

May 2, 2008

Laura V. Zayatz  
Chairperson, Disclosure Review Board  
U.S. Census Bureau  
4600 Silver Hill Road  
Washington, DC 20233-8500

Dear Ms. Zayatz:

This letter is in response to your March 12, 2008 memo to Celia Boertlein regarding the ACS CTPP Special Tabulations – 3 Years of Data. We are writing to express our strong concerns with the Disclosure Review Board (DRB) rules and requirements for ACS special tabulations cited in the memo.

For four decades, state transportation agencies and metropolitan planning organizations have relied on CTPP data. These data are used to understand commuting trends, target billions of dollars of highway, transit and modal investments, and address growing federal and state planning mandates and reporting requirements.

We understand and appreciate the Census Bureau's need to protect an individual's confidentiality. For these reasons, we will be working hard to develop synthetic data methods over the next few years that minimize disclosure risks and data suppression impacts on 5-year CTPP ACS data tabulations for smaller geographic areas.

This letter focuses on the requirements for the 3-year CTPP ACS data tabulations, for large areas (places with over 20,000 residents). We are concerned that the statistical probability of disclosure and the utility and benefits of these data for transportation planning have not been sufficiently considered in formulating the most recent disclosure rules and requirements. The remainder of this letter outlines our substantive questions and concerns in more detail.

#### Data Thresholds

The disclosure rules and requirements cited in your March 12, 2008 memo differ significantly from previous discussions and understandings between FHWA, AASHTO and Census Bureau personnel. In all previous correspondence and meetings regarding this subject, it was our understanding that thresholds for the 3-year CTPP ACS estimates would be applied to data tables and not individual categories of variables.

The March 12, 2008 memo states:

*“For all tables where means of transportation is shown and is crossed with one or more other variables, there must be at least 3 unweighted cases for each category of means of transportation in a given geographic area for the data to be shown. Categories and/or geographic areas should be collapsed to meet this threshold.*

*For all flow tables, there must be at least 3 unweighted cases per pair of geographic areas with the exception of Total Workers univariate and Means of Transportation univariate (no required threshold)."*

These requirements are significantly stricter than those expressed in earlier correspondence dated September 12, 2005. In a memo from you to Lawrence McGinn the following was stated:

*"For the 1 year and 3 year estimates, there is no threshold on means of transportation (mode) for residence and workplace tables."*

Further, in a December 13, 2005 memo from you to Lawrence McGinn the emphasis was again on tables instead of individual cells based on the following:

*"For workplace tables, there must be at least 10 unweighted or 60 weighted workers in sample in a given year and a given workplace for the 1 year estimates to be shown. For workplace tables, there must be at least 30 unweighted or 180 weighted workers in sample over the 3 years in a given workplace for the 3 year estimates to be shown."*

*For the 1 and 3 year estimates, there is no threshold on means of transportation (mode) for residence and workplace tables."*

From a statistical standpoint, for larger geographic areas with more than 20,000 residents, we believe the disclosure risk is sufficiently small when data is accumulated over a 3-year period. Previous research and work on this subject suggests that residence, workplace and commuting patterns are not constant or stable over time. For example, the National Research Council found:

*"The U.S. population is highly mobile with respect to geographic (residence) location, employment, family composition, commuting patterns, and other characteristics within and across years."<sup>1</sup>*

Additional studies suggest that nearly 15% of people (over five years of age) move their residence each year and nearly 45% move in five years. Also, the median employee tenure with a single employer is about four years across all ages and genders. Finally, nearly 30% of transit users change their mode to work year to year in Chicago.

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<sup>1</sup>National Research Council. (2007). Using the American Community Survey: Benefits and Challenges. Panel on the Functionality and Usability of Data from the American Community Survey, Constance F. Citro and Graham Kalton, Editors. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Disclosure risks are also minimized since nearly 33% of ACS records have place of work (sub-county level), means of transportation, and/or household income imputed. Even the Committee on National Statistics (CNStat) in a Census Bureau funded report acknowledged the inherent disclosure protection built into the ACS design. The report recommendations included the following conclusion:

*“The Census Bureau should undertake research and develop confidentiality protection rules and procedures for tabulations from the American Community Survey that recognize the protection afforded to respondents by pooling data over many months.”<sup>2</sup>*

For these reasons, we would appreciate knowing more about the statistical basis for establishing the categorical thresholds identified in the new rules and requirements.

