

NAC RECOMMENDATIONS
MAY 27, 2021 SPECIAL MEETING ON DIFFERENTIAL PRIVACY

Priority use cases

1. Much of the focus on the Census Bureau’s application of its Disclosure Avoidance System (DAS) on the P.L. 94-171 redistricting data set (P.L. Data) has, unsurprisingly, been on redistricting. However, that focus overlooks the many other priority uses for the P.L. data.

The P.L. Data is used for appropriation decisions where the highest level of accuracy is needed. Even the loss of a small number of people from a community’s population reported in the P.L. Data following application of the DAS can significantly impact that community.

Differences that may be perceived as “minor” and falling within an “acceptable level” of variance from the actual 2020 Census count through application of the DAS can have dire consequences for less populated tribal communities and places.

RECOMMENDATION: The NAC recommends that in evaluating the application of the DAS to the P.L. 94-171 redistricting data set, including the algorithm and the Privacy Loss Budget (PLB), the Census Bureau and the Data Stewardship Executive Policy (DSEP) Committee consider priority uses that require the highest level of accuracy, including:

- (a) Redistricting of all elected bodies, including those with very small populations;
- (b) Funding formulas and appropriations, including for communities with very small populations;
- (c) Research and public health, including for communities with very small populations;
- (d) Tribal, state, county and local level governance, including in places with very small populations. **[APPROVED]**

2. The Census Bureau has acknowledged that the greatest level of variance between the actual count in the 2020 Census and the adjusted count following application of the DAS to the P.L. Data occurs in places with 500 people or less. According to the Census Bureau, about 76% of the more than 19,500 incorporated places have fewer than 5,000 people and about a third of those have less than 500 people. That means that approximately 5,000 places in the United States, or roughly one quarter of all incorporated places, are likely to face the greatest impact of variance caused by noise added through application of the DAS. Those places represent tribal communities and small towns that depend upon an accurate count to secure much-needed resources.

For example, if the actual count from a community was 400 people and application of the DAS results in a decrease of that count of just 5 percent, or 20 people, that community could lose between

\$60,000 and \$100,000 a year in federal appropriations each year for ten years (depending upon the particular programs that are included). That could result in the community having to cut one or two full-time employees who provide vital social services to that community.

RECOMMENDATION: The NAC recommends that in evaluating the application of the DAS to the P.L. 94-171 redistricting data set, including the algorithm and the Privacy Loss Budget (PLB), the Census Bureau and the Data Stewardship Executive Policy (DSEP) Committee consider the impact that even small levels of inaccuracy can have on tribal communities and places with 500 people or less. **[APPROVED]**

3. The Census Bureau has evaluated the application of the DAS to the P.L. Data through use studies done at the Census Block Group level. However, Census Blocks – not Census Block Groups – are the building blocks for redistricting.

RECOMMENDATION: The NAC recommends that in evaluating the application of the DAS to the P.L. 94-171 redistricting data set, including the algorithm and the Privacy Loss Budget (PLB), the Census Bureau and the Data Stewardship Executive Policy (DSEP) Committee consider the level of variance between the actual count and the adjusted count at the Census Block level. **[APPROVED]**

4. The NAC applauds the Census Bureau for the success of its Voting District Program, which has allowed state, county and local jurisdictions to update the Census geography to match up to the geography used for voting districts or precincts. Using the same geography for Census data and precinct-level political data is important because it facilitates drawing districts that provide racial and ethnic minorities equal opportunities to elect their candidates of choice, as provided by the federal Voting Rights Act.

The NAC is concerned that application of the DAS may inject distortions into the demographic data used from the P.L. Data so that it no longer accurately correlates with precinct-level data.

RECOMMENDATION: The NAC recommends that in evaluating the application of the DAS to the P.L. 94-171 redistricting data set, including the algorithm and the Privacy Loss Budget (PLB), the Census Bureau and the Data Stewardship Executive Policy (DSEP) Committee consider the level of variance between the actual count and the adjusted count for small political boundaries added through the Voting District Program, such as voting districts or precincts. **[APPROVED]**

5. To improve the accuracy of data for more sparsely populated places, the Census Bureau has prioritized obtaining a more accurate count for the largest minority group in that place. However, in many cases that adjustment comes at the expense of smaller minority groups. In particular, analysis of the latest demonstration data has identified that in many small places, the smallest minority groups lose most, and in some cases all, of their population. Those adjustments have profound implications for the smallest minority groups being sacrificed to secure a higher level of accuracy for the largest minority group.

RECOMMENDATION: The NAC recommends that in evaluating the application of the DAS to the P.L. 94-171 redistricting data set, including the algorithm and the Privacy Loss Budget (PLB), the Census Bureau and the Data Stewardship Executive Policy (DSEP) Committee consider the level

of variance between the actual count and the adjusted count for all minority groups in less populated places, and not just the largest minority group. **[APPROVED]**

6. The NAC applauds the Census Bureau for its efforts to engage with outside stakeholders to identify priority use cases for the P.L. Data.

