument similarly fails because the OMB's rule "does not apply" in this case because "[t]he number of imputed group quarters residents is not 'potential PII or other potentially sensitive information,' since it does not describe the actual characteristics of any person or establishment." Ruggles Report, Ex. 2, App'x A at 5.

2. **Congress and this Court determine what information is protected by Title 13 and subject to disclosure under FOIA, not the Census Bureau or its expert.**

Defendants cite a Ninth Circuit case in support of their proposition that because statistical methodologies may disagree in this area, and the Census Bureau has "expertise in the collection and analysis of statistical information," the Court should defer to John Abowd's expert judgment and determination of what data must not be disclosed to protect individual privacy. *See* ECF No. 13-2 at 32–33 (citing *City of L.A. v. U.S. Dep't of Commerce*, 307 F.3d 859, 876 (9th Cir. 2002)). Defendants essentially argue that because Dr. Abowd is the lead expert of the agency with the greatest expertise on this issue, he should have unchecked authority to determine what information is protected from disclosure under Title 13. *See id.* Besides the manifest absurdity of such an approach to interpreting confidentiality provisions of statutes, the Ninth Circuit's reasoning is distinguishable because there it applied to the court's application of the Administrative Procedure Act to determine whether the Secretary of Commerce's decision was arbitrary and capricious, which could only be found if the agency's decision was "so implausible that it could not be ascribed to a difference in view or the product of agency expertise," *id.* at 874, a highly deferential standard.

By contrast, here no such deference is merited for the agency's expert's interpretation of Title 13's protections. As the D.C. Circuit has determined, "each courtroom comes equipped with

a 'legal expert,' called a judge, and it is his or her province alone to [determine] legal standards." *Burkhart v. Washington Metropolitan Area Transit Authority*, 112 F.3d 1207, 1213 (D.C. Cir. 1997). Accordingly, although "an expert may offer his opinion as to facts that, if found, would support a conclusion that the legal standard at issue was satisfied," that expert "may not testify as to whether the legal standard has been satisfied." *Id.* at 1212–13. Yet that is exactly what happened with Defendants' statement of material facts in reliance on Dr. Abowd's declaration of what he deems Title 13 requires. In addition to his rampant, unsupported speculation about the dangers of disclosing imputed group quarters data, Dr. Abowd's declaration "clearly contains impermissible legal conclusions" about what Title 13 requires, which is the "legal issue at the heart of the parties' respective motions for summary judgment." *United States ex rel. El-Amin v. George Wash. Univ.*, Civil Action No. 95-2000 (JGP), 2005 U.S. Dist. LEXIS 18900, at *4–5 (D.D.C. Aug. 29, 2005). Defendants in turn cite these legal conclusions in their separate statement of material facts, couching them as undisputed "facts." *See, e.g.*, Defs.' SOF 66, 80, 86–87, 90–92, 99–102, 105. However, such "statements of fact" amount to nothing more than "impermissible conclusion[s] that the legal standard in fact had been [satisfied]." *El-Amin*, 2005 U.S. Dist. LEXIS 18900 at *5. This Court should not give them the controlling weight that Defendants wrongly contend is required by the statute.

Defendants also cite several FOIA national security cases to support their contention that this Court should simply defer to Dr. Abowd's declaration because he has invoked the "mosaic" theory of harm (which is frequently argued in national security cases) in a census-related dispute. Memorandum in Supp. of MSJ, ECF No. 13-1 at 27 (citing *Ctr. for Nat'l Sec. Studies v. DOJ*, 331 F.3d 918, 927-28 (D.C. Cir. 2003)). While it is true that "in the FOIA context, [courts] have consistently deferred to executive affidavits predicting harm to national security," *ACLU v. United*

States DOD, 628 F.3d 612, 624 (D.C. Cir. 2011), this narrow line of caselaw is limited to the

specific context of FOIA's national security exemption, FOIA Exemption 1 (5 U.S.C. § 552(b)(1)),

where the "danger [of disclosure] is particularly grave," *Fensterwald v. CIA*, 443 F. Supp. 667,

669 (1977). While this heightened deference has been extended to cases involving Exemption 3

that incorporate the National Security Act of 1947, which requires the CIA Director to protect

"intelligence sources and methods" from unauthorized disclosure, *see Halperin v. CIA*, 629 F.2d

144 (D.C. Cir. 1980) (citing 50 U.S.C § 403-3(c)(7)), this heightened deference has not been

extended to apply to an agency's invocation of Title 13 (pursuant to Exemption 3) for protecting

confidentiality of census data, much less for protecting aggregate imputed group quarters data.

Defendants similarly suggest that deference to Dr. Abowd is appropriate here because this

case implicates a carefully-crafted disclosure avoidance system where "experts on statistical

methodologies may disagree," *see* ECF No. 13-1 at 32–33, and courts lack the necessary expertise

to second-guess the agency's opinion here, *see id.* at 32. These points are also refuted by Professor

Ruggles in his report when he explains that

> [d]espite the obfuscating and highly technical arguments offered by the Census Bureau, this is not in fact a highly technical question in which different experts on statistical methodologies may simply disagree. At its core, the concept is actually very simple: no statistical expertise is needed to understand the basic logical point that aggregate numbers comprised entirely of data that *was not* provided by an establishment or individual in the first place cannot later be used to identify data that *was* provided by an establishment or individual.

Ruggles Report, Ex. 2, App'x A at 5-6. Thus, although the intricacies of the Census Bureau's

disclosure avoidance system and use of differential privacy are undoubtedly complex, and

Defendants clearly seek to benefit from that complexity for purposes of this litigation, the

dispositive issue of this case (*i.e.*, whether confidentiality of individual responses is threatened by

release of state-wide imputed group quarters data) is simple both as a matter of law and of logic.

Contrary to Defendants' assertions, this Court is more than capable of determining whether Plaintiff's requested records fall within the scope of information protected by Title 13.

Defendants' reliance on *Wisconsin v. City of New York*, 517 U.S. 1, 23 (1996) to argue that this Court must defer to Dr. Abowd's expertise is equally unavailing. *See* ECF No. 13-1 at 32–33. True, the Constitution does bestow "wide discretion [over *apportionment decisions* and the *conduct of the census*] upon Congress, and by Congress upon [the Secretary of Commerce.]" *Wisconsin*, 517 U.S. at 23. However, besides the fact that *Wisconsin* was not a FOIA case and had nothing to do with Title 13, Defendants fail to grapple with the full implications of that case: it is *Congress* that is the source of the discretion Secretary enjoys over the conduct of the census, and Congress here has spoken clearly through both Title 13 and FOIA. Specifically, in enacting Title 13, Congress created a scheme permitting disclosure of any Census "tabulations and other statistical materials" that do not reveal information reported by individual respondents, and FOIA requires the Secretary to disclose all such information that does not fall under a specific exemption. 5 U.S.C. § 552(a)(3)(A) ("[E]ach agency, upon any request for records . . . shall make the records promptly available to any person."). Congress enjoys wide discretion under the Constitution to prevent disclosure of all preliminary Census data, or alternatively to grant the Secretary full discretion to determine what kinds of data is subject to protection in the implementation of its disclosure avoidance procedures. Instead, Congress has clearly delineated the boundaries of what kinds of data the Secretary can and cannot publish under Title 13. Nowhere did Congress give the Census Bureau discretion to rewrite the statute and eliminate disclosure of any data that it deems unacceptable due to the introduction of additional "invariants" to its complex disclosure avoidance system, especially where such information poses no threat of identification of particular establishments' or individuals' raw data.

Of equal importance, "[i]n enacting FOIA, Congress struck the balance it thought right—generally favoring disclosure, subject only to a handful of specified exemptions—and did so across the length and breadth of the Federal Government." *Milner v. Dep't of the Navy*, 562 U.S. 562, 571 n.5 (2011). These "limited exemptions do not obscure the basic policy [of Congress] that disclosure, not secrecy, is the dominant objective of the Act." *John Doe Agency v. John Doe Corp.*, 493 U.S. 146, 152 (1989). Accordingly, "[t]he judicial role is to enforce that congressionally determined balance rather than . . . to assess case by case, department by department, and task by task whether disclosure interferes with good government." *Milner*, 562 U.S. at 571 n.5. Rather than wading into the various policy arguments that Defendants put forward regarding the necessity of preventing disclosure to implement their differential privacy scheme most effectively, this Court should limit its role to enforcing the laws as Congress enacted them. As discussed above, FOIA provides that unless a statutory confidentiality requirement (like Title 13) is so clear that it "leave[s] no discretion on the issue" of disclosure of records by the agency, 5 U.S.C. § 552(b)(3)(A)(i), those records are not properly exempt under Exemption 3. Because, at a minimum, Title 13 does not clearly *prohibit* disclosure of Plaintiff's requested state-level imputed data, this Court should require disclosure here in accordance with what FOIA dictates and the congressional policy favoring disclosure.

    3. Contrary to the Census Bureau's determination that it cannot release imputed data based on results of its experiment on re-identification attacks, release of Plaintiff's requested data poses no credible threat to confidentiality.

Finally, Dr. Abowd asserts in his declaration that "[t]he results from the Census Bureau's 2016-2019 research program on simulated reconstruction-abetted re-identification attack were conclusive, indisputable, and alarming," Second Abowd Decl. ¶ 40, which ultimately led to the Bureau's position that it cannot release any actual counts of any data (whether real or invented),

except for its few pre-determined invariants, due to the threat of database reconstruction and reidentification, *see* Ruggles Report, Ex. 2, App'x A at 4–5. However, as Professor Ruggles states in his report, "[m]y own analysis found that the Census Bureau's experiment failed to demonstrate a credible threat to confidentiality of individual responses." *Id.* at 6. To the contrary, Professor Ruggles concludes that "we can be confident that malicious intruders pose no realistic threat of harm if the imputed group quarters counts were publicly disclosed at the state *or even sub-state level*." *Id.* (emphasis added). Because there is no realistic threat to individual privacy from release of imputed group quarters data at the *sub-state level*, any threat from releasing only state-level imputed data is virtually non-existent.

Accordingly, because disclosing state-level imputed GQCI data poses no risk to confidentiality of individual (or establishment) census responses, Defendants' interpretation of Title 13 fails as a matter of law. Although Defendants ultimately bear the burden of establishing that the requested information is protected from disclosure under Title 13, they fail to meet their burden of proof for the reasons outlined above. Defendants' total reliance on conclusory determinations of their expert John Abowd, without additional support, as well as their effort to couch these legal conclusions as undisputed factual statements, is inadequate to demonstrate that they are entitled to judgment as a matter of law.[22] For these reasons, Defendants' motion for

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[22] In the alternative, however, if this Court determines that Dr. Abowd's assertions about potential threats to confidentiality of individual responses from the disclosure of this data do qualify as material facts rather than mere statements of opinion or legal conclusions, Plaintiff disputes these "facts" based on the analysis from the report of its own expert, Professor Steven Ruggles. *See* Ruggles Report, Ex. 2, App'x A. Because a genuine issue of fact would then exist under these circumstances regarding the factual question of whether individual privacy is implicated by the release of imputed state-wide group quarters data, Plaintiff would require an opportunity to conduct additional discovery, including deposing Dr. Abowd because his opinion from his declaration provides the full basis and support for each of Defendants' "statements of fact" about the risks to Defendants' disclosure avoidance system. Plaintiff would then challenge these asserted facts with its own expert's testimony and through additional discovery. *See CREW v. U.S. Dep't of Justice*, 2006 U.S. Dist. LEXIS 34857, at *7-*8 (D.D.C. 2006) (observing that discovery can be

summary judgment must therefore be dismissed. Furthermore, because there is no genuine issue

regarding Plaintiff's entitlement to its requested information, Plaintiff's cross-motion for summary

judgment should be granted.

CONCLUSION

Because there is no genuine issue of material fact, the plain language of Title 13 and FOIA

requires disclosure of Plaintiff's requested information, and disclosure of imputed state-wide

group quarters data does not threaten the confidentiality of individual census responses in the way

Defendants contend, this Court should grant Plaintiff's Cross-Motion for Summary Judgment and

deny Defendants' Motion for Summary Judgment.

Dated: October 1, 2021

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Respectfully submitted,

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granted in a FOIA case "when a factual dispute exists and the plaintiff has called the affidavits submitted by the government into question"); *Local 3, Int'l Bhd. of Elec. Workers v. NLRB*, 845 F.2d 1177, 1179 (2d Cir. 1988) ("Discovery in a FOIA action is permitted in order to determine . . . *whether [the documents] withheld are exempt from disclosure*." (emphasis added)).

CERTIFICATE OF SERVICE

I do hereby certify that, on this 1st day of October 2021, the foregoing Statement of Points and Authorities in Support of Plaintiff's Combined Opposition to Defendants' Motion for Summary Judgment and Cross-Motion for Summary Judgment was filed electronically with the Clerk of Court using the CM/ECF system. The system instantaneously generated a Notice of Electronic Filing which served all counsel of record.

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**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

FAIR LINES AMERICA FOUNDATION, INC.,
 	
            Plaintiff,
 	
 v.
 	
 UNITED STATES DEPARTMENT OF COMMERCE and UNITED STATES BUREAU OF THE CENSUS,
 	
            Defendants.
	Case No. 1:21-cv-1361-ABJ
	
	 PLAINTIFF'S COMBINED STATEMENT OF MATERIAL FACTS NOT IN GENUINE DISPUTE AND RESPONSE TO DEFENDANTS' STATEMENT OF MATERIAL FACTS NOT IN GENUINE DISPUTE

Pursuant to Local Civil Rule 7(h) of the U.S. District Court for the District of Columbia, Plaintiff Fair Lines America Foundation, Inc. ("Fair Lines") through undersigned counsel, respectfully submit this Combined Statement of Material Facts Not in Genuine Dispute in support of Plaintiff's Cross-Motion for Summary Judgment and Response to Defendants' Statement of Material Facts Not in Genuine Dispute ("Defs' SOF"), ECF No. 13-2, in this Freedom of Information Act ("FOIA") case.

PLAINTIFF'S STATEMENT OF MATERIAL FACTS NOT IN GENUINE DISPUTE

I.   PLAINTIFF'S FOIA REQUEST

1.   On February 19, 2021, Plaintiff Fair Lines America Foundation, Inc. ("Fair Lines") submitted a FOIA request to the Census Bureau ("the February 19 Request"). Compl., Ex. A, ECF No. 1; Defs' SOF ¶ 1, ECF No. 13-2.

2.   On February 22, 2021, the Census Bureau acknowledged receipt of the February 19 Request and stated that the search for responsive records would be initiated. The Bureau

assigned it the tracking number DOC-CEN-2021-000987. Compl., ¶ 17.

3. On March 12, 2021, Fair Lines received a response from the Census Bureau's

4. Chief FOIA Officer, Vernon E. Curry, denying the production of all records sought in

the February 19 Request pursuant to the exemption under 5 U.S.C. § 552(b)(3) and the

confidentiality provision of 13 U.S.C. § 9. Compl., Ex. B.

5. In response to the March 12, 2021 Denial of the February 19 Request, on March 31,

2021, Fair Lines submitted a new FOIA request to the Census Bureau ("the Request")

which is the subject of this Complaint. Compl. Ex. C; Second Declaration of Vernon E.

Curry ("Second Curry Decl."), ECF No. 13-4 ¶ 5.

6. Plaintiff's Request sought:

All summaries, "tabulations[,] and other statistical materials," 13 U.S.C. § 8(b),
derived from, summarizing, and/or otherwise relating to the original underlying
group quarters population data for Census Day, April 1, 2020, received in
responseto the Census Bureau's 2020 Group Quarters Enumeration questionnaire
regardinginstitutional living facilities or other housing facilities. In requesting
thesesummaries, "tabulations[,] and other statistical materials," we do not seek
disclosure of the underlying raw group quarters population data itself as
originally"reported by, or on behalf of, any particular respondent" to the Bureau,
13 U.S.C. § 8(b), nor do we seek any "publication whereby the data
furnished by anyparticular establishment or individual under this title can be
identified," 13 U.S.C. § 9(a)(2); instead, we seek records *deriving from* or
summarizing the originally reported raw data, and/or records with data that has
been *reformulated* or *repurposed* by the Bureau in a form such that the
underlying data can no longer be identified with a particular establishment or
individual. For instance, anystatewide aggregate total group quarters population
tabulations of data that exclude, omit, or redact the original group quarters
numbers as reported by, or on behalf of,individual institutions (i.e., tabulations
where the Bureau excluded the underlyingindividualized raw data, or where
such data can be redacted from the tabulationswhile producing the aggregate
population totals) would be responsive to this request.

Compl., Ex. C.

7. The Request also included an application for expedited processing pursuant to 5 U.S.C.

§ 552(a)(6)(E)(ii)-(iii) and 15 C.F.R. § 4.6(f) and an application for a fee waiver or limitation of fees. *Id.*

8.   On April 7, 2021, having received no confirmation that the Request was received by the Census Bureau, Plaintiff's counsel sent an email to the Census Bureau inquiring regarding the status of the Request. Compl. Ex. D. In response, Plaintiff received automated email messages notifying it that the Request had been assigned tracking number DOC-CEN-2021-001311. Second Curry Decl. ¶ 5.

9.   On April 13, 2021, the Bureau acknowledged the Request had been received and the Bureau's search was underway, and indicated that the tracking number for Commerce had been closed as duplicative, and that if there was any action Commerce needed to take to respond to the request assigned tracking number DOC- CEN-2021-001311, the Census Bureau would work directly with Commerce. *See* Compl., Ex. F.

II.   THE INSTANT LITIGATION

10.   Fair Lines filed the Complaint at issue in this litigation on May 18, 2021, seeking declaratory and injunctive relief. Compl.

11.   Defendants filed their Answer on June 21, 2021. Answer, ECF No. 7.

12.   On June 22, 2021, the Court issued a Minute Order requiring Defendant to either file a dispositive motion or a report setting forth the schedule for completion of its production of documents to Plaintiff on or before July 20, 2021. Defs' SOF ¶ 12.

13.   On July 19, 2021, Fair Lines filed a motion for preliminary injunction, in which it sought an order requiring Defendants "to produce all responsive non-exempt records and data improperly withheld from the May 25 production within 10 days of the date of the Court's Order, or before August 15, 2021, whichever is earlier." Fair Lines' Mot. for Preliminary

Inj. at 1, ECF No. 8.

14.   In its motion for preliminary injunction, Fair Lines also requested that the Court order

        Defendants to "produce all non-exempt responsive records and data from Defendants'

        identified potentially responsive emails (that have not yet been produced to Plaintiff) as

        soon as practicable, and order Defendants to produce a *Vaughn* Index specifically

        describing in detail each record and portion thereof withheld as exempt within the same

        timeframe." *Id*.

15.   On July 20, 2021, Defendants filed a status report in accordance with this Court's June

        22, 2021 Minute Order, updating the Court on negotiations to narrow the scope of

        Plaintiff's Request, and indicating that Defendants opposed Plaintiff's motion for

        preliminary injunction as procedurally improper. Defs.' Status Report ¶¶ 8-9, ECF No. 9.

16.   On July 26, 2021, Defendants filed their opposition to Fair Lines' preliminary injunction

        motion. Defs.' Opp'n, ECF No. 10.

17.   On July 28, 2021, Fair Lines filed a notice stating that it was withdrawing its preliminary

        injunction motion. ECF No. 11.

18.   On July 29, 2021, the Court issued a Minute Order that the parties must meet and confer

        and propose a schedule for further proceedings.

19.   After meeting and conferring, on August 6, 2021, the parties filed a Joint Proposed

        Briefing Schedule. ECF No. 12. That same day, the Court issued a Minute Order

        containing the following briefing schedule/deadlines:

        - Defendants' motion for summary judgment: September 10, 2021
        - Plaintiff's combined opposition and cross-motion for summary judgment: October 12, 2021
        - Defendants' combined reply and opposition to the cross-motion: October 22, 2021.
        - Plaintiff's cross-reply: November 12, 2021.

20.   On September 10, 2021, Defendants filed a motion for summary judgment. ECF No. 13.

III.   DEFENDANTS' RESPONSE TO PLAINTIFF'S REQUEST AND PLAINTIFF'S NARROWING OF THE SCOPE OF THE REQUEST

21.   On May 25, 2021, Defendants sent a letter (dated May 24, 2021) to Plaintiff's counsel partially granting and partially denying Plaintiff's FOIA request, providing Plaintiff with 988 pages of redacted responsive records that were created between March 31, 2020 and December 31, 2020. Fair Lines' Mot. for Preliminary Inj., Ex. 4; Second Curry Decl. ¶ 9. Defendants indicated that redactions and withholdings were made pursuant to FOIA Exemptions 3 and 5, 5 U.S.C. §§ 552(b)(3) and (b)(5), Second Curry Decl. ¶ 10, including information Defendant claimed was protected by "Title 13, United States Code, Section 9," Fair Lines' Mot. for Preliminary Inj., Ex. 4.

22.   The redacted production did not, however, indicate the specific basis for each redaction. Second Curry Decl. ¶ 11.

23.   On May 26, 2021, after both parties conferred in a telephonic meeting, Plaintiff's counsel agreed to narrow the scope of the remaining email search to "all responsive emails sent or received between March 31, 2020 and March 31, 2021," *see* Fair Lines' Mot. for Preliminary Inj., Ex. 3, ECF No. 8-4 at 19–20.

24.   In that email, Plaintiff's counsel stated that Fair Lines is seeking "only *aggregated* numbers on a statewide or county-wide level" that were counted as a result of group quarters imputation procedures. *Id.* Plaintiff's counsel also stated that Plaintiff was not requesting any exempt "underlying raw group quarters population data as originally 'reported by, or on behalf of, any particular respondent' to the Bureau," *id.* (quoting 13 U.S.C. § 8(b)), nor was Plaintiff seeking any "'publication whereby the data furnished

by any particular establishment or individual under this title can be identified,'" *id.*

(quoting 13 U.S.C. § 9(a)(2)), or other "'individual reports,'" *id.* (quoting 13 U.S.C. §

9(a)(3)). Plaintiff's counsel stated that "by agreeing to this modification (and by any

other statement in this email), we do not waive our right to pursue any remedies

requested in our Complaint or otherwise[.]" *Id.*

25.   On May 27, 2021, Defendants' counsel stated in an email that Defendants had agreed to

review the May 25 production to "determine whether they stand by those redactions"

and to clarify the applicable exemptions for each redaction. *Id.* at 18.

26.   On May 28, 2021, the Census Bureau granted Plaintiff's requests for expedited

processing of the FOIA request and for a fee waiver. Fair Lines' Mot. for Preliminary

Inj., Ex. 5.

27.   On June 24, 2021, Plaintiff's counsel emailed Defendants' counsel to ask when

Defendants' reprocessed records would be released to Plaintiff and regarding the status

of the additional emails and post-December 2020 records. Fair Lines' Mot. for

Preliminary Inj., Ex. 3, ECF No. 8-4 at 15.

28.   On June 25, 2021, Defendants' counsel indicated the justifications behind the particular

redacted pages from Defendants' May 25 production. *Id.* at 11-13. Defendants stood by

all of their redactions, and asserted that the majority of the information withheld was

redacted "to ensure that every information product released by the Census Bureau

adheres to the confidentiality requirement of Title 13 and other applicable statutes." *Id.*

A small portion of the redactions included file names and internal pathways, but Fair

Lines is not challenging these redactions. Pl.'s Mem. in Support of Mot. for Preliminary

Inj. at 42 n.27, ECF No. 8-1.

