COOPERATIVE FORECASTING GROUP
February 26, 2020
Baltimore Metropolitan Council
10:00 A.M. to 12:00 P.M.

MINUTES

Ms. Kui Zhao, Chair of the Cooperative Forecasting Group (CFG), called the meeting to order at 10:08 a.m.

1. APPROVAL OF MINUTES

Following a round of introductions, Ms. Zhao asked for approval of the minutes from the December meeting of the CFG. Mr. Jeff Bronow moved to approve the minutes with Mr. Cody Spaid seconding the motion. The minutes were unanimously approved.

2. ROUND 9A – UPDATE SUMMARY

Mr. Shawn Kimberly provided a status update on the Round 9A dataset. He reminded the group of the presentation he gave at the December meeting summarizing the jurisdictional level Round 9A data submitted by the three participating jurisdictions (Anne Arundel County, Baltimore County, and Howard County). He explained that since the December meeting, BMC staff has reviewed the small area submissions, developed comments on them, and sent the comments to each participating local jurisdiction to allow for any adjustments based upon the provided feedback. Upon review of the comments and making final adjustments, participating local jurisdictions have finalized and submitted their Round 9A forecasts. BMC staff is now in the process of developing travel demand model inputs (incorporating and building upon the Round 9A submissions). For those jurisdictions not participating in the Round 9A update, the Round 9 data will continue to be used. Round 9A will next be forwarded to the Technical Committee for their review, and ultimately to the Baltimore Regional Transportation Board for their endorsement (sometime in May or June 2020).

Mr. Kimberly announced that Round 9B will be the last opportunity for local jurisdictions to make adjustments to their forecasts before they are incorporated into the analyses for 2022 Long

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Voting: City of Annapolis, Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Harford County, Howard County, MD Department of Transportation and Harford Transit. Non-Voting: Queen Anne's County, MD Department of the Environment, MD Department of Planning, and MD Transit Administration.

Range Transportation Plan (LRTP) update. He also noted that for the purposes of the LRTP update, the horizon year must be extended from 2045 to 2050. For this reason, all jurisdictions must participate Round 9B. Round 9B updates are due to BMC by November 30, 2020.

3. DIFFERENTIAL PRIVACY: WHAT IT IS AND HOW IT MAY IMPACT CENSUS DATA

Mr. Michael Hawes, Senior Advisor for Data Access and Privacy at the U.S. Census Bureau, provided a presentation entitled Differential Privacy and the 2020 Decennial Census.

Mr. Hawes noted that the Census Bureau's commitment to privacy and confidentiality is critical to their ability to produce high-quality statistics about the nation's people and economy and that protecting the privacy of respondents and the confidentiality of their data is both a legal requirement, and a core element of the Census Bureau's institutional culture. Safeguarding the data of the public is necessary to maintain its trust, and ultimately to ensuring the completeness and accuracy of the Census Bureau's statistics. This is particularly critical in a time of declining government trust and high profile data breaches that are occurring with greater size and frequency.

When safeguarding the data of the public, the Census Bureau is considering not only the privacy threats of today, but attempting to protect against the threats of tomorrow. Mr. Hawes talked about the growing privacy threat: a massive proliferation of data (from data brokers, social media, dark web) that could be used to reidentify individuals in statistical data products, combined with rapidly improving technology (advancements in computer speed and capacity and in complex matching algorithms). He reviewed the history of Census Bureau privacy protections from whole-table suppression (1970), to data swapping (1990), to formal privacy (2020).

Mr. Hawes then explained an example of the complex process by which individual-level data could be recreated from aggregate tabular data, emphasizing how easily this can be accomplished with today's technology. He described an experiment conducted at the Census Bureau to determine if the data released in the 2010 Census products would be enough to reconstruct individual-level records. The experiment showed that this was possible, and that they were able to reconstruct detailed individual level information, including sex, age (to within a year), race and ethnicity for 71% of the entire U.S. population. The detail and accuracy of the reconstructed records was enhanced when linked to outside (commercially available) data. Recognizing the growing threat posed by the proliferation of external data sources, and increasingly powerful algorithms that can perform these reconstructions and re-identificaitons, the Census Bureau determined that their traditional approaches to protecting privacy in their data products are increasingly insufficient.

To meet their obligation to safeguard respondent information, the Census Bureau has committed to modernizing their approach to privacy protection, and has adopted differential

privacy as the disclosure avoidance system for the 2020 Census. Differential privacy (also known as formal privacy) is a framework for quantifying the precise amount of privacy risk for all published calculations, tables, and data products. By quantifying the risk, differential privacy allows the Census Bureau to mitigate it to an "acceptable level" by injecting precisely calibrated amounts of statistically neutral noise into the calculations. This leads to the issue of privacy versus accuracy. The Census Bureau is attempting to determine the optimal balance wherein they provide data that are sufficiently accurate for their intended uses, while also being sufficiently noisy to meet their legal and ethical obligations to safeguard the data. There is a spectrum created between absolute privacy and accuracy. The point on the spectrum where the data are deemed both accurate enough and sufficiently protected, is referred to as the Privacy-loss Budget (symbolized by Epsilon). The lower the privacy-loss budget, the less privacy you are willing to give up. An epsilon of zero would provide perfect privacy, but completely useless data. An epsilon of infinity would provide perfect data, but no privacy protections at all. Data science experts are deliberating over the proper Epsilon for use in the development of Census 2020 data products.