RECOMMENDATION: The NAC recommends that the Census Bureau continue to work with federal, state and local agencies, Tribal Nations, and other outside stakeholders to collect and study cases across a wide range of uses, variables, and geographies for the P.L. 94-171 redistricting data set and for subsequent data releases. **[APPROVED]**

Other recommendations to improve accuracy and transparency

7. The Census Bureau has not provided the public with a concrete measure for the loss of privacy if epsilon is adjusted to improve accuracy. What would moving from an Epsilon of 12.3 to 15 mean in terms of loss of privacy protection? This information is needs to be provided to establish view of where to strike the balance between accuracy and privacy.

RECOMMENDATION: The NAC recommends that the Census Bureau provide the public with a concrete measure for the loss of privacy associated with adjustments to Epsilon to improve accuracy, so that more informed decisions can be made about the relative tradeoffs between accuracy and privacy. **[APPROVED]**

8. The NAC joins NCAI and other organizations in emphasizing to the Census Bureau the importance of the federal government’s trust responsibility to ensure that Tribal Nations are counted accurately. The total number of AIAN geographies with zero counts must be zero. If an AIAN geography or other geography had at least one person counted in the 2020 enumeration by any method (whether self-response, proxy, administrative records, imputation or otherwise), they should have counts in the 2020 Census data.

RECOMMENDATION: The NAC joins NCAI and other organizations in recommending that the Census Bureau ensure that AIAN Tribal Nations and other ethnic and racial population groups that have actual counts in the 2020 Census raw data never end up with zero counts in the final dataset. **[APPROVED]**

9. **RECOMMENDATION:** The NAC joins NCAI and other organizations in recommending that consideration be given for the priority use cases listed above, and the Census Bureau must demonstrate how they have updated the application of privacy protections to ensure that AIAN Tribal Nations and other ethnic and racial population groups and groups working on behalf of children have accurate and usable data for all of those purposes. **[APPROVED]**

10. The NAC joins NCAI in recommending that the allocation of the Privacy Loss Budget (PLB) be increased for AIAN Tribal Nations, but not at the expense of other groups, including smaller minority populations.

RECOMMENDATION: The NAC joins NCAI and other organizations in recommending that the global Privacy Loss Budget be increased for the P.L. 94-171 redistricting data set. **[APPROVED]**

11. The NAC joins NCAI, the National Urban League and other organizations in recommending that the Census Bureau ensure accurate data for all, especially underrepresented racial/ethnic groups and small, rural, and remote groups. Analysis of the metrics reveals a systematic negative impact on these groups. Regardless of the need to protect privacy, the application of the privacy protections and the resulting usability of 2020 Census data must be equitable.

RECOMMENDATION: The NAC joins NCAI, the National Urban League and other organizations in recommending that the accuracy for all of racial and ethnic groups match that of non-Hispanic White data in the 2020 Census to be fair and equitable. **[APPROVED]**

12. The NAC joins NCAI in recommending that further consultation with Tribal Nations and other stakeholders occur after the DSEP decision in June 2021 regarding the algorithm and Privacy Loss Budget to be applied to the P.L. 94-171 redistricting data set. There was feedback from many who have participated in prior consultations that they were not meaningful because the information was too complicated for an audience level unfamiliar with the DAS.

RECOMMENDATION: The NAC joins NCAI and other organizations in recommending that the Census Bureau conduct additional public meetings and Tribal consultations to obtain feedback from Tribal Nations and stakeholders from other ethnic and racial groups and groups working on behalf of children about the decisions made by DSEP and its implications, with information to be communicated in an accessible format for individuals who may lack an understanding for any of the methods the Bureau is using to balance privacy with accuracy. **[APPROVED]**

13. **RECOMMENDATION:** The NAC recommends that the Bureau revisit and abandon its policy decision to ensure consistency between redistricting data release and DHC data release, if doing so would secure a greater level of accuracy in DAS-protected data for either release. **[APPROVED]**

14. **RECOMMENDATION:** The NAC recommends that the Bureau publicly release the identity and characteristics of all voting/electoral districts evaluated in the course of developing the DP algorithm and epsilon. Characteristics should include urban/rural, voting-age proportion, citizenship proportion, race/ethnicity proportions, total population size, and socioeconomic diversity. **[APPROVED]**

15. **RECOMMENDATION:** The NAC recommends that the Bureau publicly release data demonstrating how previous DAS (swapping) in 2010 may have affected geographies/ electoral districts that were majority-minority appearing not to be majority-minority. Definition of majority-minority should employ population percentages identified by the DOJ as generally identifying effective majority-minority districts for each specific minority group. **[APPROVED]**

16. The NAC is particularly concerned that southern Black population (where as much as a third of the Black population resides) and were hit hard by hurricanes and not well counted, will be adversely impacted by DP application and increased disclosure avoidance measures. The “Privacy Loss Budget” should not reflect or translate into a loss of Constitutional rights, including voting--one person, one vote.