29.   The Census Bureau also communicated the preliminary results of its initial search for responsive emails. Second Curry Decl. ¶ 13. Defendants had found 2,600 emails that were potentially responsive to the Request, and that Defendants would agree in the Joint Status Report due on July 20, 2021 to "using their best efforts to process 300 pages of potentially responsive records per month, with the first release of any nonexempt, responsive records by July 30, 2021." Fair Lines' Mot. for Preliminary Inj., Ex. 3, ECF No. 8-4 at 12–14.

30.   After a Zoom call between parties' counsel on June 29, 2021, Plaintiff's counsel provided Defendants' counsel with a list of redactions Plaintiff views to be improper along with an attached excerpt of those pages. Fair Lines' Mot. for Preliminary Inj., Ex. 7. Plaintiff's counsel also requested an update on the status of the search for the responsive emails and post-December 2020 records. *Id.*

31.   On July 6, 2021, Defendants' counsel provided Plaintiff with two responsive post-December 2020 records via email. Fair Lines' Mot. for Preliminary Inj., Ex. 6. Defendants' counsel also defended all of the redactions in the May 25 production as required by Title 13's confidentiality provisions, asserting that because of the "risk of re-identification attacks on aggregated data releases" in the modern age of computing power and sophistication, Defendants "generally avoid[] the release of intermediate work product because it can be used in combination with other intermediate work products, official publications, and the final product to re-identify individual respondents and their data items." *Id.* Defendants' counsel also indicated that Defendants had identified 917 potentially responsive emails consisting of 25,899 pages of material, and said that Defendants would use their best efforts to process 300 pages of emails per

7

month for potential release to Plaintiff. *Id.*

32.   On July 10, 2021, Plaintiff's counsel wrote that he appreciated Defendants' counsel's

offer to negotiate the parameters of the remaining search, and proposed narrowing the

universe of emails to focus on those of greatest interest to Plaintiff. Fair Lines' Mot. for

Preliminary Inj., Ex. 3, ECF No. 8-4 at 7. Plaintiff asked that the search be substantially

narrowed only to "documents identifying the <u>total population</u> (number of individuals)

<u>imputed statewide</u> by the Census Bureau for <u>group quarters</u>." *Id.* (emphasis in original).

Plaintiff further stated that "[w]e seek these group quarters totals, both resolved and

unresolved, tabulated by state. To be clear, we don't request county-level or local-level

numbers—only state-level group quarters imputation figures. We also do not seek any

household imputation numbers, or numbers reflecting demographic factors like age,

race, or sex." *Id.*

33.   On July 16, 2021, Defendants' counsel informed Fair Lines that they had "no reason to

believe" the requested information would appear in an email because that in formation

is kept on a secure database (the Decennial Response Processing System). *Id.* at 2;

Second Curry Decl. ¶ 17. Defendants' counsel indicated that although this information

could be identified and extracted from the secure database, Defendants would withhold

such information in full pursuant to FOIA Exemption 3 in conjunction with 13 U.S.C.

§§ 8(b) and 9. Second Curry Decl. ¶ 17; *see also* Fair Lines' Mot. for Preliminary Inj.,

Ex. 3, ECF No. 8-4 at 2.

34.   An appropriate query against the Decennial Response Processing System can extract the

number of individuals imputed for group quarters, aggregated for each state. Second

Curry Decl. ¶ 18; Defs.' SOF ¶ 52.

35.   On August 2, 2021, the Census Bureau's FOIA office issued to Plaintiff a final

determination in response to its FOIA request. Second Curry Decl. ¶ 19. This letter

informed Fair Lines that in addition to the productions made, there were certain records

responsive to their narrowed request for imputed group quarter information, tabulated

by state, that could be extracted from a database with an appropriate query. *Id.* The letter

also informed Fair Lines that those records (52 in total, one for each of the 50 states, one

for the District of Columbia, and one for Puerto Rico) were withheld in full pursuant to

FOIA Exemption 3 in conjunction with 13 U.S.C. §§ 8(b) and 9. Second Curry Decl. ¶

19. Additionally, some of the redacted data from the 988-page May 25 production

includes state-level group quarters numbers reflecting population totals enumerated for

that state. Second Abowd Decl. ¶ 68.

36.   Defendants have also withheld in their entirety state-by-state totals that reflect the

number of individuals added to the 2020 Census totals by the GQCI process. Second

Abowd Decl. ¶ 70.

**PLAINTIFF'S STATEMENT IN RESPONSE TO DEFENDANTS' STATEMENT OF
MATERIAL FACTS**

In addition to the facts outlined above, Plaintiff provides the following concise statement

identifying particular "facts" as put forth in Defendants' "Statement of Material Facts Not in

Genuine Dispute," ("Defs' SOF"), ECF No. 13-2, to which Plaintiff now responds pursuant to

Local Civil Rule 7(h) of the U.S. District Court for the District of Columbia. Plaintiff disagrees

with Defendants' characterization of the points listed below as "material facts" because they are

merely a re-statement of Defendants' legal arguments about the scope and application of Title 13's

privacy protections. Accordingly, Plaintiff maintains that there is no genuine issue of material fact

in this case because Defendants' statements below either do not qualify as "facts" in the first

instance, or they are not material because they are not essential to the Court's disposition of the

claims on summary judgment in this matter.[1] The below statements are numbered to correspond

with the paragraph numbering found in Defendants' "Statement of Material Facts Not in Genuine

Dispute."

66.   "The forced publication of any portion of the withheld data in this case without privacy

protections would severely undermine the Census Bureau's ability to protect the

confidentiality of all data disclosed by all respondents."

- **Response:** Plaintiff contends this is not a factual statement, is conclusory and

unsupported speculation about what "would" happen in the future, and is an

impermissible legal conclusion couched as a fact. *See* Expert Report of Dr. Steven

Ruggles ("Ruggles Report"), Ex. 2, App'x A.

68.   "The Census Bureau has determined that differential privacy—a framework for

quantifying the precise disclosure risk associated with each incremental release from a

confidential data source—is the best tool to allow it to calibrate and allocate precise

amounts of statistical noise in a way that protects privacy while maintaining the overall

statistical validity of the data. Second Declaration of John M. Abowd ("Second Abowd

Decl."), ECF No. 13-3 ¶ 44."

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[1] In the alternative, however, if this Court determines that the below do qualify as material facts rather than mere statements of opinion or legal conclusions, Plaintiff disputes these based on the analysis from the report of its expert, Professor Steven Ruggles. *See* Ruggles Report, Ex. 2, App'x A. Because a genuine issue of fact would exist under these circumstances regarding the "factual question" of whether individual privacy is implicated by the release of imputed state-wide group quarters data, Plaintiff would require an opportunity to conduct additional discovery, including deposing John M. Abowd because his opinion from his declaration provides the full basis and support for each of Defendants' "statements of fact" below which Plaintiff disputes here with its own expert report.

- **Response:** To the extent this qualifies as Defendants' statement that differential privacy is "the best tool" to protect privacy while maintaining the overall statistical validity of the data, Plaintiff disputes that as an opinion of John M. Abowd rather than a statement of fact. *See* Ruggles Report, Ex. 2, App'x A at 18–23. In any event, whether it is the best tool or not is not material to Defendants' motion for summary judgment because it is not essential to the disposition of the claim.

70.   "The DAS is a sensitive instrument that the Census Bureau has finely tuned over the last few years in full view of the public and scientific community."

- **Response:** Not material because this is not essential to the Court's disposition of the claims on summary judgment in this matter. Disputed because the Census Bureau's "post processing" algorithms have never been made public. *See* Ruggles Report, Ex. 2, App'x A at 2–6.

80.   "The inclusion of additional, as-yet unaccounted for invariants—e.g., in the form of the forced disclosure of unobscured data—would undermine the sensitive balance the Census Bureau has drawn, essentially rendering the resulting privacy guarantee represented by the privacy-loss budget allocation meaningless, and would subject census respondents to additional privacy risk antithetical to Title 13's confidentiality provisions. [Second Abowd Decl.] ¶ 60."

- **Response:** Plaintiff contends this is not a factual statement, is conclusory and unsupported speculation about what "would" happen in the future, and is an impermissible legal conclusion about the scope of Title 13's confidentiality provisions couched as a fact. *See* Ruggles Report, Ex. 2, App'x A at 2–6.

87.   "The GQCI resolved the status of group quarters addresses for frame eligibility (occupied

or not; unoccupied group quarters are deleted from the census frame) and, if occupied, the

status of persons residing in the group quarters—eliminating duplicates and imputing

missing persons. [Second Abowd Decl. ¶ 66]."

- **Response:** Not material because this is not essential to the Court's disposition of the

claims on summary judgment in this matter. Disputed because if occupants were

"eliminat[ed] [as] duplicates," that would not be an "imput[ed] missing person"

because imputation by definition is the creation of a data entry about a person whose

specific identity is unknown. When a person is "imputed"—either in the group quarters

or traditional household imputation process—there is *no* individual who has responded

to a census questionnaire. If a person had responded to a questionnaire, there would be

no need for imputation. *See* Ruggles Report, Ex. 2, App'x A at 3.

90.   "The DRB followed standard Census Bureau procedure, and applied the necessary

disclosure avoidance procedures, including redactions, to allow the documents to be made

public. [Second Abowd Decl.] ¶ 67."

- **Response:** Regarding the statewide group quarters data that was redacted or withheld

from the production, Plaintiff contends that Defendants' statement that the disclosure

avoidance procedures were "necessary" to allow the documents to be made public is

not factual, is conclusory and unsupported speculation, and is an impermissible legal

conclusion about the scope of Title 13's confidentiality provisions couched as a fact.

See Ruggles Report, Ex. 2, App'x A at 2–6.

91.   "Data in the 988 pages was redacted only as necessary to ensure that the released

information cannot be used, in combination with other available or published information,

to re-calculate specific information about the individuals residing in those group quarters facilities. [Second Abowd Decl.] ¶ 68.”

- **Response:** Regarding the statewide group quarters data that was redacted or withheld from the 988-page production, Plaintiff contends that Defendants' statement that the pages were redacted “only as necessary” to prevent re-calculation of specific information about the individuals residing in group quarters facilities documents is not factual, is conclusory and unsupported speculation, and is an impermissible legal conclusion about the scope of Title 13's confidentiality provisions couched as a fact. *See* Ruggles Report, Ex. 2, App'x A at 2–6.

92.   “Protecting against indirect disclosure of personally-identifiable information through the use of complementary disclosure avoidance methods is required under 13 U.S.C. §§ 8(b) and 9. Second Abowd Decl. ¶ 68.”

- **Response:** Plaintiff contends that Defendants' allegation that “use of complementary disclosure avoidance methods” is required by Title 13 is an impermissible conclusion about the scope of Title 13's confidentiality provisions couched as a fact. It is also undermined by Professor Ruggles' expert analysis that Defendants' complementary disclosure avoidance methods are entirely unnecessary to protect individual privacy. *See* Ruggles Report, Ex. 2, App'x A.

99.   “Disclosure of [state group quarter imputed population totals unobscured] data without redaction, rounding, or other disclosure avoidance procedure would significantly weaken the privacy protections of the DAS, compromise the confidentiality protections used for redistricting data, and undermine the Census Bureau's efforts to fulfill its duties under Title

13's confidentiality provisions for future 2020 Census data releases. [Second Abowd Decl. ¶ 71.]"

- **Response:** Plaintiff contends this is not a factual statement, is conclusory and unsupported speculation about what "would" happen in the future if state-level group quarter imputed population totals were disclosed, and is an impermissible legal conclusion about the scope of Title 13's confidentiality provisions couched as a fact. *See* Ruggles Report, Ex. 2, App'x A at 2–6.

100.   "In general, releasing further group quarters population data that have not been processed through the DAS, such as the information requested by Fair Lines, would greatly compromise the confidentiality for all respondents living in the block groups containing group quarters (both those respondents residing in group quarters and those in non-group quarters housing units). [Second Abowd Decl.] ¶ 72."

- **Response:** Plaintiff contends this is not a factual statement, is conclusory and unsupported speculation about what "would" happen in the future if group quarter population data that have not been processed through the DAS were disclosed, and is an impermissible legal conclusion about the scope of Title 13's confidentiality provisions couched as a fact. *See* Ruggles Report, Ex. 2, App'x A at 2–6.

101.   "The release of unintended exact information that has not been accounted for by the DAS—the data requested by Fair lines—provides information about these populations above and beyond the controlled statistics produced by the DAS. [Second Abowd Decl. ¶ 72.]"

- **Response:** To the extent that Defendants assert that the release of this information would provide Title 13-protected information about populations, Plaintiff contends this is not a factual statement, is conclusory and unsupported (since the requested data

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would be imputed—and thus by definition not provided to the Census in response to a questionnaire). *See* Ruggles Report, Ex. 2, App'x A at 2–6.

102.   "Even release of state-level summaries can compromise these protections. [Second Abowd Decl. ¶ 72]."

- **Response:** Plaintiff contends this is not a factual statement, is conclusory and unsupported speculation about what would happen in the future if state-level summaries were disclosed, and is an impermissible legal conclusion about the scope of Title 13's confidentiality provisions couched as a fact. *See* Ruggles Report, Ex. 2, App'x A at 2–6.

105.   "Disclosure of the records redacted or withheld in this litigation without privacy protections would subject Census respondents to unquantified additional privacy risk, Second Abowd Decl. ¶ 60, which would have cascading deleterious effects on the Census Bureau's ability to meet its confidentiality obligations under Title 13."

- **Response:** Plaintiff contends this is not a factual statement, is conclusory and unsupported speculation about what would happen in the future if Plaintiff's requested information were disclosed, and is an impermissible legal conclusion about the scope of Title 13's confidentiality provisions couched as a fact. *See* Ruggles Report, Ex. 2, App'x A at 2–6.

Dated: October 1, 2021

Respectfully submitted,

/s/ Jason Torchinsky
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EXHIBIT 1

(Second Declaration of Adam Kincaid)

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FAIR LINES AMERICA FOUNDATION, INC., Plaintiff, v. UNITED STATES DEPARTMENT OF COMMERCE and UNITED STATES BUREAU OF THE CENSUS, Defendants.	Case No. 1:21-cv-1361-ABJ **SECOND DECLARATION OF ADAM KINCAID**

<u>SECOND DECLARATION OF ADAM KINCAID</u>

I, Adam Kincaid, declare, pursuant to 28 U.S.C. § 1746 and under penalty of perjury, that the following is true and correct to the best of my knowledge:

1. I am over 18 years of age, a resident of the Commonwealth of Virginia, and competent to testify.

2. I am submitting this declaration in my capacity as Executive Director of Fair Lines America Foundation, Inc. ("Fair Lines"). This is my second declaration in this lawsuit. My first declaration supported Plaintiff's Motion for Preliminary Injunction, which was subsequently withdrawn on July 28, 2021. ECF No. 11. In this Second Declaration, I repeat much of the information in my prior declaration, while also eliminating information made irrelevant by recent developments in this litigation and providing additional information relevant to the present summary judgment proceedings.

3. I have personal knowledge of the matters and facts set forth below, the matters and facts set forth in the Memorandum of Points and Authorities in Support of Plaintiff's Combined Opposition to Defendants' Motion for Summary Judgment and Cross-Motion for Summary

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Judgment with its supporting attachments, as well as the matters and facts set forth in the Complaint Fair Lines has brought against the United States Department of Commerce and the United States Census Bureau in the above captioned case filed in the United States District Court for the District of Columbia, Compl., ECF No. 1. To the best of my knowledge, the matters and facts set forth in each of these filings are true and accurate, and the exhibits attached to these filings are true, complete, and accurate copies of the original documents as represented in these filings.

4. Fair Lines is a Section 501(c)(3) non-profit organization interested in openness and transparency in government, with an emphasis on educating the public and ensuring fair and legal enumeration, apportionment, and redistricting processes. To that end, Fair Lines seeks to review and publicize records in the possession of Defendants in light of the Census Bureau's public announcements that it has encountered difficulties and various irregularities regarding the gathering, counting, and imputation of group quarters data for the 2020 Census. Fair Lines aims to use these records to fulfill its mission of educating the public about the Census Bureau's activities and their impact on the 2020 apportionment.

5. On February 19, 2021, Fair Lines submitted a FOIA request to the Census Bureau requesting records demonstrating or reflecting the number of residents reported by housing facilities nationwide in response to the Census Bureau's 2020 Group Quarters Enumeration questionnaire. *See* Compl. Exh. A, ECF No. 1-1. On March 12, 2021, Fair Lines received a letter from the Census Bureau denying its request, which asserted that the requested records were exempt from disclosure under 13 U.S.C. § 9 of the Census Act. *See* Compl. Ex. B, ECF No. 1-2.

6. In response to the Census Bureau's denial, on March 31, 2021, Fair Lines submitted a
    revised FOIA request ("the Request") clarifying that Fair Lines only seeks summaries,
    tabulations, and other statistical materials derived from, summarizing, or otherwise relating
    to the original group quarters population data reported for the 2020 Census, rather than the
    underlying raw data itself. *See* Compl. Ex. C, ECF No. 1-3. In the Request, Fair Lines
    clarified that it does not "seek disclosure of the underlying raw group quarters population
    data itself as originally 'reported by, or on behalf of, any particular respondent' to the
    Bureau, 13 U.S.C. § 8(b)," nor "any 'publication whereby the data furnished by any
    particular establishment or individual under this title can be identified,' 13 U.S.C.
    § 9(a)(2)."

7. In the Request, Fair Lines also included an application for expedited processing of the
    Request based on its compelling need for the records and the urgency of informing the
    public of any irregularities in Census Bureau data given the time-sensitive nature of the
    redistricting process before the impending election season, as well as the decennial nature
    of the Census Bureau's data collection. Finally, Fair Lines requested a fee waiver or
    limitation of fees because the records are likely to contribute significantly to public
    understanding of the operations of the Government and is for non-commercial purposes.

8. On April 7, 2021, having received no confirmation that the Request was received by the
    Census Bureau, Fair Lines, through its counsel, sent an email to the Census Bureau
    inquiring about the status of the Request. *See* Compl. Ex. D, ECF No. 1-4. The Census
    Bureau subsequently responded that the Request had been received and that a search had
    commenced. However, by April 28, 2021, Fair Lines had still received no determination
    from Defendants regarding the Request, even though the statutory period of twenty

business days from the date Fair Lines emailed the Request to the Census Bureau had expired. *See* 5 U.S.C. § 552(a)(6)(A)(i).

9. By May 18, 2021, Fair Lines had still not received a determination from Defendants regarding the Request; accordingly, Fair Lines filed a complaint with this Court on that day. Compl., ECF No. 1.

10. On May 25, 2021, Defendants sent a letter to Fair Lines' counsel (dated May 24, 2021) partially granting and partially denying its FOIA request, and providing Fair Lines with 988 pages of responsive records, Pl. Mot. for Preliminary Inj., Ex. 4, ECF No. 8-5. Of those pages, 166 pages were either fully or partially redacted pursuant to FOIA Exemptions 3 and 5, *see id.* Defendants acknowledged to Plaintiff that some of these pages include state-level group quarters population totals (including imputed numbers) that have been withheld or redacted. *See* Defs.' Mot. for Summary Judgment, Ex. 1 ("Second Abowd Decl."), ECF No. 13-3 ¶¶ 67–68. Because this imputed state-level group quarters data is of the highest interest and importance to Fair Lines, Fair Lines' counsel has expressly narrowed the scope of Fair Lines' Request in subsequent communications with Defendants' counsel to seek only statewide totals of imputed group quarters data, without waiving the opportunity to challenge other redactions or withheld information in the future. *See* Pl. Mot. for Preliminary Inj., Ex. 3, ECF No. 8-4 at 19–20.

11. On May 28, 2021, Defendants granted Fair Lines' request for expedited processing of the Request. Pl. Mot. for Preliminary Inj., Ex. 5, ECF No. 8-8.

12. Since that time, both parties' counsel have met to discuss these redactions over the phone and email; to the best of my knowledge, the description of communications between both sides' counsel contained in the Statement of Points and Authorities in Support of Plaintiff's

Motion for Preliminary Injunction and supporting exhibits are true and accurate. *See* Pl.

Mot. for Preliminary Inj., Ex. 3, ECF No. 8-4.

13. On July 10, 2021, Fair Lines' counsel proposed narrowing the scope of the emails to search

for information of highest importance to Fair Lines, namely records identifying the total

population imputed statewide by the Census Bureau for each state's group quarters. *Id.* at

7. On July 16, 2021, Defendants' counsel informed Plaintiff's counsel that Defendants

would not produce this data to Fair Lines because the information sought is considered by

Defendants to be covered by the confidentiality provisions of Title 13 of the Census Act.

See id. at 2.

14. On August 2, 2021, the Census Bureau's FOIA office issued a final determination to Fair

Lines in response to its FOIA request. Defs.' Mot. for Summary Judgment, Ex. 2 ("Second

Curry Decl."), ECF No. 13-4 ¶ 19. This letter informed Fair Lines that the requested

records containing statewide imputed group quarters data (52 in total, one for each of the

50 states, one for the District of Columbia, and one for Puerto Rico) were withheld in full

pursuant to FOIA Exemption 3 and Title 13. *Id.* Defendants acknowledged that this

information could be extracted from a database with an appropriate query. *Id.* To date, none

of the requested state-level imputed group quarters data has been released to Fair Lines.

Further Affiant Sayeth Not. Executed on this 1st day of October, 2021.

_____
Adam Kincaid

EXHIBIT 2
(Declaration of Dr. Steven Ruggles)

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FAIR LINES AMERICA FOUNDATION, INC.,	Case No. 1:21-cv-1361-ABJ
Plaintiff,	
v.	**DECLARATION OF DR. STEVEN RUGGLES**
UNITED STATES DEPARTMENT OF COMMERCE and UNITED STATES BUREAU OF THE CENSUS,	
Defendants.	

DECLARATION OF DR. STEVEN RUGGLES

I, DR. STEVEN RUGGLES, pursuant to 28 U.S.C. § 1746, Federal Rule of Civil

Procedure 26(a)(2)(B), and Rules 702 and 703 of the Federal Rules of Evidence, declare as

follows:

1.   I am over the age of 18 and competent to make this declaration.

2.   I am the Regents Professor of History and Population Studies at the University of

Minnesota and I direct the University's Institute for Social Research and Data Innovation.

3.   I received a PhD from the University of Pennsylvania in 1984 with a focus on

historical demography, and subsequently undertook postdoctoral training in demography at the

University of Wisconsin-Madison.

4.   I have over 35 years of experience in the areas of demography and populations

studies, including the study and use of both U.S. and international census data.

5.   I have been the principal investigator on various census related research projects

including, but not limited to, a study on the Implications of Differential Privacy on Decennial

Census Data Access and Utility, which received funding from the Sloan Foundation.

6.   My research focus is on methods of census curation, census data dissemination, the

history of the U.S. Census, disclosure control in statistical databases (including differential

privacy), and long-run demographic trends. I have published extensively on these topics.