In respect to data utility, there must be a reasonable balance between the protection of individual identity and the provision of sufficient, useful data. Our analysis indicates that the application of any thresholds for individual categories (cells) will effectively suppress the data available for many places throughout the nation.

For example, we estimate that applying the thresholds cited in the March 12, 2008 letter to our proposed list of 10 categories of means of transportation to work will suppress data for **82%** of the places in the nation with more than 20,000 residents.

Collapsing the categories for means of transportation to work from 10 to 6 lessens some data suppression impacts. However, applying the March 12, 2008 thresholds to 6 categories of means of transportation to work would still suppress data for over one-third of the places in the nation with more than 20,000 residents.

In fact, in order to successfully not suppress data, places need to reach a population of nearly 55,000 to always meet the threshold of 75 weighted, or 3 unweighted records. This is almost the entire 65,000 population threshold used for the 1-year ACS tabulations. Imposing this rule/requirement will mean that places like the following will have no cross-tabulations by means of transportation to work:

- Fairfax City, Virginia (population 21,000)
- College Park, Maryland (population 25,000)
- Suitland, Maryland (population 33,400)
- Lacey, Washington (population 31,000)

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<sup>2</sup> National Research Council. (2007). Using the American Community Survey: Benefits and Challenges. Panel on the Functionality and Usability of Data from the American Community Survey, Constance F. Citro and Graham Kalton, Editors. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

This level of data suppression will have critical consequences on the transportation planning community. Understanding how people travel to work is fundamental to travel demand modeling, transportation planning and policy analysis, transit evaluations, emergency preparedness, safety planning, air quality analysis and a host of other transportation applications. This is especially true when concerns about energy costs, green house gas emissions, congestion, environmental justice, smart growth and safety and security are generating unprecedented interest in alternatives to single occupant automobile usage.

### Rounding

The rounding conventions identified in the disclosure rules/requirements additionally effect the usability of the 3-year CTPP ACS data tables. Applying the DRB rounding conventions result in different data totals in different tables. The consequence is that transportation analysts are required to spend considerably more time reviewing their data to understand whether the variability in their calculations are correct or the result of rounding.

In this particular case, the justification for using rounding as a method to reduce the risks of disclosure is not apparent. The sample weights are developed with multiple and complex formulae and then rounded to an integer. This should obviate the need for further rounding. We would appreciate learning more about the justification to round to gain a better understanding of the proposed rounding conventions.

### Other Disclosure Protections

Additionally, we believe the ACS design has built in protections for individuals. ACS data are subject to aging, swapping, and imputation. In addition, the sample is small and the geography is large. We believe the DRB should take into account the effectiveness of these design features before adding other onerous requirements to further suppress data.

### Concluding Remarks

As referenced in this letter, the recent DRB rules and requirements will have significant impacts on ACS CTPP 3-year data products. One of the stated goals of the ACS was to provide more current data for planning and policy analysis. Data on means of transportation and journey to work flows are the primary reasons AASHTO and the Federal Highway Administration partner with the Census Bureau to produce the CTPP special data tabulations. If these data are not available to CTPP sponsoring states and metropolitan planning organizations, we may not be able to justify moving forward with 3-year data products.

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We ask that you reconsider the positions taken in your March 12, 2008 memo. We look forward to meeting with you and other Census Bureau personnel to discuss ways in which we can better balance data needs and utility with disclosure requirements. Thank you.

Sincerely,

Ronald McCready  
Program Director for Policy and Planning  
American Association of State Highway and Transportation Officials

Jonette Kreideweis, Chair  
AASHTO Standing Committee on Planning  
Census Data Work Group

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