Mr. Hawes noted that differential privacy will not alter the Census Bureau's requirement to provide the actual enumeration of the state populations for congressional apportionment. The remaining data products (including the PL94-171 redistricting data) will have privacy protections applied, as they have in prior Censuses. This time, however, the noise will come from differential privacy, rather than from the record-swapping mechanism used in the past. This change is causing the Census Bureau to re-evaluate the quantity of statistics and tabulations that will be released, as each statistic uses up a portion of the privacy-loss budget.

The Census Bureau developed and released a demonstration dataset to evaluate the impact differential privacy (set a predetermined Epsilon) would have had if applied to the 2010 Census data products. Analyses performed at the Census Bureau, as well as by data users, has shown that the data that was run through the differential privacy process performs well (when compared to "actual" Census 2010 data tables) at larger geographies and broad demographic data points, but larger disparities are evident at smaller geographies and in data points of finer demographic detail.

Mr. Hawes then responded to a series of questions from CFG members and guests relating to the potential impacts of the new disclosure avoidance system upon data quality and its fitness-for-use for the many and varied applications of decennial Census data. Mr. Hawes stressed that the Census Bureau is aware of many of the issues expressed by members and guests, and that the design and optimization of the new disclosure avoidance system is still ongoing, and will continue over the coming year.

[PowerPoint: Differential Privacy and the 2020 Decennial Census]

4. JURISDICTION LEVEL POPULATION, HOUSEHOLD, AND EMPLOYMENT PROJECTIONS AND METHODS

Mr. Alfred Sundara provided an overview of the methodology for the Maryland Department of Planning's (Planning) demographic projections. The projections cover (by jurisdiction) total population, household population, number of households, average household size, and labor force. Planning is mandated by statute to prepare population projections for the state, each county, and each municipal corporation in the state. The projections are to be revised at least every three years, and are to cover 20 to 30 years (in five year intervals). Planning has the flexibility to utilize the data produced by the forecasting committees of the BRTB and MWCoG. The last update was released in 2017, and a new update is scheduled for 2020. With the release of decennial census data beginning in 2021, Planning expects to produce an update next year as well.

The current projections release (2017) indicates that the state's population is expected to reach nearly 7,000,000 by 2045. Mr. Sundara noted that the household population projections follow a similar pattern, as the methodology assumes that the group quarters population a constant share of total population. He explained that State Planning starts with the total population forecasts produced through the Baltimore and Washington Metropolitan Planning Organizations, and develops their own projections for the remaining jurisdictions in the Eastern Shore, Western Maryland, and Southern Maryland regions. Due to differences in update cycles, the availability of regularly updated federal data sources (Census Bureau's Population Estimates Program data, for example), and analyses of State Planning's own cohort-component model, their projections may occasionally diverge from those developed by the aforementioned regional agencies.

Mr. Sundara provided a description of the methods behind State Planning's cohort component model, including assumptions and sources for fertility rates, survival rates, migration rates, and group quarters population. He then described the methods behind the household projections, noting that the household population projections serve as the base for this data point.

Labor force estimates and projections are developed utilizing population projections by age (from the cohort-component model), combined with age-specific labor force participation rates from the American Community Survey and the U.S. Bureau of Labor Statistics. These data points enable the calculations of labor force and labor force participation rates by jurisdiction. Employment projections by place of work and industry are based upon historical data from the Bureau of Economic Analysis (BEA) for wage and salary and proprietor jobs, the Census Bureau's non-employer statistics, historical employment by industry data from BEA and the Maryland Department of Labor, and county employment totals (where available) from local and regional agencies. State Planning expects to update the employment projections later this year.

[PowerPoint: Maryland Department of Planning Projections Methodology]

5. PSAP UPDATE

Mr. Kimberly provided a brief update on the status of the PSAP process. The PSAP program is the boundary delineation program where local and state governments have the opportunity to review and edit Census geography boundaries. BMC submitted the first draft of boundaries to the Census Bureau last summer (on behalf of the member jurisdictions) and received the revised Census version in January 2020. We are now in the verification phase of the project. Local jurisdictions have the opportunity to review what the Census Bureau has done with the boundaries and request any changes or fix any errors. BMC is now working with local jurisdictions to complete their reviews and make any final edits. The submission for this phase is due in April, and the final version of the boundaries should be received from the Census Bureau next year.

6. NEW BUSINESS

Ms. Zhao reminded the group that the Census Bureau's American Factfinder application would be retired on March 31. When asked about the status of the 2020 Mid-Atlantic Regional Planning Roundtable, Mr. Greg Goodwin (MWCoG staff) noted that his agency was taking the lead on it, but that no date had yet been set.

The meeting adjourned at 12:07 P.M.

ATTENDANCE

Members

Krishna Akundi, Maryland Department of Planning
Jeff Bronow, Howard County Department of Planning and Zoning
Erik Hovland, Anne Arundel County Office of Planning and Zoning
Sara Paranilam, Baltimore City Department of Planning
Cody Spaid, Carroll County Department of Planning
Al Sundara, Maryland Department of Planning
Jamie Williams, Baltimore City Department of Planning
Kui Zhao, Baltimore County Department of Planning

Staff and Guests

Charles Baber, Baltimore Metropolitan Council (BMC)
Linda Eisenberg, Carroll County Department of Planning
Blake Fisher, BMC
Greg Goodwin, Metropolitan Washington Council of Governments
Michael Hawes, U.S. Census Bureau

Shawn Kimberly, BMC
Jaleel Reed, Metropolitan Washington Council of Governments
Brian Ryder, BMC
Emem Udu, Baltimore County Census Outreach Coordinator