7.   I am currently the Director of the Institute for Social Research and Data Innovation

and the Director of the International Integrated Public Use Microdata Series ("IPUMS") Center

for Data Integration. Between 2000 and 2016, I was the Director of the Minnesota Population

Center.

8.   I served as an expert witness in *State of Alabama v. United States Department of

Commerce*. Case No. 3:21-CV-211-RAH-ECM-KCN (2021). I have never given a deposition.

9.   I have contributed to several *Amici Curiae* briefs related to recent Census Bureau litigation.

10.   I have reviewed the pleadings of this case, including but not limited to, the complaint, the Defendants' response, and the Defendants' Motion for Summary Judgment with supporting exhibits, including the Second Declaration of John M. Abowd.

11.   Plaintiff requested that I assess the Census Bureau's decision to withhold imputed group quarters data, tabulated by state, responsive to Plaintiff's FOIA request, including assertions made by Dr. Abowd in his declaration that the release of Plaintiff's requested data would allow outside attackers to uncover the characteristics of census respondents through the methods of database reconstruction and reidentification. To that end, I analyzed the following: (1) whether disclosure of state-level information on imputed populations could jeopardize the confidentiality of responses from the real population through reconstruction or re-identification attacks; (2) whether identification of the number of imputed cases in a particular group quarters unit could jeopardize the confidentiality of individuals' or establishments' data; (3) whether the Census Bureau's 2016-2019 experiment demonstrated a credible threat of database reconstruction attacks from release of additional data beyond the Bureau's pre-established invariants; (4) the effectiveness of differentially-private algorithms for disclosure avoidance; (5) the fitness for use of census data after differential privacy is applied; and (6) the new census disclosure avoidance methods' use in the context of historic Census Bureau practice.

12.   Based on my analysis of the above, I conclude that malicious intruders pose no realistic threat of harm if Plaintiff's requested imputed group quarters counts at the state level (or even sub-state level) were publicly disclosed. Dr. Abowd's conclusion that revealing imputed statewide group quarters totals poses a threat to confidentiality of individual (or establishments') census responses is thus unsupported and without merit.

13.   I am being compensated $300 an hour for my time in connection with this matter. I am not being compensated for any specific opinion.

14.   Attached and incorporated by reference to this declaration is my expert report in this matter and my curriculum vitae. The report is attached hereto as Appendix A. My curriculum vitae is attached to the expert report as Appendix 1.

15.   My curriculum vitae lists, among other things, my qualifications, and a list of all publications published over at least the last ten years, which is also included separately as Appendix 2 for convenience.

16.   I declare under penalty of perjury that the foregoing, including any appendices, are true and correct according to the best of my knowledge, information, and belief.

Dated: October 1, 2021

_____
Dr. Steven Ruggles

APPENDIX A

(Expert Report of Dr. Steven Ruggles)

October 1, 2021

Fair Lines America Foundation, Inc. v. U.S. Department of Commerce, et al.

United States District Court for the District of Columbia

Expert Report of Steven Ruggles
Regents Professor of History and Population Studies
The University of Minnesota

50 Willey Hall
Minneapolis, MN 55455

_____

Steven Ruggles

1. Introduction and Qualifications

The Plaintiff in *Fair Lines America Foundation, Inc. v. United States Department of Commerce, et al.* has retained my services to analyze various assertions that have been made by the Defendants in this case. Specifically, I have reviewed the pleadings, including but not limited to, the complaint, the Defendants' response, and the Defendants' Motion for Summary Judgment. The opinions I set forth below are based on these pleadings and informed by my work in the field of demography as explained below and in my curriculum vitae. I am being compensated 300 dollars per hour for this work.

I am Regents Professor of History and Population Studies at the University of Minnesota and I direct the University's Institute for Social Research and Data Innovation. I received a PhD from the University of Pennsylvania in 1984 with a focus on historical demography, and subsequently undertook postdoctoral training in demography at the University of Wisconsin-Madison.

I developed the world's largest census database, known the Integrated Public Use Microdata Series (IPUMS), which has been used by over 200,000 investigators to conduct demographic and economic research. I have authored more than 100 publications on methods of census curation, census data dissemination, the history of the U.S. Census, disclosure control in statistical databases (including differential privacy), and long-run demographic trends. My research has appeared in, among other outlets, *Demography*, *Population and Development Review*, *Population Studies*, *American Sociological Review*, *Annual Review of Sociology*, *American Historical Review*, *Journal of American History,* and *Privacy in Statistical Databases*. I have served as Principal Investigator or Co-Principal Investigator on 57 grants to digitize, curate, analyze, and disseminate census data, including a Sloan Foundation grant to investigate the impact of differential privacy on the accuracy of the census.

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My work has been recognized by the Sharlin Award (Social Science History Association), the Goode Award (American Sociological Association), the Lapham Award (Population Association of America), and the Miller Award (Inter-university Consortium for Political and Social Research). I have been elected President of three national scholarly associations: The Population Association of America, the Association of Population Centers, and the Social Science History Association.

I have served on several relevant national committees, including the Census Scientific Advisory Committee (U.S. Census Bureau); the Advisory Committee on Cyberinfrastructure (National Science Foundation); the Committee on Education for Digital Curation (National Research Council Board on Research Data and Information); and the Advisory Committee for the Social, Behavioral, and Economic Sciences (National Science Foundation). I chaired the Working Group on Open Access to Data in the Social and Behavioral Sciences for the National Science Foundation.

I served as an expert witness in *State of Alabama v. United States Department of Commerce.* Case No. 3:21-CV-211-RAH-ECM-KCN (2021). I have also participated in several *Amici Curiae* briefs related to recent Census Bureau litigation. These briefs are listed in my CV, attached hereto as Appendix 1. A list of my publications authored in the previous 10 years and cases in which I have testified as an expert is attached hereto as Appendix 2.

2. Group Quarters Count Imputation and Confidentiality

Group Quarters Count Imputation (GQCI) is a new set of methods developed to address deficiencies in the Census Bureau's count of persons residing in group quarters, which include college dormitories, residential treatment centers, skilled nursing facilities, group homes, military barracks, prisons, and worker dormitories. The Census Bureau identified 43,000 group quarters

units for which they lacked a population count. The GQCI methods were used to assign an estimated or "imputed" population count for every unit that the Census Bureau believed to be occupied on census day. The methods were also used to add population to group quarters units whose population count was "much lower" than expected (U.S. Census Bureau 2021a).

Although the Census Bureau had never previously used imputation to estimate the size of uncounted group quarters units, since 1960 imputation has been used to fill in missing information about individuals residing in households. It is universally accepted in the demographic research community that imputation improves the accuracy of the population count, and its use at the household level was upheld by the Supreme Court in *Utah v. Evans*, 536 U.S. 452 (2002). In the past, the Census Bureau has released detailed information—down to the block level—on the number of imputed persons in each locality.

The Census Bureau now argues that it cannot release the number of people added to each state through GQCI because it would violate the privacy guarantees in Title 13, 13 U.S.C. § 9(a)(2), Public Law 87-813, which provides that the Census Bureau "shall not make any publication whereby the data furnished by any particular establishment or individual … can be identified." The Defendants argue that revealing the number of imputed cases would allow outside attackers to uncover the characteristics of census respondents through the methods of database reconstruction and reidentification.

This argument is unsupported. Most obviously, the counts of imputed group quarters cases are not "data furnished by any particular establishment or individual." The data were not furnished by anyone, which is the reason that the Census Bureau had to invent it by means of imputation. When a person is "imputed"—either in the group quarters or traditional household imputation process—there is no individual who has responded to a census questionnaire; if a person had

responded to the questionnaire, there would be no need for imputation. Because the units were

never counted, the Census Bureau was forced to guess the number of persons in each unit using a

new methodology which has not been made public.

The Census Bureau offers just one concrete example of how disclosure of state-level

information on the imputed population could jeopardize the confidentiality of the real population:

> For example, if there were only one of particular type of group quarters facility
> within a geographic area (e.g., a single military/maritime vessel within a state), then
> unprotected state-level GQCI statistics for that type of group quarters could easily
> be leveraged to undermine the disclosure protections afforded to the tabulated
> Census data for that GQ in the published census data products, thus exposing the
> personal information of the facility's residents. (Abowd Decl. ¶ 72).

This far-fetched scenario actually poses zero disclosure risk. Even if it were somehow possible to

infer the number of imputed cases in a particular group quarters unit, that would in no way

compromise the disclosure guarantees of Title 13. If we knew, for example, that the GQCI added

42 persons to a vessel in Delaware, that information could not possibly reveal any particular

person's identity or individual census responses; these imputed cases do not describe actual people,

but rather they are invented to substitute for actual data on people that is not available. In short, it

would not be possible for the data from particular respondents (whether establishments or

individuals) to be identified from the release of the state-level *imputed* data the Plaintiff requests

here. The Defendants' assertion that the 2020 Census data will be left vulnerable to reconstruction

and/or re-identification attacks by malicious intruders is thus without merit. The data requested by

Plaintiffs—the state-level numbers of imputed group quarters residents—could not conceivably

pose a risk of disclosing information about any particular individual or establishment in the real

world.

The Census Bureau states that releasing any "invariants" would compromise the entire

2020 disclosure avoidance system. Under the 2020 disclosure avoidance rules, the only "true"

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numbers released are (1) total population at the state level; (2) total number of housing units at the block level, but not the population at the block level; and (3) total number of group quarters for seven types at the block level, but not the population in group quarters. Aside from these invariants, all other statistics released from the 2020 Census will have deliberate error introduced to the counts. Information about imputation, however, would not add to the list of invariants, since the group quarters population counts would still have noise infusion; knowing about the size of the imputed population would not allow anyone to infer the true size of the group quarters population. Moreover, as I discuss in the following sections, the Census Bureau has failed to document their assertion that releasing true counts would compromise confidentiality.

The Census Bureau argues that releasing the number of imputed group quarters residents at the state level could constitute a disclosure threat because of the "mosaic effect" whereby an attacker can piece together disparate information from multiple sources to recover confidential information. The motion quotes the OMB Memorandum M-13-13, which reads "Before disclosing potential PII or other potentially sensitive information, agencies must consider other publicly available data – in any medium and from any source – to determine whether some combination of existing data and the data intended to be publicly released could allow for the identification of an individual or pose another security concern." That rule, however, does not apply in this case. The number of imputed group quarters residents is not "potential PII or other potentially sensitive information," since it does not describe the actual characteristics of any person or establishment. There is no possible means by which the number of imputed cases could be used in combination with other statistics to allow for identification of an individual.

Despite the obfuscating and highly technical arguments offered by the Census Bureau, this is not in fact a highly technical question in which different experts on statistical methodologies

may simply disagree. At its core, the concept is actually very simple: no statistical expertise is needed to understand the basic logical point that aggregate numbers comprised entirely of data that *was not* provided by an establishment or individual in the first place cannot later be used to identify data that *was* provided by an establishment or individual.

The Census Bureau maintains that it cannot release any actual counts of anything except the invariants—whether real or invented—because of the threat of database reconstruction and reidentification. The Bureau's chief scientist John Abowd insists that "[t]he results from the Census Bureau's 2016-2019 research program on simulated reconstruction-abetted re-identification attack were conclusive, indisputable, and alarming." (Abowd Decl. ¶ 40). My own analysis found that the Census Bureau's experiment failed to demonstrate a credible threat to confidentiality of individual responses. The sections that follow explain the Census Bureau's approach and demonstrate that the failure to make use of a control group was a fatal flaw in the Census Bureau's research design. I conclude that we can be confident that malicious intruders pose no realistic threat of harm if the imputed group quarters counts were publicly disclosed at the state or even sub-state level.

3. Overview of Census Bureau disclosure control

From 1970 through 2010, the Census Bureau used a variety of techniques, including table suppression (1970–1980), blank and impute (1990), and swapping (1990–2010) to protect the confidentiality of respondents. To implement these methods, the Bureau identified potentially disclosive variables and then found cells with small counts based on those variables. They then suppressed tables with these small counts or swapped households matched on key demographic characteristics between geographic units (McKenna 2018).

Traditional statistical disclosure control techniques introduced uncertainty into published

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data. Whole table suppression withheld information about certain aspects of the population. Swapping introduced error into some counts because households would not match on all demographic characteristics. The disclosure control methods used prior to 2020 did not, however, alter the counts of total population and voting age adults at any geographic level. Some noise was introduced on other characteristics, but the Census Bureau concluded that "the impact in terms of introducing error into the estimates was much smaller than errors from sampling, non-response, editing, and imputation" (McKenna 2018: 24).

The traditional Census Bureau disclosure control strategy has focused on ensuring that the responses of identified persons cannot be determined from census publications. The Census Bureau implemented targeted strategies to prevent re-identification attacks so that an outside adversary cannot positively identify which person provided a particular response. The protections in place from 1970 through 2010—sampling, swapping, suppression of geographic information and extreme values, imputation, and perturbation—have worked extremely well to meet this standard (Lauger, Wisniewski, and McKenna 2014). Indeed, *there is not a single documented case of anyone outside the Census Bureau revealing the responses of a particular identified person using data from the decennial census*.

Despite the proven effectiveness of traditional statistical disclosure control, the Census Bureau adopted an entirely new approach for the 2020 census known as differential privacy. Implementations of differential privacy generally involve calculating cross-tabulations from "true" data and injecting noise drawn from a statistical distribution into the cells of the cross-tabulation. There are two significant consequences of this approach:

- The noise introduced into each cell is independent of the original value of the cell. Therefore, even if the noise is small relative to the average cell value, distortions in small

cell values are often proportionally large. For example, the error introduced in the population of small towns can be proportionally large, sometimes exceeding 100% of the town's true population.

- Simple random noise can produce logical inconsistencies, such as negative population counts or household counts that exceed population counts. If the data producer wishes to maintain logical consistency or preserve some noise-free counts, they must use a post-processing algorithm to adjust totals after noise injection, and this post-processing introduces additional types of error and systematic biases. In the preliminary Census Bureau demonstration datasets using differential privacy, such systematic biases are ubiquitous.[1]

Accordingly, differential privacy imposes high costs on the usability of data with no compensating benefits.

4. The Census Bureau's database reconstruction experiment

The Census Bureau justifies the need for differential privacy by claiming that the confidentiality of census responses is threatened by "database reconstruction." Database reconstruction is a process for inferring individual-level responses from tabular data. John Abowd, the primary architect of the Census Bureau's new approach to disclosure control, argues that database reconstruction "is the death knell for public-use detailed tabulations and microdata sets

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[1] To enable the research community to assess the consequences of differential privacy for the research and policy communities, the Census Bureau has released several demonstration datasets. The Census Bureau also released the source code that had been used to implement differential privacy, enabling investigators to experiment on their own. Over the past three years, multiple investigators seized these opportunities to understand the impact of differential privacy on census accuracy and usability. There have been several workshops and meetings devoted to the topic, including IPUMS Differential Privacy Workshop (August 15-16, 2019), the Harvard Data Science Review Symposium (October 25, 2019), the Committee on National Statistics Workshop on 2020 Census Data Products: Data Needs and Privacy Considerations (December 11-12, 2019), and the 2020 Privacy in Statistical Databases conference (September 23-25, 2020). Additional work has appeared as working papers, as well as a few early publications (e.g., Santos-Lozada et al. 2020; Hauer and Santos-Lozada 2021; Winkler et al. 2021). The following discussion draws on insights of this research.

as they have been traditionally prepared" (Abowd 2017).

Although Census Bureau staff members have repeatedly invoked database reconstruction to justify the use of differential privacy in public presentations, they have never, to my knowledge, produced a full description of their experiment, and some details remain obscure. There are no peer-reviewed publications explaining their methodology, and the experiment has not been replicated by outside experts. Prior to April 2021, the Census Bureau's database reconstruction experiment was documented solely in tweets and PowerPoint slides that provided few details, so it was difficult for outsiders to evaluate.[2] In conjunction with recent legal proceedings, the Census Bureau's chief scientist has now released a more detailed description of the experiment (Abowd 2021a), and this opens new opportunities to appraise the results.

The Census Bureau's detailed description of database reconstruction provides overwhelming evidence that the database reconstruction experiment failed to demonstrate a realistic disclosure risk. On the contrary, the database reconstruction exercise provides compelling evidence that even with a massive investment of time, resources, and computing power, it would be impossible for an outside attacker to infer the characteristics of a particular individual respondent from the published tabulations used for the 2010 census.

The Census Bureau database reconstruction experiment attempted to infer the age, sex, race, and Hispanic or Non-Hispanic ethnicity for every individual in each of the 6.3 million inhabited census blocks in the 2010 census. Using 6.2 billion statistics from nine tables published as part of

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[2] The same is true for the Census Bureau's entire Disclosure Avoidance System (DAS). The Bureau asserts that "[t]he DAS is a sensitive instrument that the Census Bureau has finely tuned over the last few years *in full view of the public* and scientific community." Defendants' Statement of Material Facts Not in Genuine Dispute, ECF No. 13-2 ¶ 70 (emphasis added). This assertion is not correct. Many aspects of the DAS remain mysterious and have not been publicly documented. For example, the post-processing algorithms have not been made public; there has been no release of the "noisy" file without post-processing, as many outside analysts have requested. There is also no documentation of the criteria and procedures the Census Bureau used to "tune" the noise infusion at the extraordinarily high epsilon of 19.

the 2010 census, the Census Bureau constructed a system of simultaneous equations consistent with the published tables, and solved the system using Gurobi linear programming software (Abowd 2021a). This experiment provides the primary justification for the Census Bureau's adoption of differential privacy.

According to Abowd (2018a), the experiment confirmed that the individual-level census data "can be accurately reconstructed" using the published tabular census data. That assertion is false. The "reconstructed" data produced by the experiment consists of rows of data identifying the age, sex, and race/ethnicity for each person in a hypothetical population of each census block; it does not include identifying information such as name, address, or Social Security number. Thus, for example, the hypothetical population of a given block could include a 26-year-old non-Hispanic white female. Contrary to the statements of the Census Bureau, the results demonstrated that they failed to reconstruct the individual-level characteristics of the population based on the published census tabulations. In fact, the Census Bureau found that *for most of their hypothetical population, there was not a single case in the real population that matched on block, age, sex, and race/ethnicity* (Abowd 2018b). The Census Bureau found that for 46.48% of their hypothetical population, there was at least one case in the real population that matched on block, age, sex, and race/ethnicity. Thus, there was no correct match available for 53.53% of the population.

5. The role of chance in the database reconstruction experiment

The Census Bureau's database reconstruction experiment is flawed because the Census Bureau never compared their results with a null model to evaluate how effectively it worked. As it stands, the Census Bureau experiment is like a clinical trial with no control group; just because some patients recover, that does not provide evidence that the treatment was effective. To evaluate the database reconstruction experiment, it is not sufficient to count the matches between the

reconstructed population and the real population. Rather, we must assess how much the reconstruction experiment outperforms a null model of random guessing.

It is reasonable to expect one would get a lot of matches between the reconstructed data and the real data purely by chance. The Census Bureau's new documentation of the experiment shows that the "exact match rate" was positively associated with the number of people on the block (Abowd 2021a: 4): The larger the block, the more exact matches; in fact, large blocks had three times the match rate of small blocks. Database reconstruction ought to work best with small blocks where the published tables directly reveal unique combinations of respondent characteristics. The obvious explanation is that larger blocks have higher odds of including by chance any specific combination of age, sex, race, and ethnicity.

The Census Bureau did not calculate the odds that they could get matches between their hypothetical reconstructed population and the actual population purely by chance. My analysis suggests, however, that among the minority of cases where the Census Bureau did find a match between their hypothetical population and a real person, most of the matches would be expected to occur by chance.

To investigate the issue, I conducted a simple Monte Carlo simulation. I concluded that randomly chosen age-sex combinations would match someone on any given block 52.6% of the time, assuming the age, sex, and block size distributions from the 2010 census.[3] We would therefore expect the Census Bureau to be "correct" on age and sex most of the time even if they had never looked at the tabular data from 2010 and had instead just assigned ages and sexes to

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[3] To estimate the percentage of random age-sex combinations that would match someone on a block by chance, the model generated 10,000 simulated blocks and populated them with random draws from the 2010 single-year-of-age and sex distribution. The simulated blocks conformed to the population-weighted size distribution of blocks observed in the 2010 census. The analysis then randomly drew 10,000 new age-sex combinations and searched for them in each of the 10,000 simulated blocks. In 52.6% of cases the analysis found someone in the simulated block who exactly matched the random age-sex combination.

their hypothetical population at random.

This calculation does not factor in race or ethnicity, but because of high residential segregation most blocks are highly homogenous with respect to race and ethnicity. If we assign everyone on each block the most frequent race and ethnicity of the block using data from the census (U.S. Census Bureau 2012), then race and ethnicity assignment will be correct in 77.8% of cases. Using that method to adjust the random age-sex combinations described above, 40.9% percent of cases would be expected to match on all four characteristics to a respondent on the same block. That does not differ greatly from the Census Bureau's reported 46.48% match rate for their reconstructed data (Abowd 2021a: 3).

Despite the Census Bureau's massive investment of resources and computing power, the database reconstruction technique does not perform much better than a random number generator combined with a simple assignment rule for race and ethnicity. This is analogous to a clinical trial in which the treatment and the placebo produce virtually the same outcome.

6. The reidentification experiment

The Census Bureau took their experiment one step further by assessing whether their hypothetical population shared characteristics with people who appeared in non-census sources. Within each block they matched the age and sex of persons in the hypothetical population to the age and sex of persons in financial and marketing data purchased from commercial vendors after the 2010 census (Rastogi and O'Hara 2012). A match on race or ethnicity was not required for this experiment. In most cases, the hypothetical individuals constructed by the Census Bureau did not share the same age, sex, and block as anyone in the commercial data; in just 45% of cases was there at least one person in the commercial data who matched the age, sex and block number of at least one row of the hypothetical database (Abowd 2021a). This 45% match rate between the

reconstructed data and the commercial data is substantially lower than one would expect by chance. My simulation exercise—also based only on age and sex—suggests that one would expect a 52.6% match rate for a random population.

Among the cases where there was at least one person in the commercial database who matched the age, sex, and block of a row in the hypothetical population, the Census Bureau then harvested the names from the commercial database and attempted to match them with names on the same block as enumerated in the 2010 census. They found that 38% of the names from the commercial database were actually present on the block. Based on this exercise, the Census Bureau claimed to have successfully "re-identified" 16.85% (38% of 45%) of the population (Abowd 2021a).

Once again, there is no null model for comparison purposes. One would expect that people recorded as residing on any given block in a 2010 commercial database would have a high chance of also appearing on the same block in the 2010 Census. Is the 38% match rate on names between the commercial database high or low? Without access to internal Census data, it is impossible for us to construct a usable control group, but it would have been simple for the Census Bureau to do so. In particular, the Census Bureau could have attempted to match the names of people randomly selected from the commercial database to persons in the 2010 census living on the same census block, without any reference to the Census Bureau's database reconstruction. If the 38% match rate on names for the reconstructed population is no higher than the match rate for a randomly selected subset of the commercial data, it would mean the database reconstruction has no effect on reidentification risk. Without any comparison to a null model, the match rates quoted by the Census Bureau between the commercial database and the census enumeration are not meaningful.