RECOMMENDATION: The NAC recommends that the Census Bureau consider impacts the application of DP will have on already undercounted populations affected heavily by the differential undercount, including but not limited to Black men and young Black children, the Hispanic population, the AIAN population, the NHPI population and other hard-to-count populations. **[APPROVED]**

General Communications and Engagement about Census Products and DP

17. **RECOMMENDATION:** The NAC recommends that the Census Bureau continue its efforts to regularly communicate updates and engage various stakeholders and user groups during the decision-making process for setting the Privacy Loss Budget (PLB) and its allocation. **[APPROVED]**

18. **RECOMMENDATION:** The NAC recommends that the Census Bureau be transparent and actively engage with all stakeholders and user groups as it makes its final decisions about the algorithm used for the P.L. 94-171 redistricting data set and going forward with all remaining products. **[APPROVED]**

19. **RECOMMENDATION:** The NAC recommends that the Census Bureau communicate the factors used by the Data Stewardship Executive Policy (DSEP) Committee to set the PLB (“level of epsilon”). **[APPROVED]**

20. **RECOMMENDATION:** The NAC recommends that the Census Bureau publish 2020 Census data handbooks for data users targeted to different audiences (AIAN, federal agencies, data for rural areas, media, local government officials, etc.) that parallel the handbooks created for the American Community Survey. **[APPROVED]**

Impact on Children

21. Dr. William O’Hare’s research on the Census Bureau’s April 28th, 2021 demonstration product looks at the implications of differential privacy for children. O’Hare found that the injected error (Epsilon 12.3) had little impact on accuracy for large geographic units like states or large counties, but the story is different for smaller places and population groups. For example, the analysis shows that many smaller areas have high levels of error. For example, after differential privacy is applied, 8% of Unified School Districts had child counts with an absolute percent error of 5% or more. Data also showed that 66% of Unified School Districts had absolute numeric errors of 10 or more children. Percentage-wise the errors are worse for Black, Hispanic, and Asian children. Errors of this magnitude can impact federal and state funding that schools receive, as well as potentially affect funding allocations from the US Department of Health and Human Services and US Department of Agriculture. It is a problem if communities lose federal funds to support children because of the introduction of artificial error and not because of their changing population.

RECOMMENDATION: The NAC recommends that the Census Bureau supply differential privacy metrics for children to better understand how differential privacy will impact data quality. **[APPROVED]**

22. **RECOMMENDATION:** The NAC recommends that the Census Bureau establish the following accuracy target for differential privacy and children: “For all geographic units larger than census blocks for which data are reported, after the census data has been subjected to DP, the results for children should be within 5% of the true value 95% of the time, AND no error should be more than 10%.” **[APPROVED]**

23. **RECOMMENDATION:** The NAC recommends that the Census Bureau determine an accuracy target for differential privacy and children of color (Black, Hispanic, Asian, American Indian Alaska Native, and Native Hawaiian and Other Pacific Islander). **[APPROVED]**

24. Dr. William O’Hare’s research on the Census Bureau’s April 28th, 2021 demonstration product shows that DP creates over 91,000 Census blocks with children under age 18 but no adults. These implausible results are likely due to children being separated from their parents in differential privacy processing. Breaking the link produced absurd results that can impact the level of resources small communities get to serve children who live there, will lead to greater community distrust of the Census Bureau’s data, and will likely affect subsequent Census products.

RECOMMENDATION: The NAC recommends that the Census Bureau implement differential privacy in a way that does not break the link between children and adults in a household. **[APPROVED]**

Impact on Tribal Nations

25. In its letter to the Interim Director dated May 21, 2021, the National Congress of American Indians (NCAI) identified the continued concerns of Tribal Nations regarding the impact of the application of the DAS to tribal geography and the 94-171 redistricting data set. The NAC joins NCAI in its concerns and the recommendations that NCAI made in its letter.

RECOMMENDATION: The NAC joins NCAI in recommending that the accuracy and usability of American Indian Alaska Native (AIAN) tribal geography data improve significantly in the final 2020 Census data, with any reductions in accuracy or worsening of error metrics being unacceptable. **[APPROVED]**

26. **RECOMMENDATION:** The NAC joins NCAI in recommending that the Census Bureau ensure that the total population count in each AIAN tribal geography be held invariant (equal to the actual count), and that errors in other decennial demographic and housing characteristics must have no more than five percent error rates regardless of the size of the geography. **[APPROVED]**

27. **RECOMMENDATION:** The NAC joins NCAI in recommending that the Census Bureau follow other standard practices of suppressing counts under 10 if there is a risk to privacy, but this should be done in consultation with the affected AIAN Tribal Nation(s), if applicable, and other affected groups. **[APPROVED]**