Reidentification means confirming the identity of a particular individual and revealing their

characteristics without reference to non-public internal census files. It would be impossible to positively identify the characteristics of any particular individual using the database reconstruction without access to non-public internal census information. Abowd (2018b) acknowledged that the database reconstruction experiment demonstrates that "the risk of re-identification is small." Dr. Abowd has now retracted that statement (Abowd 2021a ¶ 83), but his supervisor has not. Acting Director of the Census Bureau Jarmin actually went farther than Abowd, writing "The accuracy of the data our researchers obtained from this study is limited, and confirmation of re-identified responses requires access to confidential internal Census Bureau information … an external attacker has no means of confirming them" (Jarmin 2019).

7. Small Blocks and Swapping

In a recent supplemental court filing, the Census Bureau argues that even if most of the matches would be expected by chance, people in very small blocks are at high risk of database reconstruction (Abowd 2021b). On blocks with fewer than ten people, the Census Bureau's database reconstruction match rate for age, sex, race, and ethnicity was just over 20%, meaning that the error rate was just under 80%. Although this success rate seems low, random assignment is even worse for very small blocks; our random simulation guessed age and sex correctly in just 2.6% of cases for blocks with fewer than ten people.

The key table powering the database reconstruction experiment—Summary File 1 P012A-I—provides information on age by sex by race by ethnicity. This table can easily be rearranged into individual-level format, providing the age, sex, and race/ethnicity of the population of each block with near-perfect accuracy (Ruggles et al. 2018). How is it possible, then, that the Census Bureau's database reconstruction incorrect in almost 80% of cases? The main challenge is that that the ages in Table P012A-I are given in five-year groups instead of exact years. A random number

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generator would guess the correct exact age within the five-year age group approximately 20% of the time, which is very close to the accuracy level achieved by the database reconstruction experiment.

Another possible explanation for the nearly 80% error rate in the reconstruction of small blocks, as suggested in Census Bureau testimony (Abowd 2021a), is that traditional methods of disclosure control may actually be effective at protecting persons in the smallest blocks. The most important of these methods is swapping, in which a small fraction of households are exchanged with nearby paired households that share key characteristics (McKenna 2018).

The Census Bureau recently reported on a new experiment to assess the impact of swapping on their database reconstruction experiment (Hawes and Rodriguez 2021). To simulate an extreme level of swapping, the Bureau designed an algorithm with far higher high levels of swapping and perturbation than are ever used for disclosure control. In particular, the experiment "perturbed" household size for 50% of cases and tract location in 70% of cases, and then swapped 50% of the households with someone in a different census block. In other words, they eliminated the real characteristics of the population for half the cases on each block. Then they ran the database reconstruction attack on the altered data and found that eliminating half the real population has little impact of the rate of reidentification. In this experiment, they found a match rate of age, sex, race, and ethnicity of 44.6% using unswapped data, and 42.7% on the extremely swapped data.

The Census Bureau interpreted these results to mean that even extreme swapping does not protect from database reconstruction, so differential privacy is essential. A much more plausible explanation is that the great majority of matches occurred entirely by chance, so the match rate is unaffected by substituting the data. It is likely they would get virtually the same result if instead of 50% they used a 100% swapping rate, which would mean that zero of the reidentifications

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would be true. Without a null model for comparison, this kind of experiment cannot be interpreted.

8. Census disclosure control requires the protection of identities, not concealment of characteristics

The Census Bureau argues that new methods of confidentiality protection are required by census law. The confidentially language in census law first appeared the 1929 Census Act:

> No publication shall be made by the Census Office whereby the data furnished by any particular establishment or individual can be identified, nor shall the Director of the Census permit anyone other than the sworn employees to examine the individual reports (Reapportionment Act of 1929, CR 28 § 11).

The current statute is virtually identical, specifying that the Census Bureau "shall not make any publication whereby the data furnished by any *particular establishment or individual … can be identified*" (Title 13 U.S.C. § 9(a)(2), Public Law 87-813) (emphasis added).

For the past nine decades, the Census Bureau has interpreted the law to mean that Census Bureau publications must protect the identity of respondents. In 2002, this interpretation was codified in the Confidential Information Protection and Statistical Efficiency Act (CIPSEA), which explicitly defined the concept of identifiable data: it is prohibited to publish "any representation of information that permits the identity of the respondent to whom the information applies to be reasonably inferred by either direct or indirect means" (Title 5 U.S.C. §502 (4), Public Law 107–347).

We have nine decades of precedent, reaffirmed thousands of times by the Census Bureau Disclosure Review Board, reinforcing the interpretation that the Census Bureau is prohibited from publication of statistics that disclose respondent identities. This means that an outsider cannot infer the response of a particular individual, match that response to another database, and have high confidence that the link is correct.

The disclosure controls that have been introduced over the past half-century are limited to attributes and circumstances that pose a disclosure risk through reidentification. Unlike traditional

statistical disclosure control, differential privacy attempts to masking all characteristics, not just individual identities.

The Census Bureau justifies differential privacy through a novel interpretation of census law. According to Abowd (2019), "Re-identification risk is only one part of the Census Bureau's statutory obligation to protect confidentiality. The statute also requires protection against exact attribute disclosure." Under this interpretation, the Census Bureau must not only mask the *identities* of respondents, but also their *characteristics*. Abowd (2019: 16-18), argues in particular that because the 2010 census published the exact number of people of voting age in each census block, that was an exact attribute disclosure and therefore prohibited.[4]

Under this new interpretation, the Census Bureau has been in flagrant violation of the law ever since 1929. Every tabulation of the characteristics of the population necessarily reveals the attributes of individuals. Every census from 1790 to 2010 has published attributes based on exact numbers counted in the census. It is implausible that Congress ever intended to make such exact tabulations of the census illegal.

Differential privacy is oriented to the protection of attributes, not the protection of identities. Accordingly, differential privacy perturbs every attribute tabulated by the census, not just the attributes that pose a risk of enabling re-identification. Because differential privacy focuses on concealing individual characteristics instead of protecting respondent identities, it is a blunt and inefficient instrument controlling disclosure of identities.

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[4] The Census Bureau's theory that it is prohibited to disclose the exact number of persons or voting-age persons at the block level is a very recent development. In April 2017 the Census Bureau Disclosure Review Board determined that these counts "can continue to be published as enumerated" (Abowd Decl. App'x B p. 82). When differential privacy was proposed, it specified the publication of exact counts for block population and voting-age populations. According to Garfinkle (2017) and Dajani et. al. (2017), in 2000 the Census Bureau had entered into an agreement with the Department of Justice that required them to publish exact counts of the voting age population of each block. At some subsequent time, the Census Bureau appears to have determined not only that their agreement with the Department of Justice was no longer binding, but that publishing the counts as enumerated was now prohibited.

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9. Differential privacy is a poor fit for the protection of census data

According to the Census Bureau's chief scientist Abowd (2021a: 18) "the results from the Census Bureau's 2016-2019 research program on simulated reconstruction-abetted re-identification attack were conclusive, indisputable, and alarming." Abowd contends that the published tabulations of the 2010 Census "would allow an attacker to accurately re-identify at least 52 million 2010 Census respondents (17% of the population) and the attacker would have a high degree of confidence in their results," and with access to better commercial data an attacker "could accurately re-identify around 179 million Americans or around 58% of the population." (Abowd 2021a: 18).

Without a control group for comparison, the alarmist results reported by the Census Bureau from the database reconstruction experiment are not meaningful. As my analysis demonstrates, the threat posed by the reconstruction to respondents' confidentiality is similar to the threat posed by randomly guessing their characteristics. If a clinical trial showed that 17% of a treated population recovers, that would not prove the treatment is effective; we would also need to compare the recovery rate of a control group. Without a null model, the Census Bureau experiment fails to demonstrate that reconstruction of the tabular data poses a significant disclosure risk.

The Census Bureau's database reconstruction and reidentification exercises demonstrates that it is not plausible that an external attacker could use census tabulations to uncover the characteristics of a particular individual, for three reasons:

- The reconstructed data are usually incorrect.

- The reconstructed data usually do not match even the block, age and sex of anyone identified in outside commercial sources.

- In the minority of cases where a hypothetical reconstructed individual does match the block, age, and sex of someone in the commercial data, it usually turns out that the person

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identified in the commercial data was not actually enumerated on that block in the census. Thus, the legacy disclosure control system worked exactly as intended. An outside attacker could not use database reconstruction to uncover the characteristics of a particular individual.[5]

Census law mandates that the Census Bureau "shall not make any publication whereby the data furnished by any particular establishment or individual … can be identified" (Title 13 U.S.C. § 9(a)(2), Public Law 87-813). The Census Bureau's database reconstruction experiment convincingly demonstrates that the 2010 census tabulations meet that standard. The "reconstructed" data is usually false, an intruder would have no means of determining if any inference was true, and an intruder would lack the data needed even to estimate the probability that a re-identification attempt succeeded. Therefore, positive identification of individual respondents by an outsider is impossible, and the data furnished by any particular individual cannot be identified. Database reconstruction therefore poses no risk to the Census Bureau's confidentiality guarantee.

In addition, there is no evidence that differential privacy reduces disclosure risk compared with traditional methods of statistical disclosure control, and it may well increase the risk. The core metric of privacy loss used in differential privacy is epsilon (ε), which is often referred to as the privacy budget. When ε is large, noise infusion is limited and privacy is low, and when ε is small, noise infusion is large, and privacy is high. It has long been recognized, however, that there is no direct relationship between the level of ε and the risk of disclosing identities. Indeed, McClure and Reiter (2012) demonstrated that the level of ε does not determine the level of disclosure risk.

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[5] Abowd (2021a) App'x B ¶ 24 maintains that in a worst-case scenario (where an external attacker had data that was exactly as accurate and complete as the Census Bureau's internal data) an attacker might be able to guess a respondent's race and ethnicity and be correct in 58% of cases. This statement is false for the reasons I have detailed. It is worth noting, however, that such an exercise would be pointless even if database reconstruction did work as advertised. One could more accurately guess anyone's race and ethnicity just by assigning the most frequent race and ethnic group on the block; that guess would be correct 77.8% of the time. Calculated from U.S. Census Bureau (2011).

Because differential privacy does not target variables and circumstances that are vulnerable to attack, in some datasets with strong differential privacy (low ε), disclosure control can be weak.

The Census Bureau used $\varepsilon = 19.61$ for the redistricting data file.[6] This level is many times higher than is ordinarily contemplated by privacy researchers. The range of ε in the differential privacy literature generally runs from 0.01 to 5.0, but many analysts argue that to guarantee privacy, ε should not greatly exceed 1.0 (Lee and Clifton 2011; Dwork 2011). Frank McSherry, one of the co-inventors of differential privacy, remarked that "anything much bigger than one is not a very reassuring guarantee." Criticizing Apple's use of $\varepsilon = 14$ to protect privacy, McSherry argued "Apple has put some kind of handcuffs on in how they interact with your data. It just turns out those handcuffs are made out of tissue paper." McSherry went on to say that "using an epsilon value of 14 per day strikes me as relatively pointless" (Greenberg 2017).

The scale of epsilon is exponential, so $\varepsilon = 19.61$ provides 23 times less privacy protection than $\varepsilon = 14$. Accordingly the Census Bureau's implementation of differential privacy provides an exceptionally low level of data security, and probably poses greater risk than the traditional disclosure controls used by the Census Bureau.

The New York Times described a case that effectively illustrates the efficiency of traditional statistical disclosure control methods:

> The bureau has long had procedures to protect respondents' confidentiality. For example, census data from 2010 showed that a single Asian couple — a 63-year-old man and a 58-year-old woman — lived on Liberty Island, at the base of the Statue of Liberty.

> That was news to David Luchsinger, who had taken the job as the superintendent for the national monument the year before. On Census Day in 2010, Mr. Luchsinger was 59, and his wife, Debra, was 49. In an interview, they said they had identified as white on the questionnaire, and they were the island's real occupants.

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[6] Abowd Decl. ¶ 65 indicates that the Census Bureau is planning $\varepsilon=10.3$ for persons in its new demonstration product planned for April 2021.

> Before releasing its data, the Census Bureau had "swapped" the Luchsingers with another household living in another part of the state, who matched them on some key questions. This mechanism preserved their privacy, and kept summaries like the voting age population of the island correct, but also introduced some uncertainty into the data. (Hanson 2018).

Because the couple lived on a census block with only two residents, the Census Bureau recognized that they were at high risk of reidentification and thus targeted them for disclosure protection. By contrast, differential privacy makes no distinctions between high-risk and low-risk cases, so it infuses noise equally across characteristics and populations. This means that to achieve a given level of disclosure control, differential privacy must introduce far more error than would be needed using traditional statistical disclosure control.

The Census Bureau's database reconstruction exercise does not simulate a realistic attack. We do not know whether realistic attacks, such as the identification of the couple on Liberty Island, would be prevented by differential privacy. Accordingly, based on the information released to date, there is no way to be sure that a differentially private census with $\varepsilon=19.61$ will be as secure as a census protected by traditional disclosure controls.

The evidence supports several broad conclusions:

- The statistical disclosure controls employed by the Census Bureau over the past five censuses have proven extraordinarily effective. There is not a single documented case of anyone outside the Census Bureau uncovering the responses of a particular identified person using data from the decennial census.

- The Census Bureau's database reconstruction experiment—the chief rational for adopting differential privacy—failed to demonstrate a credible threat to the exposure of individual identities to anyone outside the Census Bureau. The Acting Director of the Census Bureau confirmed this interpretation when he wrote "The accuracy of the data our researchers obtained

from this study is limited, and confirmation of re-identified responses requires access to confidential internal Census Bureau information … an external attacker has no means of confirming them" (Jarmin 2019).

- The Census Bureau's novel contention that census law prohibits "exact disclosure of attributes" even if identities are fully masked is an obvious misinterpretation of the intent of Congress and contradicts centuries of precedent. Following every census since 1790, the Census Bureau has published exact attributes just as they were enumerated.

- At the proposed privacy budget level, there no guarantee that the Census Bureau's new approach increases protection of identities compared with traditional statistical disclosure controls; in fact, it may provide less protection.

Differential privacy is inappropriate for disclosure control in the census, since it is a blunt and inefficient instrument that adds unnecessary error to every measure, even though most measures pose no risk of a breach of confidentiality (Domingo-Ferrer, Sánchez, and Blanco-Justicia 2020). The adoption of a new regime of disclosure protection is justified only if the benefit of increased protection of respondent identities outweighs the cost inflicted by damage to the integrity of the data. The census includes just a few basic population characteristics: age, sex, race, Hispanic origin, family relationship, and home ownership. This information is not highly sensitive and can often be readily obtained from public sources such as voter-registration or property records. Even if database reconstruction worked as described, it is implausible that an outside attacker would invest the enormous time and resources needed to develop reconstructed individual-level census data from published tabulations. Given that the database reconstruction method developed by the Census Bureau performs little better than a roll of the dice, we can be confident that malicious intruders pose no realistic threat of harm.

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The new method alters the population count for every geographic unit below the state level and changes the counts for every population characteristic. For small populations, the error introduced can exceed the true population count. Post-processing for differential privacy also introduces systematic biases in respondent characteristics that can distort the relationships among variables. In short, differential privacy provides little or no documented benefit for the protection of respondent identities, but the costs are devastating.

10. Conclusion

Contrary to John Abowd's assertions, public release of the Census Bureau's *imputed* group quarters counts at the state level poses no realistic threat of disclosure by malicious attackers through database reconstruction or reidentification. Defendants' concerns about the introduction of new invariants and a potential subsequent "mosaic effect" attack are unfounded and entirely inapposite for the type of aggregate imputed data Plaintiff requests here. Indeed, the one far-fetched hypothetical scenario Dr. Abowd puts forward to illustrate the alleged risk to privacy from disclosure would actually pose zero risk of disclosure of any particular person's identity or individual census responses. The reality is that the Bureau used imputed group quarters numbers because they lacked individual responses for particular group quarters to begin with. Plaintiff's request for those numbers that were imputed (*i.e.*, made up) by Defendants, and thus by definition do not include data from individual responses, does not implicate the kind of data protected by Title 13, especially given the fact that Plaintiff only requests imputed numbers that have been aggregated on a statewide level.

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APPENDIX 1

Steven Ruggles

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Education

1985	University of Wisconsin, Demography, Post-Doctoral Trainee
1984	University of Pennsylvania, History, MA, PhD
1978	University of Wisconsin, History, BA

Academic Appointments

2008-	Regents Professor, History and Population Studies, University of Minnesota
2000-	Distinguished McKnight University Professor, University of Minnesota
1995-2008	Professor, University of Minnesota
1988-1995	Associate Professor, University of Minnesota
1985-1988	Assistant Professor, University of Minnesota

Administrative Appointments

2016-	Director, Institute for Social Research and Data Innovation, Univ. of Minnesota
2016-	Director, IPUMS
2000-2016	Director, Minnesota Population Center, University of Minnesota
1990-1999	Director, Social History Research Laboratory, University of Minnesota

Elected Offices

2021-2022	Nominations Committee, Population Association of America
2017-2021	Vice President, President, and Past-President, Social Science History Association
2016-2018	President, Association of Population Centers
2013-2016	President-Elect, President, and Past-President, Population Association of America
2015-2018	Executive Committee, Social Science History Association
2014-2016	Executive Committee, Population Association of America
2001-2003	Secretary, Association of Population Centers
2000-2003	Council member, Inter-University Consortium for Political and Social Research
1999-2002	Executive Committee, Social Science History Association

Selected National Committees

2016-2018	Advisory Committee on Cyberinfrastructure, National Science Foundation
2015-2016	Chair, Working Group on Open Access to Data in the Social and Behavioral Sciences, National Science Foundation
2010-2015	Advisory Committee for the Social, Behavioral, and Economic Sciences, National Science Foundation
2012-2015	Census Scientific Advisory Committee, U.S. Census Bureau
2012-2014	Chair, Committee of Visitors, Social and Economic Sciences, National Science Foundation

2011-2015	Study Committee on Education for Digital Curation, National Research Council Board on Research Data and Information
2011-2014	Data and Surveys Committee, Social, Behavioral, and Economic Sciences, National Science Foundation

Honors

Honorary Doctor, School of Economics and Management, Lund University (2021).

Population Association of America Poster Awards:
  "The Impact of Disclosure Control on Accuracy and Usability of the 2020 Census" with C. Fitch, T. Kugler, J. Schroeder, and D. Van Riper. (2021).
  "'It's None of their Damn Business': Privacy and Disclosure Control in the U.S. Census, 1790-2020" with Diana L. Magnuson. (2020)
  "Stem Families and Joint Families in Comparative Historical Perspective." (2010).

Population Association of America Honored Member (2017).

Science Communication and Education Award. Sigma Xi Scientific Research Society (2016).

Named "Wonkblog-Certified Data Wizard." Wonkblog, Washington Post (2014).

Warren E. Miller Award for meritorious service to the social sciences. Inter-university Consortium for Political and Social Research (2009).

Platinum Medallion, Delta Airlines (2009).

Scholar of the College, College of Liberal Arts, University of Minnesota (2005).

Robert J. Lapham Award, Population Association of America, for contributions to the application of demographic knowledge to policy issues (2003).

Named "King of Quant." *Wired* Magazine (March 1995, 86-90). http://archive.wired.com/wired/archive/3.03/ruggles_pr.html

American Historical Review most innovative article on American history published 1992-1994 (AHR nominee for ABC-CLIO *America: History and Life* Award, 1995).

William J. Goode Distinguished Book Award, American Sociological Association, for best book on the family (1989).

Allen Sharlin Memorial Award, Social Science History Association, for best publication in the field of social science history (1988).

McKnight-Land Grant Professorship (1987).

National Research Service Award, National Institute of Child Health and Human Development (1984).

Major Databases

Integrated Public Use Microdata Series (IPUMS-USA and IPUMS-CPS)*.* This database of over 750 million records provides access to integrated individual-level data from the U.S. decennial censuses of 1790 to 2010, Current Population Surveys from 1962 to the present, and the American Community Surveys from 2000 to the present. A beta-test version of IPUMS appeared in 1993. IPUMS has approximately 190,000 registered users and has generated over 20,000 publications. IPUMS was described by the *Journal of American History* as "One of the great archival projects of the past two decades." Liens-Socio, the French portal for the social

sciences, gave IPUMS the only "best site" designation that has gone to any non-French website, writing "IPUMS est un projet absolument extraordinaire...époustouflante [mind-blowing]!" http://usa.ipums.org/usa/ and https://cps.ipums.org/cps/.

International Integrated Public Use Microdata Series (IPUMS-International). The world's largest population database, IPUMS-International provides information on over a billion persons drawn from 473 censuses and surveys of 102 countries enumerated between 1701 and 2019. A collaboration with 112 national statistical agencies and dozens of scholars around the world, the project has preserved billions of census records, much of it endangered. The first beta release of data for seven countries was in 2002, and there have been annual releases since 2006. Dan Newlon, Director of NSF's Economics Program, remarked that "nothing like this has ever existed anywhere in the world . . . we're now able to move to a Hubble Telescope" (*St. Paul Pioneer Press*, 10/5/04). The project was the sole recipient (among 70 applicants) of NSF's Human and Social Dynamics Infrastructure Award. http://international.ipums.org/international/.

National Historical Geographic Information System (IPUMS-NHGIS). This database provides access to all U.S. Census summary data since 1790 and electronic boundary files describing the historical locations of counties and census tracts. The project required gathering and standardizing all surviving aggregate census data from over a million source files; developing comprehensive standardized machine-readable documentation for those data; creating high-precision historical electronic boundary files describing census tracts and counties; and developing web-based tools for disseminating statistical data, geographic data, and metadata. Of the 68 large infrastructure projects in the 2001 NSF infrastructure competition, NHGIS was ranked first, in a category of its own. NHGIS was released in 2007, with 400,000 map polygons, five million lines of tagged and structured metadata, three Terabytes of aggregate data, and a web-based data access system. In 2012, NHGIS began to release *integrated* summary files that provide comparable statistics across census years. http://www.nhgis.org/.

IPUMS-Terra. This project, initiated in October 2011, integrates and disseminates global-scale data on population and the environment. In particular, the project makes demographic data interoperable with global environmental data including land cover, land use and climate records. The project began as one of five projects sponsored by the National Science Foundation Office of CyberInfrastucture under the DataNet initiative. The IPUMS-Terra website was named one of GIS Geography's "Top 10 GIS Data Sources" because it is "the next generation resource that can provide researchers or anyone cutting-edge data through validated scientific workflows." GIS Lounge wrote that the project was "at the cutting edge of geospatial information systems" and can "bring people closer together to the information they need to make sense of the world around them." The Map and Geography Libraries Journal gave an article describing IPUMS-Terra its "Best Paper" award for 2016. The first data release was in June 2013. https://terra.ipums.org/

Special Journal Issues on Data Infrastructure Projects

"Big Data." Special issue, *Historical Methods*, 44:2 (Summer 2011).

"North Atlantic Population Project." Special issue, *Historical Methods*, 44:1 (Spring 2011).

"Building Historical Data Infrastructure: New Projects of the Minnesota Population Center." Part 1. Special issue, *Historical Methods*, 36:1 (Winter 2003).

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"IPUMS: The Integrated Public Use Microdata Series." Special issue, *Historical Methods*, 32:2 (Summer 1999).

"The Minnesota Historical Census Projects." Special double issue, *Historical Methods*, 28:1-2 (Winter-Spring 1995).

Book

Steven Ruggles. 1987. *Prolonged Connections: the Rise of the Extended Family in Nineteenth Century England and America* Madison: University of Wisconsin Press, xx, 282 pp.

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Brian Asquith, Brad Hershbein, Tracy Kugler, Shane Reed, Jonathan Schroeder, Steven Ruggles, David Van Riper, and Steve Yesiltepe. Forthcoming. "Assessing the impact of differential privacy on measures of population and racial residential segregation." *Harvard Data Science Review*.

Steven Ruggles and David Van Riper. 2021. "The Role of Chance in the Census Bureau Database Reconstruction Experiment." *Population Research and Policy Review. https://doi.org/10.1007/s11113-021-09674-3*

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Steven Manson, Tracy Kugler, David Van Riper, Jonathan Schroeder, and Steven Ruggles. 2019. Geocomputational infrastructure for population-environment data. *Geocomputation 2019.* University of Auckland.

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Steven Ruggles, Tracy A. Kugler, Catherine A. Fitch, and David C. Van Riper. 2016. "Terra Populus: Integrated Data on Population and Environment." *2015 IEEE International Conference on Data Mining Workshop* (ICDMW), pp. 222-231, doi:10.1109/ICDMW.2015.204

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Steven Ruggles. 2014. "Big Microdata for Population Research." *Demography* 51: 287-297.

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Steven Ruggles, Matthew Schroeder, Natasha Rivers, J. Trent Alexander, and Todd K. Gardner. 2011. "Frozen Film and FOSDIC Forms: Restoring the 1960 Census of Population." *Historical Methods* 44: 69-78.

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Steven Ruggles. 2010. "Stem Families and Joint Families in Comparative Historical Perspective." *Population and Development Review* 36: 563-577.

Michael Davern, Steven Ruggles, Tami Swenson, Michael Oakes, and Trent Alexander. 2009. "Drawing Statistical Inferences from Historical Census Data" *Demography* 46: 589-603.

Steven Ruggles. 2009. "Reconsidering the Northwest European Family System." *Population and Development Review* 35: 249-273.

Pamela J. Johnson, Lynn A. Blewett, Steven Ruggles, Michael E. Davern, and Miriam L. King. 2008. "Four Decades of Population Health Data: The Integrated Health Interview Series." *Epidemiology*, 19(6):872-875.

Steven Ruggles and Misty Heggeness. 2008. "Intergenerational Families in Developing Countries." *Population and Development Review* 34: 253-281.

Steven Ruggles. 2007. "The Decline of Intergenerational Coresidence in the United States, 1850 to 2000" *American Sociological Review* 72: 962-989.

Steven Ruggles. 2006. "Family and Household Composition" In Susan B. Carter, Scott Sigmund Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright, eds., *Historical Statistics of the United States: Earliest Times to the Present.* New York and Cambridge: Cambridge University Press, Volume 1: *Population*, pp. 653-689.

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Franconi (eds.) *Privacy in Statistical Databases.* Berlin and Heidelberg: Springer Verlag, pp. 375-382.

Steven Ruggles. 2006. "The Minnesota Population Center Data Integration Projects: Challenges of Harmonizing Census Microdata Across Time and Place" *2005 Proceedings of the American Statistical Association*, Government Statistics Section. Alexandria, VA: American Statistical Association, pp. 1405-1415.

Robert McCaa, Steven Ruggles, and Matthew Sobek. 2005. "IPUMS-América Latina: Homologación y diseminación de microdatos censales." *Estudios Demográficos Y Urbanos* 20: 37-70.

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Steven Ruggles and Susan Brower. 2003. "The Measurement of Family and Household Composition in the United States, 1850-1999." *Population and Development Review* 29: 73-101.

Steven Ruggles, Miriam King, Deborah Levison, Robert McCaa, and Matthew Sobek. 2003. "IPUMS-International" *Historical Methods*, 36: 60-65.

Steven Ruggles, Matthew Sobek, Miriam L. King, Carolyn Liebler, and Catherine Fitch. 2003. "IPUMS Redesign" *Historical Methods* 36: 9-21.

Catherine Fitch and Steven Ruggles. 2003. "Building the National Historical Geographic Information System." *Historical Methods* 36:1 (2003), 41-60.

Ron Goeken, Cuong Nguyen, Steven Ruggles, and Walter Sargent. 2003. "The 1880 United States Population Database." *Historical Methods* 36: 27-34.

Evan Roberts, Steven Ruggles, Lisa Dillon, Ólöf Garðarsdóttir, Jan Oldervoll, Gunnar Thorvaldsen, and Matthew Woollard. 2003. "The North Atlantic Population Project: An Overview." *Historical Methods* 36: 80-88.

Steven Ruggles. 2003. "The Measurement of Family and Household Composition in Census 2000: An Update." *Population and Development Review* 29: 480-482.

Steven Ruggles. 2003. "New Projects of the Minnesota Population Center." *Historical Methods*, 36: 5-8.

Robert McCaa and Steven Ruggles. 2002. "The Census in Global Perspective and the Coming Microdata Revolution." *Scandinavian Population Studies* 13: 7-30.

Robert McCaa and Steven Ruggles. 2002. "Proyecto Col-IPUMS: Harmonizing the census microdata of Colombia, 1964-2003." In Fernan Vejarano and Robert McCaa, eds., *Homologación de los microdatos censales colombianos. 1964-1993. Memorias del taller Col-Ipums*. Bogotá: DANE.

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Steven Ruggles. 2001. "Living Arrangements and Economic Well-being of the Aged in the Past." *Population Bulletin of the United Nations* 42/43: 111-61.

Lisa Y. Dillon and Steven Ruggles. 2001. "Creating Historical Snapshots of North America in 1880/1: Collaboration between Historians and the Church of Jesus Christ of Latter-day Saints on the 1880/1 Census Databases of the United States and Canada" *Genealogical Journal* 29: 107-113.

Steven Ruggles. 2000. "A Data User's Perspective on Confidentiality." *Of Significance: A Topical Journal of the Association of Public Data Users* 2: 1-5.

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Steven Ruggles, Catherine A. Fitch, Patricia Kelly-Hall and Matthew Sobek. 2000. "Integrated Public Use Microdata for the United States." In Patricia Kelly Hall, Robert McCaa, and Gunnar Thorvaldsen, eds., *Handbook of International Historical Microdata for Population Research.* Minneapolis: University of Minnesota, pp. 259-286.

Catherine Fitch and Steven Ruggles. 2000. "Historical Trends in Marriage Formation." In Linda Waite, Christine Bachrach, Michelle Hindin, Elizabeth Thomson, and Arland Thornton, eds., *Ties that Bind: Perspectives on Marriage and Cohabitation.* Hawthorne: Aldine de Gruyter, pp. 59-88.

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Steven Ruggles. 1988. "The Demography of the Unrelated Individual 1900-1950." *Demography* 25: 521-536.

Susan DeVos and Steven Ruggles. 1987. "The Demography of Kinship and the Life Course." *Life-Span Development and Behavior* 8: 259-281.

Steven Ruggles. 1986. "Availability of Kin and the Demography of Historical Family Structure." *Historical Methods* 19: 93-102.

Steven Ruggles. 1983. "Fallen Women: The Inmates of the Magdalen Society Asylum of Philadelphia 1836-1908." *Journal of Social History* 16: 65-82.

Reports

David Van Riper, Jonathan Schroeder, and Steven Ruggles. Feedback on the April 2021 Census Demonstration Files. Report submitted to the \Census Bureau, May 28, 2021.

Expert Declaration in State of Alabama v. United States Department of Commerce. Case No. 3:21-CV-211-RAH-ECM-KCN (2021). http://users.hist.umn.edu/~ruggles/censim/Ruggles_Report.pdf

Brief of Amici Curiae Historians to the Supreme Court on the enumeration of undocumented immigrants in the census, 20-366, Donald J. Trump v. New York, Nov. 16, 2020.

Brief of Amici Curiae Historians in Support of Plaintiffs' Motion for Partial Summary Judgment or Preliminary Injunction. United States District Court, Southern District of New York, 20-cv-05770 (JMF), State of New York v. Donald J. Trump. August 14, 2020.

Brief of Historians and Social Scientists Margo Anderson, Andrew Beveridge, Rachel Buff, Morgan Kousser, Mae Ngai, and Steven Ruggles as Amici Curiae in Support of Respondents. 18-966, U.S. Dept. of Commerce v. State of New York, April 1, 2019.

Task Force on Differential Privacy for Census Data. 2018. Implications of Differential Privacy for Census Bureau Data and Scientific Research. MPC Working Paper 2018-6. https://assets.ipums.org/_files/mpc/MPC-Working-Paper-2018-6.pdf

Working Group on Open Access to Data in the Social and Behavioral Sciences. 2016. Public Access to NSF-Funded Research Data for the Social, Behavioral, and Economic Sciences. https://www.nsf.gov/sbe/reports/Public_Access_NSF_Workshop_Report_Final_Briefs.pdf

Jon A. Krosnick, Stanley Presser, Kaye Husbands Fealing, and Steven Ruggles. 2015. *The Future of Survey Research: Challenges and Opportunities.* Report of the Subcommittee on Advancing Survey Research, Social, Behavioral and Economic Sciences. Washington, D.C.: National Science Foundation.

National Research Council Committee on Future Career Opportunities and Educational Requirements for Digital Curation. 2015. *Preparing the Workforce for Digital Curation.* Washington, D.C: National Academies Press.

State Budget Trends Commission, *Commission Report to the Legislature.* January 12, 2009.

Task Force on Census 2000. *The Public Use Microdata Samples of the U.S. Census: Research Applications and Privacy Issues.* Prepared by Steven Ruggles with Catherine A. Fitch and Matthew Sobek. Report prepared for the U.S. Census Bureau, Census 2000 Users' Conference on PUMS, May 2000. Washington, D.C.: U.S. Census Bureau.

Miscellaneous Publications

Steven Ruggles and Diana Magnuson. 2020. "Response to Martha Farnsworth Riche." *Journal of American History* 107(3): 829-830.

Steven Ruggles and Matthew Sobek. 2019. "IPUMS." *Encyclopedia of Gerontology and Population Aging.* Springer Nature.

Steven Ruggles. 2017. "The Importance of Data Curation." Chapter 39 in the *Palgrave Handbook of Survey Research*, eds, David L. Vannette and Jon A. Krosnick. New York: Palgrave-Macmillan.

Steven Ruggles. 2017. "Metadata and Preservation." Chapter 71 in the *Palgrave Handbook of Survey Research*, eds, David L. Vannette and Jon A. Krosnick. New York: Palgrave-Macmillan.

Steven Ruggles. 2015. "Census Microdata." *International Encyclopedia of the Social and Behavioral Sciences*, Second Edition. Oxford: Elsevier, pp. 284-289.

Steven Ruggles. 2013. "New Data for the Comparative Study of Family and Household" *NCFR Report Magazine*, Summer Issue, pp. F11-F14.

Steven Ruggles. 2012. "IPUMS (Integrated Public Use Microdata Series)." In Margo J. Anderson, ed., *Encyclopedia of the U.S. Census*, 2nd Edition. Washington, DC: Congressional Quarterly Press.

Steven Ruggles. 2007. "Integrated Public Use Microdata Series." *International Encyclopedia of the Social Sciences*, 2nd Edition. Macmillan Reference USA, Thomson Gale, pp. 382-385.

Steven Ruggles. 2000. "Living arrangements and Well-Being of the Elderly in the Past." In the *Proceedings of the United Nations Technical Meeting on Population Ageing and Living Arrangements of Older Persons: Critical Issues and Policy Responses*. New York: United Nations.

Steven Ruggles. 2000. "IPUMS (Integrated Public Use Microdata Series)." In Margo J. Anderson, ed., *Encyclopedia of the U.S. Census.* Washington, DC: Congressional Quarterly Press, pp. 264-267.

Steven Ruggles. 1999. "Higher Income, Higher Taxes." *Star Tribune*, April 3 1999, p. 17A (Op-Ed).

Software

Steven Ruggles. Census Simulation. http://users.hist.umn.edu/~ruggles/censim.html

Steven Ruggles. 1989. *DECOMP, A Program for Multiple Standardization and Demographic Decomposition: Technical Documentation and User's Guide*. Minneapolis: Social History Research Laboratory, University of Minnesota. Statistical software with 120 pp. of documentation. http://users.hist.umn.edu/~ruggles/DECOMP.html

Book Reviews

Arland Thornton, *Reading History Sideways: The Fallacy and Enduring Impact of the Developmental Paradigm on Family Life. Population and Development Review* 32 (2006), 174-176.

Michel Verdon, *Rethinking Households: An Atomistic Perspective on European Living Arrangements. Journal of Family History* 25 (2000), 118-120.

Stewart Tolnay, *The Bottom Rung: African American Family Life on Southern Farms. American Sociological Review* 105 (1999), 894-896.

David Kertzer and Peter Laslett, *Aging in the Past: Demography, Society and Old Age. Journal of Interdisciplinary History* 27 (1997), 497-498.

Marguerite Dupree*, Family Structure in the Staffordshire Potteries: 1840-1880. American Journal of Sociology* 101 (1996), 1437-1439.

Angelique Janssens, *Family and Social Change: The Household as a Process in an Industrializing Community. American Journal of Sociology 100 (*1994), 532-533.

Samuel Preston and Michael Haines, *Fatal Years: Child Mortality in Late Nineteenth-Century America. Journal of Economic Literature* 30 (1992), 2177-2178.

Elizabeth Pleck, *Domestic Tyranny: The Making of American Social Policy against Family Violence From Colonial Times to the Present. Journal of Interdisciplinary History* 19 (1989) 686-688.

Extramural Funding

2017-2022 Principal Investigator. "Microdata for Population Dynamics and Health Research." National Institute of Child Health and Human Development, National Institutes of Health. $3,796,565. Score: 10 (2nd percentile).

2016-2021 Principal Investigator, "Minnesota Population Center." Competing Continuation, P2C HD041023, NICHD-PDB. $1,404,530. Priority Score: 10 (no percentile). PI status transferred to John Robert Warren.

2016-2021 Co-Investigator, "Integrated Samples of Eurasian Censuses." Competing Continuation, R01HD047283, NICHD-PDB. $2,994,959. Priority Score: 19 (5th percentile).

2015-2020 Principal Investigator, "Big Microdata Expansion Project," with Catherine Fitch and Matthew Sobek. R01HD083829. NICHD-PDB.Total award: $3,105,210. Priority score: 12 (1st percentile).

2015-2020 Co-Investigator, "Models of Demographic and Health Changes following Military Conflict." Principal Investigator: J. David Hacker. R01HD082120, NICHD-PDB.Total award: $ 2,863,931. Priority score: 21 (11th percentile)

2014-2019 Principal Investigator, "International Integrated Microdata Series." National Science Foundation, SES-1357452. Total award: $6,699,794.

2014-2019 Co-Investigator, "Integrated Samples of Latin American Censuses, 1960-2003." Competing Continuation, R01 HD044154, NICHD-DBSB. Principal Investigator: Robert McCaa. $3,541,813. Score: 10 (5th percentile).

2013-2018 Principal Investigator, "Big Data for Population Research," with Catherine Fitch and Matthew Sobek. R01HD078322 National Institute of Child Health and Human Development, Demographic and Behavioral Sciences Branch (NICHD-DBSB). $3,185,694. Priority score: 11 (1st percentile)

2013-2018 Principal Investigator, "IPUMS Redesign" Competing Continuation, R01 HD43392, NICHD-DBSB. $2,894,148. Score: 11 (3rd percentile).

2013-2018 Co-Investigator, "National Spatiotemporal Population Research Infrastructure." Competing Continuation, R01HD057929, NICHD-DBSB. $3,020,552. Priority score: 11 (3rd percentile)

2013-2018 Co-Principal Investigator, "National Historical Geographic Information System." National Science Foundation SES-1324875. $869,999.

2012-2014 Co-Principal Investigator, "Mining Microdata: Economic Opportunity and Spatial Mobility in Britain, Canada and the United States, 1850-1911." Digging into Data Challenge, National Science Foundation, Economic and Social Research Council (UK), and Social Science and Humanities Research Council (Canada). SMA 1209078, $120,901 (Minnesota component). Principal Investigator: Evan Roberts.

2012-2016 Principal Investigator, "Infrastructure for Population Analysis." (1940 Census Project). National Science Foundation, SES1155572. $750,000.

2012-2017 Principal Investigator, "Baseline Socioeconomic Microdata for Population and Health Research.". R01HD073967, NICHD-DBSB. $3,043,604. Priority score: 10 (1st percentile)

2012-2017 Principal Investigator, "Microdata for Analysis of Early Life Conditions, Health, and Population." R01AG041831 National Institute on Aging. $2,928,170. Priority score: 11 (4th percentile).

2011-2016 Principal Investigator, "Terra Populus: A Global Population-Environment Data Network." Office of Cyberinfrastructure, National Science Foundation (NSF). $7,998,550.

2011-2016 Co-Investigator, "Integrating, Linking, and Disseminating CPS Data." Competing Continuation, R01 HD047283, NICHD-DBSB. Principal Investigator: John Robert Warren. $3,111,152. Score: 18 (5th percentile).

2011-2016 Principal Investigator, "North Atlantic Population Project." R01 HD052110, 2011, $3,044,475. Score: 14 (3rd percentile).

2011-2016 Principal Investigator, "Minnesota Population Center." Competing Continuation, R24 HD41023, NICHD-DBSB $1,379,532. Score: 20 (no percentile given).

2011-2016 Subaward Principal Investigator, "Early Life Conditions, Survival, and Health: A Pedigree-Based Population Study." University of Utah subcontract (NIA Prime, R01 AG022095), Ken Smith PI. Minnesota component $669,482.

2009-2014 Principal Investigator, "International Integrated Microdata Series." SES-0851414, NSF, $5,963,296.

2009-2014 Co-Investigator, "Baseline Microdata for Analysis of U.S. Demographic Change." R01HD060676, NICHD-DBSB. Principal Investigator: Evan Roberts.$3,587,689. Score: 120 (2.1 percentile).

2009-2014 Co-Investigator, "Integrated Samples of Eurasian Censuses." R01 HD047283, NICHD-DBSB. Principal Investigator: Robert McCaa. $3,030,118. $3,587,689. Score: 10 (2nd percentile).

2009-2011 Subaward Principal Investigator, "Demographic Data Sharing and Archiving." Subcontract with the Inter-university Consortium for Political and Social Research, Ann Arbor, Michigan; prime funding agency, NICHD-DBSB U24HD048404. $61,567 (Minnesota component). Score: 150.

2009-2014 Co-Investigator, "Integrated Health Interview Series." Competing Continuation, R01 HD046697, NICHD-DBSB. Principal Investigator: Lynn Blewett. $3,372,067. Score: 137 (11.4 percentile).

2009-2012 Co-Principal Investigator, "Minnesota Research Data Center" SES-0851417. NSF. Principal Investigator: Catherine Fitch. $299,066.

2008-2013 Principal Investigator, "Integrated Spatio-Temporal Aggregate Data Series" R01 HD057929, NICHD-DBSB. $2,919,725. Score: 120 (2.3 percentile).

2007-2012 Principal Investigator, "IPUMS Redesign" Competing Continuation, R01 HD43392, NICHD-DBSB. $3,093,410. Score: 132 (5.8 percentile). Supplement, 2004-2007, $216,946. Score: 161.

2007-2012 Principal Investigator, "New Data Resources from the 1960 Census of Population" R01 HD041575, NICHD-DBSB. $2,375,491. Score: 120 (1.1 percentile).

2007-2012 Principal Investigator, "Public Use Microdata Sample of the 1930 Census." Competing Continuation, R01 HD041575, NICHD-DBSB. $3,256,088. Score: 126 (2.6 percentile).

2007-2012 Co-Investigator, "Integrated Samples of Latin American Censuses, 1960-2003." Competing Continuation, R01 HD044154, NICHD-DBSB. Principal Investigator: Robert McCaa. $3,100,064. Score: 105 (0.4 percentile).

2007-2011 Co-Investigator, "Economic Opportunity and Marriage Formation, 1960-2000" Principal Investigator, Catherine A, Fitch. NICHD-DBSB (R01-HD054643, $596,505, Score 157, 17 percentile)

2007-2010 Co-Principal Investigator, "Economic Opportunity and Marriage Formation, 1960-2000" Co-Principal Investigator, Catherine A, Fitch. NSF Sociology Program (SES-0617560, $158,706).

2007-2010 Co-Investigator, "Population and Health Data Manager." R44 HD053162. NICHD-DBSB. SBIR Grant to Orlin Research, Inc. Principal Investigator, Catherine Ruggles. $849,237. Score: 194 (no percentile given).

2006-2011 Principal Investigator, "Minnesota Population Center." Competing Continuation, R24 HD41023, NICHD-DBSB, $1,440,753. Score: 140.

2006-2012 Co-Principal Investigator, "National Historical Geographic Information System." BCS-0648005, Geography and Regional Sciences Program, NSF. Co-Principal Investigators: John Adams, William Block, Mark Lindberg, Robert McMaster and Wendy Treadwell. $1,034,493.

2006-2011 Principal Investigator, "North Atlantic Population Project." R01 HD052110, NICHD-DBSB, $1,398,575. Score: 140 (5.4 percentile).

2005-2006 Co-Principal Investigator, "Uncovering the Underrepresented." Grant number 52084, Robert Wood Johnson Foundation. Principal Investigator: Michael Davern. $350,000.

2004-2009 Principal Investigator, "International Integrated Microdata Series." SES-0433654, NSF, Human and Social Dynamics Infrastructure award. $5,000,000. Sole infrastructure award of 64 applicants to the Human and Social Dynamics initiative.

2004-2009 Subaward Principal Investigator, "Demographic Data Sharing and Archiving." Subcontract with the Inter-university Consortium for Political and Social Research, Ann Arbor, Michigan; prime funding agency, NICHD-DBSB U24HD048404. $437,815 (Minnesota component).

2004-2009 Co-Investigator, "Integrated Samples of European Censuses." R01 HD047283, NICHD-DBSB. Principal Investigator: Robert McCaa. $3,030,118. Score: 120 (1.0 percentile).

2004-2009 Co-Investigator, "Integrated Health Interview Series." R01 HD046697, NICHD-DBSB. Principal Investigator: Lynn Blewett. $2,990,745. Score: 117 (0.3 percentile).

2004-2007 Principal Investigator, "IPUMS Redesign" Competing Supplement, R01 HD43392, NICHD-DBSB. $216,946. Score: 161 (no percentile given).

2003-2008 Principal Investigator, "Population Database for the United States in 1880." Competing Continuation. R01 HD39327, NICHD-DBSB. $2,645,234. Score: 135 (7.2 percentile).

2003-2008 Principal Investigator, "Public Use Microdata Sample of the 1900 US Census of Population." R01 HD36451, NICHD-DBSB. $2,550,000. Score: 120 (2.5 percentile).

2003-2006 Co-investigator, "Black Migration to the West." SES-0317254, Sociology Program, NSF; Collaborative research with SES-0317247, University of Washington. Principal Investigators: Stewart Tolnay, J. Trent Alexander, and Jason Digman. $303,507.

2002-2007 Principal Investigator, "IPUMS Redesign." R01 HD43392, NICHD-DBSB. $2,659,155. Score: 120 (1.8 percentile).

2002-2007 Co-Investigator, "Integrated Samples of Latin American Censuses, 1960-2003." R01 HD044154-01, NICHD-DBSB. Principal Investigator: Robert McCaa. $2,999,934. Score: 120 (1.8 percentile).

2002-2007 Principal Investigator, "Public Use Microdata Sample of the 1930 Census." R01 HD041575, NICHD-DBSB. $3,183,561. Score: 117 (0.4 percentile).

2001-2005 Co-Principal Investigator, "National Historical Geographic Information System." BCS-0094908, Geography and Regional Sciences Program, NSF. Co-Principal Investigators: John Adams, William Block, Mark Lindberg, Robert McMaster and Wendy Treadwell. $4,884,447.

2001-2005 Principal Investigator, "Minnesota Population Center." R24 HD41023, NICHD-DBSB, 2001-2011 $1,327,931. Score: 174.

2001-2005 Principal Investigator, "North Atlantic Population Project." SES-0111707, NSF. $491,506.

2000-2001 Principal Investigator, "The 1880 United States Population Database" SES 9910961, Sociology Program, NSF. $200,000.

2000   Principal Investigator, "Microdata Access System." Equipment grant, Sun Microsystems. $135,000.

2000-2003 Principal Investigator, "Population Database for the United States in 1880." R01 HD39327, NICHD-DBSB. $947,160. Score: 113 (0.3 percentile).

2000-2003 Co-Investigator, "Integrated Samples of Colombian Censuses, 1964-2000." R01 HD37508, NICHD-DBSB. Principal Investigator: Robert McCaa. $549,160. Score: 145 (3.3 percentile)

1999-2004 Principal Investigator, "International Integrated Microdata Access System." SBR-9908380, Methodology, Measurement, and Statistics Program, NSF. Co-Principal Investigators: Robert McCaa, Deborah Levison, Todd Gardner, and Matthew Sobek. $3,501,130.

1999-2004 Principal Investigator, "A New Public Use Microdata Sample of the 1910 US Census of Population." R01 HD37888, NICHD-DBSB. $2,370,000. Score: 131 (7.0 percentile).

1998-2003 Principal Investigator, "Public Use Microdata Sample of the 1900 US Census of Population." R01 HD36451, NICHD-DBSB. $2,100,000. Score: 107 (0.2 percentile).

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1997-2002 Principal Investigator, "Dissemination & Support of the IPUMS database." SBR-9617820, Methodology, Measurement, and Statistics Program, NSF. $209,762.

1996-2002 Principal Investigator, "Public Use Microdata Samples of the 1860 & 1870 US Censuses." R01 HD34572, NICHD-DBSB. $1,610,000. Score: 117 (1.8 percentile).

1996-2000 Principal Investigator, "Electronic Dissemination of the IPUMS database." R01 HD34714, NICHD-DBSB. $408,000. Score: 140 (11.7 percentile).

1995-1997 Principal Investigator, "Integrated Public Use Microdata Series." Accomplishment-Based Renewal, 1995, SBR-9422805, $112,130.

1994-1996 Subaward Principal Investigator, "Oversample of the 1910 Hispanic Population." (subcontract consortium agreement with University of Texas UT95-0030). R01 HD32325, NICHD-DBSB. $285,000 (Minnesota component).

1993-1998 Principal Investigator, "Public Use Microdata Sample of the 1920 Census." R01 HD29015, NICHD-DBSB. $2,200,000. Score: 130 (2.2 percentile).

1992-1995 Principal Investigator, "Integrated Public Use Microdata Series." SES-9118299, NSF. $464,913.

1992-1994 Co-Principal Investigator, "Public Use Microdata Sample of the 1850 Census." SBR-9210903, Sociology Division, NSF. Co-Principal Investigator: Russell Menard. $192,203.

1989-1993 Principal Investigator, "Public Use Sample of the 1880 Census." R01 HD25839, NICHD-DBSB. Co-Principal Investigator: Russell Menard. $1,287,000. Score: 125 (1.3 percentile).

1984-1985 Principal Investigator, National Research Service Award, National Institute of Child Health and Human Development, National Institutes of Health. $19,608 (individual postdoctoral award).

University of Minnesota Grants and Awards

2008-   Regents Professorship, $50,000 annually.

2017-2019 "Minnesota Population Database." $99,999. Office of the Vice President for Research.

2004-2007 Scholar of the College, $30,000.

2000-2004 Distinguished McKnight Professorship. Graduate School, $100,000.

2000-2002 Principal Investigator, "Minnesota Population Center." New Initiatives in Interdisciplinary Research, Graduate School, $100,000.

1994-1995 Principal Investigator, "Public Use Microdata Sample of the 1870 Census: Pilot Study." Grant-In-Aid of Research, Graduate School, University of Minnesota, $22,000.

1992-1993 Principal Investigator, "Public Use Microdata Sample of the 1920 Census: Pilot Study." Grant-In-Aid of Research, Graduate School, University of Minnesota, $18,000.

1990-1991 "Fragmentation of the Family: Living Arrangements in America, 1880-1980." Bush Sabbatical Fellowship, University of Minnesota. $35,000.

1990-1991 Principal Investigator, "Integrated Public Use Microdata Series: Pilot Study." Grant-in-Aid of Research, Graduate School, University of Minnesota, $15,000.

1989-1990 Principal Investigator, "Public Use Sample of the 1880 Census." With Russell R. Menard, Grant-in-Aid of Research, Graduate School, University of Minnesota, $15,000.

1987-1990 McKnight-Land Grant Professorship, Graduate School & McKnight Foundation, $68,000.

1987-1989 Principal Investigator, "The Transformation of American Household Structure, 1880-1980." Three Grants-in-Aid of Research, Graduate School, University of Minnesota, $30,000.

1985-1987 Principal Investigator, "Life-course Transitions and American Family Structure, 1900-1950." Two Grants-in-Aid of Research, Graduate School, University of Minnesota, $18,000.

PhD Advisees Completed

William Block, "A Princely Gift Indeed: Agricultural Opportunity, Farm Formation, and Marriage in the United States, 1850-1990" (Ph.D. 2000). Currently Director of the Cornell Institute for Social and Economic Research, Cornell University.

Lisa Y. Dillon, "Between Generations and Across Borders: Living Arrangements of the Elderly and their Children in Victorian Canada and the United States" (Ph.D. 1997). Currently Professor of Demography, University of Montreal.

Catherine A. Fitch, "Transitions to Marriage in the United States, 1850-2000" (Ph.D. 2005). Currently Associate Director, Minnesota Population Center.

Jill Frahm, "Unclaimed Flowers and Blossoms Protected by Thorns: Never-Married Women in the United States, 1880-1930." (Ph.D. 2010). Currently teaches history at the Dakota County Technical College, Rosemount, MN.

Todd Gardner, "The Metropolitan Fringe: Suburbanization in the United States Before World War II" (Ph.D. 1998). Currently Senior Statistician, U.S. Bureau of the Census.

Ronald Goeken, "Unmarried Adults and Residential Autonomy: Living Arrangements in the United States, 1880-1990" (Ph.D. 1999). Currently Data Services Core Director and Research Associate, Minnesota Population Center.

J. David Hacker, "The Human Cost of War: White Population in the Civil War Era" (Ph.D. 1999). Dorothy Thomas Prize, Population Association of America; Finalist for Nevins Prize, Economic History Association. Currently Associate Professor of History, University of Minnesota.

Patricia Kelly Hall, "Privileged Moves: Migration, Race, and Veteran Status in Post-World War II America" (Ph.D. 2009). Currently Research Associate, Minnesota Population Center.

Daniel C. Kallgren, "The Individual, the Family and the Community in the Rise of American School Attendance" (Ph.D. 1995). Currently Associate Professor of History, University of Wisconsin Center.

Diana L. Magnuson, "The Making of a Modern Census: The United States Census of Population, 1790-1940" (Ph.D. 1995). Currently Professor of History, Bethel College, St. Paul, Minnesota.

Ellen Manovich, "'Is this a Real Neighborhood?': Universities, Urban Development, and Neighborhood Change in the 20th Century United States." (Ph.D. 2016).

Matthew Nelson, "Relieved of These Little Chores: Agricultural Neighbor Labor, Family Labor, and Kinship in the United States 1790-1940." (Ph.D. 2018).

Evan Roberts, "The Growing Economic Independence of Women": Married Women's Labor Force Participation in the United States, 1860-1940." (Ph.D. 2007). Finalist for the Nevins Prize, Economic History Association. Currently Assistant Professor of Sociology, University of Minnesota.

David Ryden, "Producing a Peculiar Commodity: Jamaican Sugar Production, Slave Life, and Planter Profits on the Eve of Abolition, 1750-1807." (Ph.D. 1999). Finalist for the Gerschenkron Prize, Economic History Association. Currently Associate Dean and Professor, University of Houston.

Chad Ronnander, "Many Paths to the Pine: Mdewakanton Dakotas, Fur Traders, Ojibwes, and the United States in Wisconsin's Chippewa Valley, 1815-1837." (Ph.D. 2003). Outreach Director, Hamline University.

Matt Sobek, "Work in America: Workforce participation and Occupational Attainment in the United States, 1850-1990" (Ph.D. 1997). Currently Data Integration Core Director, Minnesota Population Center, University of Minnesota.

Postdoctoral Advisees

J. Trent Alexander, Ph.D., History, Carnegie Mellon University. Currently Associate Director, Inter-University Consortium for Political and Social Research.

Albert Esteve, Ph.D., Demography, Autonomous University of Barcelona. Currently Professor and Director, Center for Demographic Studies, Autonomous University of Barcelona.

Todd Gardner, Ph.D., History, University of Minnesota. Currently Senior Statistician, U.S. Census Bureau.

Mark Geiger, Ph.D., History, University of Missouri. Currently Independent Scholar.

Ronald Goeken, Ph.D., History, University of Minnesota. Currently Data Services Core Director, Minnesota Population Center.

J. David Hacker. Ph.D., History, University of Minnesota. Currently Associate Professor of History, University of Minnesota.

Hiromi Ishizawa, Ph.D., Sociology, University of Illinois. Currently Associate Professor of Sociology, Georgetown University.

Nathan Lauster, Ph.D., Sociology, Brown University; Currently Associate Professor of Sociology, University of British Colombia.

Carolyn Liebler, Ph.D., Sociology, University of Wisconsin. Currently AssociateProfessor of Sociology, University of Minnesota.

Berna Torr, Ph.D., Sociology, Brown University. Currently Assistant Professor of Sociology, California State University, Fullerton.

Selected Invited Lectures

Lund University, November 2021

California Center for Population Research, UCLA, October 2021

Harvard Social Demography Seminar, October 2021

Harvard Workshop in History, Culture, and Society, March 2021

Huber Lecture, the Institute for Population Research, The Ohio State University, April 2020

Center for Demography & Ecology and the Center for Demography of Health and Aging, University of Wisconsin-Madison, March 2020.

Population Research Center, University of Texas at Austin, April 2019

Minnesota Population Center Seminar Series, April 2019

University of Pennsylvania, Population Studies Center Colloquim, February 2019

Simons Institute for the Theory of Computing, University of California, Berkeley 2019

University of Pennsylvania, Advanced Demographic Methods Workshop, February 2019

Notestein Seminar, Office of Population Research, Princeton University, November 2018

Autonomous University of Barcelona, Centre d'Estudis Demogràfics, January 2018

University of Minnesota Geography Seminar, Febriary 2018

Center for Studies in Demography and Ecology, University of Washington, October 2017

Minnesota Population Center, March 2017

Colorado University Population Center, November 2016

MITRE Lecture, University of Michigan, March 2016

Sigma XI, University of Minnesota, May 2016

Rand Corporation, Santa Monica, August 2016

Minnesota Population Center, April 2015

Harvard Center for Population and Development Studies, March 2015

Broom Center for Demography, University of California-Santa Barbara, February 2015

California Center for Population Research, UCLA, February 2015

Stanford University, February 2015

Center for Studies in Demography and Ecology, University of Washington, January 2015

Center for Demography and Ecology, University of Wisconsin-Madison, February 2014

Federal University of Minas Gerais, CEDEPLAR, November 2013

Duke University Population Research Institute, November 2013

U.S. Census Bureau, Suitland, Maryland, 2012

Initiative in Population, The Ohio State University, 2012

Center for Demography and Ecology, University of Wisconsin, 2011

Cornell University Population Program, 2011

Institute on the Environment, University of Minnesota, Frontiers Lecture 2011

Max Planck Institute for Demographic Research, Rostock, Germany, April 2010

Notestein Seminar, Office of Population Research, Princeton University, March 2010

Arizona State University Population Program, February 2009

Carolina Population Center, University of North Carolina, November 2008

Max Planck Institute for Demographic Research, Rostock, Germany, July 2008

Population Studies and Training Center, Brown University, November 2007

Maryland Population Research Center, University of Maryland, May 2007

Sociology Colloquium, Stanford University, May 2006

International Institute for Social History, Amsterdam, March 2006

National Science Foundation, Arlington, VA, September 2005

Institut national d'études démographiques, Paris, July 2005
California Center for Population Research, UCLA, May 2005
Center for Studies in Demography and Ecology, University of Washington, April 2004
Department of Demography, University of Montreal, November 2003
Population Studies Center, University of Michigan, 1995
Graduate Group in Demography, SUNY at Buffalo, 1993
Population Studies Center, University of Texas, February 1989
Center for Demography and Ecology, University of Wisconsin, 1985

Conference Presentations

"Privacy and Disclosure Control in the U.S. Census, 1790-2020." (with Diana L. Magnuson). Social Science History Association, Philadelphia, November 2021

"Data Infrastructure and the Paranoid Style in the United States, 1965-2020," presented at the Big Data in Economic History Conference, Institute for Advanced Study, Toulouse. May 27, 2021.

"The Impact of Disclosure Control on Accuracy and Usability of the 2020 Census" (with C. Fitch, T. Kugler, J. Schroeder, and D. Van Riper), Population Association of America, St. Louis, April 2021.

"Disclosure Avoidance in the Census Bureau's 2010 Demonstration Data Product." With David Van Riper and Tracy Kugler. UNESCO Chair in Data Privacy, International Conference, PSD 2020, Tarragona, Spain, September 23–25, 2020

"'It's None of their Damn Business': Privacy and Disclosure Control in the U.S. Census, 1790-2020." (with Diana L. Magnuson). Population Association of America, Washington, D.C., April 22-25, 2020.

"Differential Privacy and Racial Residential Segregation" (with David Van Riper, Tracy Kugler, and Jonathan Schroeder) Presented at the 2020 virtual meeting of the Association for Pimlic Policy Analysis and Management, November 11, 2020.

"The Revival of Quantification: Reflections on the Old New Histories." Presidential Address, Social Science History Association, Chicago, November 2019.

"Collaboration of Genealogy and Social Science History: The Case of IPUMS." Social Science History Association, Chicago, November 2019.

"Building Relationships Where There Are None: Imputing Relationship Status in the 1850, 1860 and 1870 Decennial Census Files." With Jose Pacas and Josiah Grover. Social Science History Association, Chicago, November 2019.

"Differential Privacy for Population Data," Association of Population Centers, Chicago, October 4, 2019.

"Assessing the Impact of Differential Privacy on Racial Residential Segregation," Harvard Data Science Symposium, October 25, 2019.

"The Demography of Kinship: or, My Life as a Microsimulator." Keynote, International Union for the Scientific Study of Population, International Seminar on Kinship and Reproduction in Past Societies. Minneapolis, August 22-23, 2019.

"Implications of Differential Privacy for Public Data." Keynote Roundtable, Association of Public Data Users, Washington, July 9, 2019.

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"IPUMS Multigenerational Longitudinal Panel." Putting the Pieces Together: Promise, Programs and Pitfalls in Linking Historical and Contemporary Records, Kellog Global Hub, Northwestern University, May 17-19, 2019.

"Big Census Microdata: IPUMS in the Federal Statistical Research Data Centers," with Catherine Fitch, Erin Meyer, and Todd Gardner. Population Association of America, Austin, April 10-13.

"Imputing Relationship Status in the 1850, 1860 and 1870 Decennial Census Files," with Jose Pacas and Josia Grover. Population Association of America, Austin, April 10-13, 2019.

"Differential Privacy and Census Data: Implications for Social and Economic Research" Population Association of America, Austin, April 10-13.

"Differential Privacy and Census Data: Implications for Social and Economic Research." American Economic Association, Atlanta, January 5, 2019.

"Census Privacy," Privacy in the Digital Era, Institute for Humane Studies, George Mason University. January 3, 2019.

"Implications of Differential Privacy for Census Bureau Data Dissemination." Federal Economic Statistics Advisory Committee, Washington DC, December 14, 2018

"Capturing the American People: Census Technology and Institutional Change, 1790-2010." Social Science History Association, Pheonix, November 11, 2018

"Building a National Longitudinal Research Infrastructure," Family History Technology Workshop, Brigham Young University, Provo, Feb. 27, 2018.

"Building the Minnesota Population Database." Population Association of America, Denver, April 26-28, 2018.

"Public Access to Data in the Social, Behavioral, and Economic Sciences." National Science Foundation Workshop on Open Access to Data. Alexandria, VA, Feb. 22.

"History of the Association of Population Centers." Association of Population Center, Chapel Hill, NC, January 26, 2018.

"IPUMS Data Integration." INGRID Data Forum on Harmonization and Uses of European Microdata. European Union Research and Innovation Programme, Barcelona, Jan 18 2018.

"Public Access to Data in the Social, Behavioral, and Economic Sciences." National Science Foundation Workshop on Open Access to Data. Alexandria, VA, Feb. 22

"Integrating Geographic Context with Individual Situation." With D. Van Riper and J. Schroeder. Social Science History Association, Montreal, November 4, 2017.

"The National Longitudinal Research Infrastructure." Social Science History Association, Montreal, November 3, 2017.

"Integrating and Disseminating Large-Scale Microdata." Population Association of America, Chicago, April 27, 2017.

"Building an National Longitudinal research Infrastructure." Population Association of America, Chicago, April 27, 2017.

"Building a National Longitudinal Research Structure: Historical Perspectives on Data and Technology," Keynote Address, 2016 FSRDC Annual Research Conference, College Station, TX September 2016.

"New Spatially Referenced Microdata." 2016 Racial Segregation Conference, College Station, TX September 2016.

"Data Dissemination and Archiving for the Big Three: An Update." National Academy of Sciences, Annual Meeting of the Standing Committee on the Furture of NSF Supported Surveys, Washington D.C., October 6, 2016.

"Microdata as a time machine: IPUMS-International population samples illuminate a world we have Gained." With Robert McCaa, Lara Cleveland, Patricia Kelly-Hall, and Matthew Sobek. European Society of Historical Demography conference Leuven, 21-24 September 2016

"Race Differentials in Marriage, 1960-2013." Population Association of America, Washington, D.C., March 31, 2016.

"Monitoring Sustainable Development Goals with Data from IPUMS International." Population Association of America, Washington, D.C., March 31, 2016. With R. McCaa, ML King, D. Levison, M. Sobek.

"Trends in Intergenerational Coresidence in Low and Middle-Income Countries: 1970-2010. With Sheela Kennedy. Population Association of America, Washington, D.C., March 31, 2016.

"A Note on Data Challenges for the Development Agenda: Observations from IPUMS." United Nations Expert Group Meeting on Strengthening the Demographic Evidence Base for the post-2015 Development Agenda." New York, October 5-6, 2015.

"Marriageability and the race differential in the frequency of marriage, 1960-2014." Social Science History Association, Baltimore, November 12-15, 2015.

"The History of Data: Technological Change and the Census, 1790-2020." Plenary lecture, International Association for Social Science Information Services and Technology, Minneapolis, June 2, 2015.

"Patriarchy, Power and Pay: The Transformation of American Families, 1800-2015." Presidential Address, Population Association of America, San Diego, May 1, 2015.

"Wage Labor and Family Systems." International Institute of Social History, Amsterdam, December 12-13 2014.

"The Revolution in Family Formation." Keynote Address, Southern Demographic Association, Memphis, October 17.

"Complete-Count Data from the U.S. Census." Social Science History Association, Toronto, November 6-9, 2014.

"Intergenerational mobility in Britain, Canada, and the United States, 1850-1911: New evidence from Digging into Data." With P. Baskerville, L. Dillon, K. Inwood, E. Roberts, K. Schurer. Social Science History Association, Toronto, November 6-9, 2014.

"Marriage, Family Systems, and Economic Opportunity in the United States Since 1850." Family Symposium, The Pennsylvania State University, October 13-14, 2014.

"The IPUMS-International partnership enhances the value of census microdata for both producers and users." With R. McCaa, P. Kelly-Hall, L. Cleveland, and M. Sobek. International Association for Official Statistics, Da Nang, Vietnam, October 8-10, 2014.

"The Decline of Marriage in the United States and Latin America." Population Association of Latin America (ALAP) Lima, Peru, August 12, 2014.

"Big Microdata from the U.S. Census." With C. Fitch and M. Sobek. Population Association of America, Boston, May 1-3, 2014.

"Trends in Intergenerational Coresidence in Developing Countries." Poster presentation with S. Kennedy. Population Association of America, Boston, May 1-3, 2014.

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"Terra Populus: Integrated Data on Population and Environment." Coalition for Networked Information, Washington, DC December 8-9, 2014.

"The Family Transition in the U.S. and Latin America." Family, Gender and Generations: A conference of the Brazilian Population Association. University of Campinas, Nov. 26-27, 2013.

"Variance Estimation in U.S. Census Data from 1960-2010" Poster presentation with Kathryn Coursolle and Lara Cleveland, Population Association of America, New Orleans, April 11-13 2013.

"The IPUMS big data revolution: liberating, integrating and disseminating the globe's census microdata." Chaire Quetelet: Demography revisited: The past 50 years, the coming 50 years. Louvain-la-Neuve, November 12-15, 2013.

"Getting Our Message Across: Strategies and Best Practices to Ensure the Use of Statistics in Decision Making." With Robert McCaa, Lara Cleveland, Albert Esteve, and Matthew Sobek.. International Association of Official Statistics, 12-14 September 2012.

"Historical Census Microdata and the Future of Household Demography." 2nd Mosaic Conference, Budapest, September 6-7 2012.

"Data Integration, Dissemination, Sustainability, and Metadata." Conference on Surveys and Data, National Science Foundation, November 8-9 2012.

"The History of Historical Family Demography" Social Science History Association, Vancouver, November 1-4, 2012.

"Terra Populus: Integrating Data on Population and the Environment." With Catherine A. Fitch, Tracy Kugler, Jonathan Foley, Steven Manson, Matthew Sobek. Population Association of America, San Francisco, May 3-5, 2012.

"Marriage Formation and Economic Opportunity in the United States: 1970-2000" With Catherine A. Fitch, Sheela Kennedy, and J. Michael Oakes. Population Association of America, San Francisco, May 3-5, 2012.

"The Future of Historical Family Demography." Keynote address, "Historical Inequality and Mobility: New Perspectives in the Digital Era," University of Guelph, May 25-27, 2012.

"Terra Populus: A Global Population/Environment Data Network." Presented at Data2012: Coming Together Around Data." Data to Insight Center, Indianapolis, January 25-27, 2012.

"Marriage and Economic Opportunity in the United States, 1970-2000." With Catherine Fitch and Sheela Kennedy. Social Science History Association, Boston, November 17-20, 2011.

"The History and Future of Large-Scale Census Data." Keynote Address, Annual Census Research Data Center Conference. Minneapolis, Sept. 15-16, 2011.

"Terra Populus: A Global Population/Environment Data Network." Workshop on Integrating Global Microdata, 58th International Statistical Institute, Dublin, August 20-21, 2011

"Trends in Divorce and Union Instability in the United States since 1980." With Sheela Kennedy. American Sociological Association, Las Vegas, August 20-23, 2011.

"Using Restricted-Access Census Data to Study Economic Opportunity and Marriage Formation." With Catherine Fitch and J. Michael Oakes. Population Association of America, Washington, DC, March 31-April 2, 2011.

"Integrating International Microdata: IPUMS and NAPP." Mosaic Workshop, Max Planck Institute for Demographic Research, Rostock, Germany, May 25, 2011.

"Measuring Family Interrelationships." Workshop on Poverty Measurement, Urban Institute, Washington, D.C. April 1, 2011.

"Joint Families and Stem Families and the Northwest European Family System: A Comparative Analysis." Poster presentation, Population Association of America, Dallas, Texas, April 15-17. Winner, 2010 PAA Poster Award.

"When Comes Baby in the Baby Carriage? Historical Changes in Three Dimensions of Age at Parenthood." With Ann Meier and Catherine Fitch. Population Association of America, Dallas, Texas, April 15-17, 2010.

"Disseminating Historical Data on the Internet: The IPUMS Experience." International Commission on Historical Demography, 21st Congress of Historical Sciences, Amsterdam, August 23-28, 2010.

"The Decline of Quantiative History." International Commission on Historical Demography, 21st Congress of Historical Sciences, Amsterdam, August 23-28, 2010.

"Historical Census Data for Scientific Research and the Problem of the 1940 Census." National Archives and Records Administration, 1940 Census Workshop. College Park, Maryland, September 13, 2010.

"Building Dissemination Data Infrastructure." Presented at "Future Investments in Large-Scale Survey Data Dissemination," National Science Foundation, Arlington, VA, July 26-27, 2010.

"Stem Families and Joint Families in Comparative Historical Perspective." Presented at the plenary session of "The History of Families and Households: Comparative European Dimensions." University of London, 24-26 June 2010.

"Minnesota Families" Presented at the Annual Conference on Policy Analysis, St. Paul, October 22, 2010.

"New Directions in Historical Family Demography." Presented at "Nouvelles interrogations en démographie historique et histoire de la famille." 2009 Entretiens du Centre Jacques Cartier, Lyon.

"Intergenerational Coresidence and Family Transitions in the United States, 1850-1880." Social Science History Association, RMS Queen Mary, Long Beach, CA November 2009.

"Reconsidering 'Reconsidering the Northwest European Family System'." International Union for the Scientific Study of Population, Marrakech, Morocco, September 28-October 2 2009.

"Building Social Science Infrastructure." American Sociological Association, San Fransisco, August 7-10 2009.

"Reconsidering the Northwest European Family System." Population Association of America, Detroit, April 29-May 2 2009.

"Were Northwest Europe and North America Exceptional? An Analysis of Intergenerational Coresidence." Social Science History Association, Miami, October 23-28, 2008.

"The Canadian Century Research Infrastructure: International Perspectives." Presented at "State of the World: Information Infrastructure Construction and Dissemination for Humanities and Social Science Research," University of Alberta, Edmonton, October 3-5, 2008.

"Intergenerational Coresidence and Economic Development: New Evidence from the International Integrated Public Use Microdata Series." (with Misty Heggenness). Presented at "Census Microdata: Findings and Futures," University of Manchester, 1-3 September 2008.

"IPUMS-International Data Recovery." Presented at "Census Microdata: Findings and Futures," University of Manchester, 1-3 September 2008.

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"Secure Data Laboratories." Workshop on International European Census Microdata, European Association For Population Studies, Barcelona, July 9-12, 2008.

"Intergenerational Families in Developing Countries." (With Misty Heggeness). Population Association of America, New Orleans, April 16-19 2008.

"Living Arrangements of the Aged in Comparative Historical Perspective." European Social Science History Conference, Lisbon, February 27, 2008.

"International Censuses and Intergenerational Families." Plenary Address, Human and Social Dynamics Conference, National Science Foundation. Arlington, VA, October 1-2 2007.

"Intergenerational Coresidence in Developing Countries: A Comparative Historical Perspective." Social Science History Association, Chicago, November 15-19, 2007.

"Review of Web-Based Dissemination of the General Social Survey." Workshop on "The General Social Survey: The Next Decade and Beyond," National Science Foundation, Arlington, Virginia, May 2-3, 2007.

"Using Cyberinfrastructure to Develop Databases for Social Science Research." American Association for the Advancement of Science, San Francisco, February 16-19 2007.

"IPUMS-International Integrated Census Microdata Extract System: Users and Uses, May 2002-March 2007." (Robert McCaa, Steven Ruggles, and Matt Sobek). 23rd ANCSDAAP Population Census Conference, Christchurch, New Zealand, April 16-18, 2007.

"Using Census Microdata Disseminated by IPUMS-International to Assess Millennium Development Goals of Literacy, Education and Gender Equity in the Ugandan censuses of 1991 and 2002." (Robert McCaa, Steven Ruggles, and Matt Sobek). Scientific Statistics Conference, Kampala, Uganda, June 11-13, 2007.

"The Relationship of Socioeconomic Status to Intergenerational Coresidence: A comparative Historical Analysis." (Poster). Population Association of America, New York, March 29-31, 2007.

"Using Integrated Census Microdata for Evidence-based Policy Making: the IPUMS-International Global Initiative." (Robert McCaa, Albert Esteve, Steven Ruggles, Matt Sobek and Ragui Assaad.) Indian Association for Social Sciences and Health, Third All India Conference, New Delhi, March 16-18, 2006.

"Disseminating Census Microdata: an Essential Component of National Strategies for the Development of Statistics." (Robert McCaa, Steven Ruggles, and Matt Sobek). Forum on African Statistics Development (FASDEV-II), Addis Ababa, February 6-10, 2006.

"Archiving Census Microdata: The IPUMS-International Strategy." (Robert McCaa, Steven Ruggles, and Matt Sobek). Forum on African Statistics Development (FASDEV-II), Addis Ababa, February 6-10, 2006.

"Decline of the Multigenerational Family in the United States." European Social Science History Conference, Amsterdam, March 22-25 2006.

"The Case for Open Access to Data." Presented at "Disseminating and Analyzing Longitudinal Historical Data," International Institute for Social History, Amsterdam, March 21 2006.

"Big Social Science History: The Integrated Public Use Microdata Samples." Social Science History Association, Portland, November 3-6 2005.

"IPUMS International." Human and Social Dynamics Conference, National Science Foundation, Arlington, VA, September 11-12, 2005.

"Minnesota Population Center Data Integration Projects." Invited paper, session on "Building Historical Data Infrastructure: The Data Integration Projects of the Minnesota Population

Center." American Statistical Association, Joint Statistical Meetings, Minneapolis, August 9-11 2005.

"Intergenerational Coresidence and Economic Opportunity of the Younger Generation in the United States, 1850-2000." Population Association of America, Philadelphia, March 30-April 2, 2005.

"The Rise of Cohabitation in The United States: New Historical Estimates." With Catherine A. Fitch and Ron Goeken. Population Association of America, Philadelphia, March 30-April 2, 2005.

"IPUMS-International, IPUMS-USA, and the North Atlantic Population Project: Challenges of harmonizing census microdata across time and place." (Steven Ruggles, Robert McCaa, and Matthew Sobek). Meeting of the International Commission for Historical Demography, Sydney, Australia, July 6, 2005. A revised version of the paper was also presented at the 2005 Biennial meeting of Official Representatives, Ann Arbor, Michigan, October 22, 2005.

"Are Black Men Marrying Younger than Black Women? New Evidence from Census 2000." (with Catherine A. Fitch). Population Association of America, Boston, April 1-3 2004.

"The Microdata Revolution: A Brief History." Simposio Homologación y diseminación de microdatos censales. Cartagena, Colombia, January 13-16 2004.

"IPUMS-International: A Restricted Access Website Providing Anonymized, Integrated Census Microdata for Social Science and Policy Research." (with Robert McCaa, Matt Sobek and Albert Esteve). Invited Paper Meeting 38: Microdata-managing the dilemma between access, privacy, and confidentiality, International Statistical Institute 54th Session, August 15-20, 2003, Berlin.

"Linked Representative Samples of Nineteenth-Century U.S. Censuses." Social Science History Association, Baltimore, November 13-16 2003.

"Linking IPUMS Samples to the 1880 Complete Count Census Database." International Microdata Access Group, Conference on "Longitudinal and Cross-Sectional Historical Data: Intersections and Opportunities" Montreal, November 10-11, 2003.

"Disseminating Anonymized, Integrated Census Microdata via the Internet: the IPUMS-International Project." 20th ANCSDAAP Population Census Conference, Ulaanbaatar, Mongolia, 19-21 June, 2002; co-authors: Robert McCaa and Matt Sobek

"National Historical Geographic Information System." (with John S. Adams and Catherine A. Fitch). Population Association of America, Atlanta, May 9-11 2002.

"National Historical Geographic Information System." (with John S. Adams, Robert McMaster and Mark Lindberg). Association of American Geographers, Los Angeles, March 2002.

"The National Historical Geographic Information System." Social Science History Association, Chicago, November 2001.

"Proyecto Col-IPUMS: Harmonizing the Census Microdata of Colombia, 1964-2003." (with Robert McCaa). Taller Col-IPUMS: Homologación de los microdatos censales de Colombia, Centro de Investigaciones sobre Dinámica Social (CIDS), Universidad Externado de Colombia. Marzo 23-24, 2001, Bogotá, Colombia.

"Data Sources for Policy Analysis." Third Upper Midwest Conference on Demography for Policy Makers, St. Paul, November 2001.

"A Reality Check for IPUMS-International: Labor Force Participation of Mexican Women in Mexico-Census Microdata versus Employment Survey." (with Robert McCaa). Census 2000

and Beyond Conference, Cathie Marsh Centre for Census and Survey Research, University of Manchester, June 22, 2000.

"Economic Opportunity and Long-term Changes in Age at Marriage in the United States." With Catherine A. Fitch. Social Science History Association, Pittsburgh, October 2000.

"International Integrated Microdata Access System." IASSIST, Evanston, Illinois, June 2000.

"The Public Use Microdata Samples of the U.S. Census: Research Applications and Privacy Issues." Census 2000 Users' Conference on PUMS, Alexandria, VA May 22, 2000

"Economic Opportunity and Marriage Formation in the United States, 1940-1990." With Catherine Fitch. Population Association of America, Los Angeles, March 2000.

"Living arrangements and Well-Being of the Elderly in the Past." Presented at "Population Ageing and Living Arrangements of Older Persons: Critical Issues and Policy responses." Population Division, United Nations, New York, February 2000.

"Historical Statistics of the United States: Family Structure." With Susan Brower. Social Science History Association, Fort Worth, November 1999.

"Moving Through Time: Lifetime Internal Migration Patterns of Americans, 1850-1990." With Patricia Kelly Hall. Social Science History Association, Fort Worth, November 1999.

"The Decline of the Multigenerational Family in the United States." Presented at "Household and Family in Past Time: New Approaches—New Horizons." University of the Balearic Islands, Palma de Mallorca, Spain, September 1999.

"The Minnesota Historical Census Project." Presented at "Swedish Population Statistics 250 Years. Comparative Perspectives on the Arrangement and Use of Population Data." Swedish Demographic Database, Umeå University, Sweden, August 1999.

"Microdata in the Classroom: The IPUMS model." Presented at "2000 and Beyond: Making the Census Accessible." Russell Sage Foundation, New York, September 1998.

"Demographic Data and Data Dissemination in the New Millennium." Presented at the annual meeting of the Association of Population Centers, Albany, November 1998.

"The American Family Since 1850." Presented at "Nordisk forskerkurs i historie." University of Tromsø, Norway, June 1998.

"Accessing Microdata for Public Policy Research." Upper Midwest Conference on Demographics for Policy Makers, Minneapolis, April 1998.

"Marriage age and Proportions Marrying in the United States, 1850-1880." With Catherine Fitch. Presented at "The Ties that Bind: Marriage in America," a conference of the National Institute for Child Health and Human Development, Bethesda, Maryland, July 1998.

"Historical Trends in Marriage Formation 1850-1990." With Catherine Fitch. Social Science History Association, November 1998.

"Global Access to the Integrated Public Use Microdata Series." With Matthew Sobek and Todd Gardner. IASSIST/Computing for the Social Sciences, New Haven, May 1998.

"The Rise of Divorce and Separation in the United States." Population Association of America, Washington DC, March 1997.

"The Integrated Public Use Microdata Series." Upper Midwest Conference on Demographics for Policy Makers, Minneapolis, April 1997.

"The Impact of Welfare on Family Structure." Social Science History Association, New Orleans, October 1996.

"Electronic Dissemination of Historical Census Data." With Matthew Sobek and Todd Gardner. Population Association of America, New Orleans, May 1996.

"Disseminating Historical Census Data on the World Wide Web." With Matthew Sobek and Todd Gardner. IASSIST/Computing for the Social Sciences, Minneapolis, May 1996.

"The Socioeconomic Context of Marital Instability in the United States, 1880-1990." Social Science History Association, Chicago, November 1995.

"The Integrated Public Use Microdata Series." Biennial meeting of the Inter-University Consortium for Political and Social Research, Ann Arbor, Michigan, October 1995.

"Making the Integrated Public Use Microdata Series." All-University of California Conference in Economic History on historical public-use microdata, Riverside CA, March 1995.

"The Effects of Demographic Change on Multigenerational Family Structure." Centre Jacques Cartier Conference, La Plagne, France, December 1994.

"The Integrated Public Use Microdata Series: Notes on the Preliminary Release." Population Association of America, Miami, May 1994.

"Race Differentials in Historical Family Structure." Second Carleton Conference on the History of the Family, Ottawa, May 1994. An earlier version of this paper was presented at the Center for Population Policy and Analysis, Humphrey Institute, December 1993.

"Sources of Bias in Family Reconstitution." Social Science History Association, Baltimore, November 1993.

"Differential Fertility in 1880." with Miriam L. King. Population Association of America, Denver, 1992.

"Immigration and Fertility in the Late Nineteenth Century." Social Science History Association, Chicago, November 1992.

"Integration of the Public Use Files of the U.S. Census." Presented at "Social History: The Challenge of Technology." Economic and Social Research Council, Univ. of Essex, 1991.

"The Public-Use Census Files as a Source for Social History." Presented at "Old and New Methods in Historical Demography: A Critical Appraisal." International Union for the Scientific Study of Population. Mallorca, Spain, June 1991.

"Proposal for an Integrated Census Microdata Series." International Association for Social Science Information Service and Technology, Edmonton, Alberta, May 1991.

"Living Arrangements of the Elderly in America, 1880-1980." Social Science History Association, New Orleans, October 1991.

"Old Age and Multigenerational Family Structure Since 1880." Presented at "Aging and Generational Relations." National Institutes of Health, Center for Family Research, University of Delaware, October 1991. An earlier version of this paper was presented at the Cambridge (University) Ageing Seminar, June 1990.

"Comparability of the Historical Public Use Samples." American Statistical Association, Atlanta, August 1991.

"Migration, Marriage, and Mortality: Correcting Sources of Bias in English Family Reconstitutions." Presented at the Cambridge Group for the History of Population and Social Structure, May 1990.

"Race and Multigenerational Family Structure, 1900-1980." Presented at "Demographic Perspectives on the American Family: Patterns and Prospects." The Albany Conference, SUNY-Albany, April 1990.

"The Belated Decline of the Extended Family." American Association for the Advancement of Science, New Orleans, February 1990.

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"Immigration, American Fertility Differentials, and the Ideology of Race Suicide." With Miriam King. Population Association of America, New Orleans, April 1988. Various other versions of this paper were presented at the Social Science History Workshop, University of Texas, Austin, February 1989, and appeared as Center for Demography and Ecology *Working Papers* 85-13.

"Fertility and Marriage Among Second-Generation Immigrants in the Late-Nineteenth Century." Social Science History Association, New Orleans, November 1987.

"Confessions of a Microsimulator: Problems in Modeling the Demography of Kinship." Presented at a conference on demographic microsimulation sponsored by the International Institute for Applied Systems Analysis, Budapest, Hungary, November 1987

"The Use and Misuse of Simulation for the Historical Study of Family Structure." Presented at "New Directions for Demographic History: A French-American Roundtable," a Sloan Foundation conference organized by Charles Tilly and Olivier Zunz. New York, November 1986.

"Aging and Family Structure: An Historical Perspective." Wisconsin Congress on Aging, Madison, Wisconsin, January 1985.

"Kinship and the Life Course." With Susan De Vos. Am. Sociological Association, Washington, D.C., August 1985. Center for Demography and Ecology *Working Papers* 85-15.

"Simulation and the Measurement of Historical Family Structure." Population Association of America, Boston, March 1985. A version of this paper, "The Use of Standard Propensities for the Historical Analysis of Extended Family Structure." Center for Demography and Ecology *Working Papers* 85-14.

"Non-Traditional Family Structures in Post-War America." Testimony presented before the Wisconsin Equal Opportunities Commission, Task Force on Alternative Families, Madison, Wisconsin, November 1984.

"Microsimulation and its Application to the Historical Study of Family Structure." Social Science History Association, Nashville, October 1981.

Commenter/Panelist

Discussant, "Comparative Family Perspectives" Population Association of America, Washington, April 22-25, 2020

Organizer and discussant, "Controversies of Counting: Race, Citizenship, and Privacy in the Census." American Sociological Association, August 9, 2020.

Organizer and Discussant, "Automatic Handwriting Recognition." Social Science History Association, Chicago, November 2019.

Discussant, "Large Linkage Projects: New Opportunities." Social Science History Association, Phoenix, November 9, 2018.

Chair/Organizer, "New Findings on Neighborhoods and Mobility From the Complete Count Census Microdata" Population Association of America, Denver, April 26-28, 2017.

Chair/Discussant, "Residential and Social Mobility in the United States: New Studies Using IPUMS." Social Science History Association, Montreal, November 2, 2017.

Chair/Discussant, "Presidential Session: Interdisciplinarity in the Big Data Age." Social Science History Association, Chicago, November 17-20, 2016.

Discussant, "Author Meets Critics: Tolnay and Bailey, Lynched: The Victims of Southern Mob Violence." Social Science History Association, Chicago, November 17-20, 2016.

Discussant, "American Community Survey Content Review," U.S. Census Bureau, Suitland, MD, April 2015.

Discussant, "Privacy and Confidentiality," National Science Foundation, Arlington, October 2014.

Discussant, "Electronic Data Collection," U.S. Census Bureau, Suitland, MD, April 2014.

Chair/Discussant, "Spatiotemporal Demographic Analysis," Social Science History Association, Chicago November 22, 2013.

Chair/Panelist, "Talk Data to Me: A Conversation with Historians about Using Large-Scale Digital Data in Research and Teaching." American Historical Association, Chicago, January 5-8, 2012.

Panelist, "New Developments in Data Digitization Projects." 2nd Mosaic Conference, Budapest, September 6-7 2012.

Chair, "Spatial Variation in Residence Patterns." Social Science History Association, Boston, November 17-20, 2011.

Panelist, "Roundtable Discussion: Daniel Scott Smith: A Tribute to and Critical Reappraisal of his Scholarship." Social Science History Association, Chicago, November 18-21, 2010.

Discussant, "Typologies of Families and Households: New and Old Approaches." Social Science History Association, Chicago, November 18-21, 2010.

Panelist, "Forging the Future for Sociological Research: Building Infrastructure for Disciplinary, Interdisciplinary and Multi-disciplinary Research" American Sociological Association, San Francisco, August 8, 2009.

Panelist, "Approaches and Methods for the Study of Individuals, Families, and Households." Social Science History Association, Miami, October 23-26, 2008.

Chair, "Family Change in Historical Perspective." Population Association of America, New Orleans, April 16-19 2007.

Chair, "Historical Demography." Population Association of America, New York, March 30-April 1 2007.

Panelist, "Global Family Theory: Past, Present, and Future." Theory Construction and Research Methodology Plenary Session, National Council on Family Relations. Minneapolis, November 7, 2006.

Panelist, "At the Shrine of the Bitch Goddess: The Future of Quantitative History." Social Science History Association, Minneapolis, November 3, 2006.

Chair, "Long-term Change in Family Life-Course Transitions." Population Association of America, March 30, 2006.

Panelist, "Author Meets Critics: Arland Thornton, Reading History Sideways: The Fallacy and Enduring Impact of the Developmental Paradigm on Family Life." Social Science History Association, Portland, November 3-6 2005.

Panelist, "Big Social Science History: Big Cities, Big Histories—Megaresults For Megabucks? Retrospective And Prospective Looks At Large-Scale Quantitative Urban History Projects." Social Science History Association, Portland, November 3-6 2005.

Panelist, "Roundtable: National Variations in Historical Microdata Projects." Social Science History Association, Chicago, November 18-21 2004.

Chair/Discussant, "The Organization and Composition of Households across Time and Space." Social Science History Association, Chicago, November 18-21 2004.

Panelist, "Public Needs and Private Information." Census Bureau Symposium, "America's Scorecard: The Historical Role of the Census in an Ever-Changing Nation." Woodrow Wilson International Center for Scholars, Washington D.C., March 4-5 2004.

Chair, "The Family in Historical Perspective." Population Association of America, Boston, April 1-3, 2004.

Chair, "The Encyclopedia of Population: Concepts, Consensus, Conflict." Social Science History Association, , Baltimore, November 13-16 2003.

Chair, "Findings from U.S. Historical Censuses." Population Association of America, Minneapolis, May 1-3, 2003.

Chair, "Geographic Information Systems II." International Association for History and Computing, Tromsø, Norway

Chair, "North Atlantic Population Project: Methods and Prospects." Social Science History Association, St. Louis, October 2002.

Chair, "Census 2000: New Trends." Population Association of America, Atlanta, May 9-11, 2002.

Chair, "Who Counts? The Politics of Census Taking in Contemporary America." Keynote session, Third Upper Midwest Conference on Demography for Policy Makers, St. Paul, November 2001.

Panelist, "The Role of Location in Social Science History: Is There a 'Spatial Turn'?" Social Science History Association, Chicago, November 2001.

Chair, "Census 2000: An Unparalleled Research Resource." 25th Biennial Meeting of Inter-University Consortium for Political and Social Research Official Representatives. Ann Arbor, Michigan, October 2001.

Panelist, "Conference on Data Dissemination and Archiving." Demographic and Behavioral Sciences Branch, National Institute of Child Health and Human Development. Rockville, Maryland, October 2001.

Chair, "Retrospective: Census Accuracy, Past and Present." Social Science History Association, Pittsburgh, October 2000.

Chair/Discussant, "Long-Term Changes In Household and Family Structure." Social Science History Association, Pittsburgh, October 2000.

Chair, "Historical Demography." Population Association of America, Los Angeles, March 2000

Chair/Panelist, "The Future of Social Science History Computing in The New Millennium: A Roundtable Discussion." Social Science History Association, Fort Worth, Nov. 1999.

Panelist, "The Future Of SSHA Program Planning On The Web." Social Science History Association, Fort Worth, November 1999.

Rapporteur on operational issues and new technology at "Social Sciences for a Digital World: Infrastructure Needs of the Social Sciences." OECD conference, Ottawa, Oct. 6-8 1999.

Discussant, "Methods and Models in Historical Demography." Population Association of America, Chicago, March 1998.

Panelist, "Authors meet Critics: The Cambridge Group Family Reconstitutions." Social Science History Association, Washington DC, November 1997.

Discussant, "Canadian Families Project" Social Science History Association, Washington DC, November 1997.

Panelist, "Roundtable on Peter Laslett." Social Science History Association, New Orleans, October 1996.

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Discussant, "Migration and the Life Course in Comparative Perspective." Social Science History Association, Atlanta, November 1994.

Discussant, "Studies in Family Structure and Kinship." Second Carleton Conference on the History of the Family, Ottawa, May 1994.

Discussant, "The Problem of Migration in Family Reconstitution." Social Science History Association, Baltimore, November 1993.

Discussant, "Studies in the History of Class and Ethnicity." Social Science History Association, Chicago, November 1992.

Discussant, "Matrilineality and Patrilineality in Historical Perspective." University of Minnesota Conference on Matrilineality and Patrilineality, Minneapolis, May 1992.

Discussant, "Historical Change in Aging and Life Course Patterns." Population Association of America, Washington, D.C., March 1991.

Discussant, "Public Use Sample of the 1880 Census." Social Science History Association, November 1989.

Discussant, "Single Parenthood in 19th Century Brazil and the United States." Social Science History Association, November 1989.

Discussant, "New Approaches to the Measurement of Household Structure and the Life Course." Social Science History Association, November 1988.

Discussant, "The European Peasant Family and Economy." University of Minnesota Conference on Peasant Families, Minneapolis, October 1988.

Discussant, "Living Arrangements of the Elderly in Preindustrial Populations." Social Science History Association, Chicago, November 1985.

National and International Professional Service

Council on Demographic Data, 2019

Board of Directors, Association of Population Centers, 2000-

Selection Committeee, Miller and Flanigan Awards, Inter-University Consortium for Political and Social Research, 2019.

Nominator and presenter, Laureate Award, International Union for the Scientifc Study of Population 2018

Nominator and presenter, Warren Miller Award, Inter-University Consortium for Political and Social Research, 2017.

Performance Monitoring and Accountability 2020 (PMA2020) Consutative Group, 2016-2017

Population Association of America Advocacy Days, 2015, 2017

Board of Management, Mosaic Project, Max Planck Institute for Demographic Research, 2012-2016

Committee on Government and Public Affairs, Association of Population Centers, 2017-2018

Development Committee, Population Association of America, 2016

Co-Chair, Program Committee, Population Association of America, 2014-2015.

Initiatives Committee, Population Association of America, 2016

Executive Committee, Population Association of America, 2014-2016

Committee on Finance, Population Association of America, 2014-2016

Committee on Government and Public Affairs, Population Association of America, 2014-2016

International Advisory Board, Integrated Census Microdata Project (U.K.), 2009-2014

Award Committee, Inter-University Consortium for Political and Social Research, 2010-2011.

Chair, International Advisory Board, "Life Courses in Context." International Institute of Social History, Amsterdam (member, 2003-2011; chair, 2006-2011)

Coalition for National Science Funding, 2011.

Planning Committee, Workshop on Social Observatories, National Science Foundation, 2010.

Member, State Budget Trends Commission, State of Minnesota, 2007-2009

Co-Chair, Robert J. Lapham Award Committee, Population Association of America, 2006

Representative, Coalition for National Science Funding. Courtesy visits with members and staff of the House of Representatives and Senate, September 13-14, 2005

Nominator and presenter, Warren Miller Award, Inter-University Consortium for Political and Social Research, 2005.

Chair, Allen Sharlin Award Committee, Social Science History Association (member, 2003-2005; chair, 2004-2005)

Chair, Census 2000 Committee, Inter-University Consortium for Political and Social Research, 2000-2004

Chair, Nominating Committee, Association of Population Centers, 2004

Chair, Archival Development Committee, Inter-University Consortium for Political and Social Research. 2002-2003

Nominating Committee, Inter-University Consortium for Political and Social Research, 2002-2003, 2009

Information Technology Committee, Inter-University Consortium for Political and Social Research, 2000-2003

Chair, Task Force on Census 2000, 1999-2000.

Chair, Family and Demography Network, Social Science History Association, 1996-1997

Technical Advisory Group, Immigration and Naturalization Service Backfile Rescue, 1996-1997

Editorial Boards
Journal of Interdisciplinary History, 2002-present
Historical Life-Course Studies, 2013-present
Demography, 2010-2020
Social Science History, 2001-2013
H-Demog (H-Net) 1996-2000
Historical Methods, 1996-2001
Historical Statistics of the United States, 1996-2005

Editing
Co-Editor, *Social Science History*, 1991-1996.

Peer reviewer of Grant Proposals
Austrian Science Fund (FWF); BD2K Solicitation, National Institutes of Health; Canada Foundation for Innovation; Digital Libraries Initiative Panel (National Science Foundation, National Endowment for the Humanities, and Department of Defense); Dutch Council for the Humanities; Economic and Social Research Council (UK); MacArthur Fellowship; National Institute on Aging, program project review panels (2007, 2009, 2011, chair 2013); National Institute on Aging, special panel on population aging research centers (2004, 2009, 2014); National Institute of Child Health and Human Development, Population Research Infrastructure

Program Study Section; National Institute of Child Health and Human Development, program project review panel (chair, 2013); National Institutes of Health, Social Sciences and Population Studies ZRG1 HOP-B 90 S (2006, 2008); National Institutes of Health; National Science Foundation, reviews for Sociology, Economics, Measurement Methods and Statistics, and several interdisciplinary solicitations; Research Council of Katholieke Universiteit Leuven; Riksbankens Jubileumsfond, Sweden; Royal Netherlands Academy of Arts and Sciences (KNAW); Russell Sage Foundation; Nederlandse Organiisatie voor Wetenschappelijk Onderzoek (NWO); Social Sciences and Humanities Research Council (Canada); Swedish Council for Planning and Coordination of Research; Swedish Research Council; Swiss National Science Foundation; Wellcome Trust (UK)

Peer Reviewer of Book Manuscripts
Cambridge University Press, Houghton-Mifflin, Kluwer Academic Publishers, MIT Press, National Academies Press, Russell Sage Press, University Press of Virginia

Peer Reviewer of Articles
Ageing & Society; American Journal of Sociology; American Sociological Review; Cahiers Québécois de démographie; Caribbean Studies; Comparative Studies in History and Society; Continuity and Change; Demographic Research; Demography; Economic Geography; European Journal of Population; European Review of Economic History; Gender & History; Harvard Review of Psychiatry; Historical Life-Course Studies; Historical Methods; International Journal of Epidemiology; International Journal of Health Geographics; International Migration Review; Journal of American History; Journal of Business and Economic Statistics; Journal of Gerontology: Social Sciences; Journal of Family History; Journal of Family Issues; Journal of Interdisciplinary History; Journal of Marriage and the Family; Journal of Official Statistics; Journal of Population Research; Journal of Survey Statistics and Methodology; Journal of Sustainable Development; *Journal of the American Medical Informatics Association*; *PLOS ONE; Population; Population and Development Review; Population Research and Policy Review; Population, Space, and Place; Population Studies; Privacy in Statistical Databases; Proceedings of the National Academy of Sciences; Professional Geographer; Religions; Research on Aging; Review of Economics of the Household; Science Advances; Social Forces; Social Problems; Social Science History; Social Science Research; Social Sciences; Sociological Forum; Sociological Perspectives; Sociological Quarterly; Socius; Statistical Journal of the IAOS; The History of the Family: An International Quarterly; William and Mary Quarterly*

External Reviewer for Promotion and Tenure
Binghamton University, Brown University, University of California-Los Angeles, Catalan Ministry of Universities, City University of New York, Max Planck Institute, Oklahoma State University, University of Colorado, University of Houston, University of Maryland, University of Michigan, Stanford University, University of Washington, University of Utah

Selected Conference Organizing
Social Science History Association, 2019.
Population Association of America, Program Co-Chair, 2014-2015
Population Association of America: Invited Session Organizer, ten sessions, 1999-present

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Social Science History Association: Program Chair, 1998-1999; Program Committee, 1996-1999; Session Organizer, 50+ conference sessions, 1988-present

Life Course Center, University of Minnesota: Program Committee, "Changing Lives and Changing Times: American Life Courses in Historical Perspective" (Conference, Minneapolis 2007)

International Union for the Scientific Study of Population: Program Committee, "Space and Time in Historical Demographic Studies," 2005-2006

Upper Midwest Conference on Demography for Policy Makers: Organizing Committee, 1997, 1998, 2001.

Search Committees

Faculty Search in Statistical Sociology, 2018-2019
Vice President for Research, University of Minnesota, 2017-2018
Faculty search for environmental history, Department of History, 2016-2017
Division Head, Health Policy and Management, 2015-2016
Faculty search, Health Policy and Management, School of Public Health, 2006-2007
Associate Vice President for Research Administration, University of Minnesota, 2006-2007
Chair, Search Committee for Rudolph J. Vecoli Chair in Immigration History, 2004-2005
Faculty search in American History, Department of History, 1999-2000
Faculty search, Department of Political Science, 1997-1998
Faculty search, Center for Population Policy and Analysis, Humphrey Institute, 1992
Faculty search in women's history, Department of History, 1990-1991

Service to the University of Minnesota

Administrative Council, Office of the Vice President for Research 2019-
Task Force on Data Science, College of Science and Engineering 2019-
Research Computing Internal Review Committee, 2018-2019
Grand Challenges Research Strategies Group, 2015-2016
Health Informatics Steering Committee, University of Minnesota, 2011-2015
Information Exchange Executive Oversight Committee, University of Minnesota, 2010-2015
University of Minnesota Interdisciplinary Informatics Executive Steering Committee 2011-2015
McKnight Distinguished University Professor Committee 2011-2016
Health Informatics Steering Committee, 2011-2018
U-Spatial Advisory Board, 2011-present
Minnesota Research Data Center Steering Committee, 2011-present
Chair, Data Governance and Security Committee, Academic Health Center, 2010-2014
Faculty Senate Committee on Committees, 2010-2012
Interdisciplinary Research Centers Working Group, 2008-2011
University Metropolitan Consortium, 2007-2011
Provost's Interdisciplinary Advisory Group, 2007-2011
Chair, Research Committee, University Senate, (member, 2004-2009; chair, 2005-2007)
Joint Subcommittee on Faculty Activity Databases, Faculty Senate, 2007-2008
Provost's Research Council, University of Minnesota, 2005-2007
Faculty Consultative Committee, University of Minnesota, 2005-2007
Faculty Senate (ex officio), University of Minnesota, 2005-2007

Task Force on Collaborative Research, University of Minnesota, 2005-2006
Graduate School Fellowship Committee, 2002-2005
Faculty Summer Research Review Committee, Graduate School, 1999-2001
Fulbright Fellowship Nominating Committee, University of Minnesota, 1997-1998
West Bank Union Board of Governors, University of Minnesota, 1987-1988

Service to the College of Liberal Arts
Interdisciplinary Collaborative Workshop Review Committee, 2017-2018
Social Sciences Working Group, 2016-
CLA Research Roadmap Group, 2014
Tenured Hire Review Committee, 2006-2012
Promotion and Tenure Committee, College of Liberal Arts, 1998-1999
Social Science Research Facilities Advisory Committee, College of Liberal Arts, 1994-2003
Information Technology Committee, College of Liberal Arts, 1994-1997
College of Liberal Arts Computing Facilities Committee, 1991-1992
Course review committee, College of Liberal Arts, 1990-1991

Service to Department of History
Promotion, Tenure, and Merit Committee, Department of History, 2013-2015 (chair), 2010-
    2012, 2007-2009 (co-chair), 2003-2005, 1999-2000, 1996-1998 (chair), 1993-1994, 1990-
    1992, 1987-1988
Merit Committee, Department of History (elected), 2016-2018, 2021-2023
Promotion and Tenure Committee, Department of History (elected), 2018-2020
History Department Advisory Committee (elected), 2015-2016, 2020.
Leadership Group, Carnegie Initiative on the Doctorate, Department of History, 2003-2005
U.S. Field Screener, Graduate Studies, Department of History, 1997-2000, 2002-2004
Graduate Studies Committee, Department of History, 2001-2003, 1998-1999, 1993-1994
Faculty Awards and Prizes Committee, Department of History, 2000-2001
Director, Social History Research Laboratory, Department of History, 1990-1998
Faculty Advisor, Undergraduate History Association, Department of History, 1987-1989
Director of Undergraduate Studies and Chair of Undergraduate Studies Committee, Department
    of History, 1986-1989
Advisory Committee, Department of History, 1986-1989, 2020-
Computer Use Officer, Department of History, 1985-1989
Curriculum Committee, Department of History, 1985-1989

APPENDIX 2

Testimony as an Expert

Expert Declaration in *State of Alabama v. United States Department of Commerce.* Case No. 3:21-CV-211-RAH-ECM-KCN (2021).

Publications Authored in the Past 10 Years

Steven Ruggles and David Van Riper. 2021. "The Role of Chance in the Census Bureau Database Reconstruction Experiment." *Population Research and Policy Review. https://doi.org/10.1007/s11113-021-09674-3*

Steven Ruggles. 2021. "The Revival of Quantification: Reflections on Old New Histories." *Social Science History.* 45: 1-25.

Steven Ruggles, Sarah Flood, Sophia Foster, Ronald Goeken, Jose Pacas, Megan Schouweiler and Matthew Sobek. IPUMS USA: Version 11.0 [dataset]. Minneapolis, MN: IPUMS, 2021. https://doi.org/10.18128/D010.V11.0

Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren and Michael Westberry. Integrated Public Use Microdata Series, Current Population Survey: Version 9.0 [dataset]. Minneapolis, MN: IPUMS, 2021. https://doi.org/10.18128/D030.V9.0

Steven Manson, Jonathan Schroeder, David Van Riper, Tracy Kugler, and Steven Ruggles. IPUMS National Historical Geographic Information System: Version 16.0 [dataset]. Minneapolis, MN: IPUMS. 2021. http://doi.org/10.18128/D050.V16.0

Steven Ruggles and Diana Magnuson. 2020. "Census Technology, Politics, and Institutional Change, 1790-2020." *Journal of American History* 107: 19-51.

David Van Riper, Tracy Kugler, and Steven Ruggles. 2020. "Disclosure Avoidance in the Census Bureau's 2010 Demonstration Data Product." In Josep Domingo-Ferrer and Krishnamurty Muralidhar, eds., *Privacy in Statistical Databases.* Berlin and Heidelberg: Springer Verlag, pp. 353-369.

Steven Ruggles and Diana Magnuson. 2020. "Quantification in History: *Journal of Interdisciplinary History* as a Case Study." *Journal of Interdisciplinary History* 50: 363-382.

Steven Ruggles and Diana Magnuson. 2020. "Response to Martha Farnsworth Riche." *Journal of American History* 107(3): 829-830.

Steven Ruggles, Catherine Fitch, Diana Magnuson, and Jonathan Schroeder. 2019. "Differential Privacy and Census Data: Implications for Social and Economic Research." *AEA Papers and Proceedings* 109: 403-408.

Steven Ruggles and Matthew Sobek. 2019. "IPUMS." *Encyclopedia of Gerontology and Population Aging.* Springer Nature.

Steven Manson, Tracy Kugler, David Van Riper, Jonathan Schroeder, and Steven Ruggles. 2019. Geocomputational infrastructure for population-environment data. *Geocomputation 2019.* University of Auckland.

Steven Ruggles, Catherine Fitch, and Evan Roberts. 2018. "Historical Census Record Linkage." *Annual Review of Sociology*, 44: 19-37.

Steven Ruggles. 2017. "The Importance of Data Curation." Chapter 39 in the *Palgrave Handbook of Survey Research*, eds, David L. Vannette and Jon A. Krosnick. New York: Palgrave-Macmillan.

Steven Ruggles. 2017. "Metadata and Preservation." Chapter 71 in the *Palgrave Handbook of Survey Research*, eds, David L. Vannette and Jon A. Krosnick. New York: Palgrave-Macmillan.

Steven Ruggles. 2016. "Marriage, Family Systems, and Economic Opportunity in the United States since 1850." Chapter 1 in Susan M. McHale, Valarie King, Jennifer Van Hook, and Alan Booth (eds). *Gender and Couple Relationships*. Heidelberg: Springer, pp. 3-41.

Steven Ruggles. 2016. "Data Sharing in Historical Demography." In Matthijs, K., Hin, S., Kok., J., and Matsuo, H. (eds.) 2016. *Upside and down and inside out. The future of historical demography.* Leuven: Acco, pp. 99-102.

Steven Ruggles, Tracy A. Kugler, Catherine A. Fitch, and David C. Van Riper. 2016. "Terra Populus: Integrated Data on Population and Environment." *2015 IEEE International Conference on Data Mining Workshop* (ICDMW), pp. 222-231, doi:10.1109/ICDMW.2015.204

Steven Ruggles. 2015. "Patriarchy, Power, and Pay: The Transformation of American Families, 1800–2015." *Demography,* 52: 1797-1823.

Steven Ruggles. 2015. "Census Microdata." *International Encyclopedia of the Social and Behavioral Sciences*, Second Edition. Oxford: Elsevier, pp. 284-289.

Peter Baskerville, Lisa Dillon, Kris Inwood, Evan Roberts, Steven Ruggles, Kevin Schurer, and John Robert Warren. 2015. "Mining Microdata: Economic Opportunity and Spatial Mobility in Britain and the United States, 1850-1881." *IEEE BigData 2014*, pp.5-13.

Robert McCaa, Lara Cleveland, Patricia Kelly-Hall, Steven Ruggles, and Matthew Sobek. 2015. "Statistical coherence of primary schooling in population census microdata: IPUMS-International integrated samples compared for fifteen African countries." *African Population Studies* 29: 157-180.

Steven Ruggles, Robert McCaa, Matthew Sobek, and Lara Cleveland. 2015. "The IPUMS Collaboration: Integrating and Disseminating the World's Population Microdata." *Journal of Demographic Economics* 81: 203-216.

National Research Council Committee on Future Career Opportunities and Educational Requirements for Digital Curation. 2015. *Preparing the Workforce for Digital Curation*. Washington, D.C: National Academies Press.

Robert McCaa, Lara Cleveland, Patricia Kelly-Hall, Steven Ruggles, and Matthew Sobek. 2015. "Statistical coherence of primary schooling in IPUMS-International integrated population samples for China, India, Vietnam, and ten other Asia-Pacific countries." *Chinese Journal of Sociology* 1: 333-355. A revised version appeared as Robert McCaa, Lara Cleveland, Patricia Kelly-Hall, Steven Ruggles, and Matthew Sobek. 2016. "相同出生队列小学及以上人口比例统计的一致性——基于亚太十三国人口普查数据的分析" [The Consistency of the Statistics of the Proportion of the Population of the Primary School and Above in the Same Birth Cohort: An Analysis Based on the Census Data of 13 Asia-Pacific Countries]. *Chinese Journal of Population Science* 1: 53-66.

Sheela Kennedy and Steven Ruggles. 2014. "Breaking up is Hard to Count: The Rise of Divorce in the United States, 1980-2010." *Demography* 51: 587-598.

Steven Ruggles. 2014. "Big Microdata for Population Research." *Demography* 51: 287-297.

Steven Ruggles. 2013. "New Data for the Comparative Study of Family and Household" *NCFR Report Magazine*, Summer Issue, pp. F11-F14.

Steven Ruggles. 2012. "The Future of Historical Family Demography." *Annual Review of Sociology* 38: 423–41.

Steven Ruggles. 2012. "IPUMS (Integrated Public Use Microdata Series)." In Margo J. Anderson, ed., *Encyclopedia of the U.S. Census*, 2nd Edition. Washington, DC: Congressional Quarterly Press.

Lara Cleveland, Robert McCaa, Steven Ruggles, and Matthew Sobek. 2012. "When Excessive Perturbation Goes Wrong and Why: IPUMS-International Relies Instead on Sampling, Suppression, Swapping, and Other Minimally Harmful Methods to Protect Privacy of Census Microdata." In Josep Domingo-Ferrer and I. Tinnirello, eds., *Privacy in Statistical Databases.* Berlin and Heidelberg: Springer Verlag, pp. 179-187.

Steven Ruggles. 2011. "Intergenerational Coresidence and Family Transitions in the United States, 1850-1880." *Journal of Marriage and the Family,* 73: 136-148.

Steven Ruggles, Matthew Schroeder, Natasha Rivers, J. Trent Alexander, and Todd K. Gardner. 2011. "Frozen Film and FOSDIC Forms: Restoring the 1960 Census of Population." *Historical Methods* 44: 69-78.

Matthew Sobek, Lara Cleveland, Sarah Flood, Steven Ruggles, and Matthew Schroeder. 2011. "Big Data: Large-Scale Historical Infrastructure from the Minnesota Population Center." *Historical Methods* 44: 61-68.

Steven Ruggles, Evan Roberts, Sula Sarkar, and Matthew Sobek. 2011. "The North Atlantic Population Project: Progress and Prospects." *Historical Methods* 44: 1-6.

Petra Noble, David Van Riper, Steven Ruggles, Jonathan Schroeder, and Monty Hindman. 2011. "Harmonizing Data across Time and Place: The Integrated Spatio-Temporal Aggregate Data Series." *Historical Methods* 44: 79-85.

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FAIR LINES AMERICA FOUNDATION, INC., Plaintiff, v. UNITED STATES DEPARTMENT OF COMMERCE and UNITED STATES BUREAU OF THE CENSUS, Defendants.	Case No. 1:21-cv-1361-ABJ

[PROPOSED] ORDER

In consideration of Defendants' Motion for Summary Judgment and Plaintiff's Cross-Motion for Summary Judgment, the parties' briefing on such motions, and the entire record herein, it is hereby,

ORDERED that the Plaintiff's Cross-Motion for Summary Judgment is **GRANTED** and Defendants' Motion is **DENIED**, and it is further

ORDERED that judgment is entered in favor of Plaintiff in the above-captioned case, and it is further

ORDERED that Defendants shall produce to Plaintiff all withheld records (52 in total, one for each of the 50 states, one for the District of Columbia, and one for Puerto Rico) responsive to Plaintiff's narrowed request for imputed group quarters information, tabulated by state, within 10 days of this Order.

Date: _____

_____
U.S. DISTRICT COURT JUDGE

CERTIFICATE OF SERVICE

I do hereby certify that pursuant to LCvR 7(k) on this 1st day of October 2021 the foregoing Proposed Order was filed electronically with the Clerk of Court using the CM/ECF system. The system instantaneously generated a Notice of Electronic Filing which served all counsel of record.

/s/ Jason Torchinsky_____
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jtorchinsky@holtzmanvogel.com
Jonathan P. Lienhard (D.C. Bar No. 474253)
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