

## COOPERATIVE FORECASTING GROUP

August 26, 2020

Virtual Meeting

10:05 A.M. to 12:11 P.M.

## MINUTES

Ms. Kui Zhao, Chair of the Cooperative Forecasting Group (CFG), called the meeting to order at 10:05 a.m.

### 1. APPROVAL OF MINUTES

Ms. Zhao noted that she did not have any edits to the minutes, but called the group's attention to two areas in the minutes: a section about Anne Arundel County and Baltimore County both using vital statistics in their forecasts; and a segment related to two sources of self-employment data from the Census Bureau (American Community Survey (ACS) and Nonemployer Statistics) and determining which the CFG would use going forward. Mr. Jeff Bronow moved to approve the minutes from the June meeting of the CFG with Mr. Steve Cohoon seconding the motion. The minutes were unanimously approved.

### 2. HOWARD COUNTY POPULATION, HOUSEHOLD, AND EMPLOYMENT FORECASTING METHODS

Mr. Jeff Bronow, Howard County Department of Planning and Zoning, began the presentation on his agency's Land Use Projection System, noting that the system has been in place for a number of years, but is in the process of being overhauled and modernized. It was written into the Adequate Public Facilities Ordinance (APFO) regulations that an annual report must be produced each year detailing pipeline development, as well as activity in the current year and the previous five years. The system has real-time tracking, and is very detailed (provided at the parcel and lot level). The system is used for the purpose of producing projections for the school system, parks, police, fire and other agencies, as well as for the efforts of the Cooperative Forecasting Group. The projections are updated annually at the end of the calendar year.

Mr. Bronow then explained the land use coding scheme (which includes a broad range of categories including undeveloped land, residential, commercial, industrial, government, parks and open space, mixed-use etc), and described how the forthcoming updated system will

simplify it. Mr. Bronow then shared the most recent version of the Howard County land use map, and noted that there is little undeveloped land remaining in the county. He then explained how their model projects their residential development in five stages, each with its own timing (existing unit - current year; undeveloped/permit issued – 1<sup>st</sup> projection year; recorded lot – 1<sup>st</sup> and 2<sup>nd</sup> projection years; in process - 1<sup>st</sup> through 4<sup>th</sup> depending upon phase; undeveloped land - 5<sup>th</sup> projection year and later). Mr. Bronow then shared a summary of the residential unit distribution in the county by planning area and by stage and unit type, noting that those that are “in-process” may be phased out up to 10-years and that the undeveloped stage includes redevelopment potential. Of the 11,000 total units in the countywide undeveloped stage, over 4,000 are located in Columbia, and are included in the Downtown Columbia Plan (a thirty-year plan that was adopted in 2010). Jeff then shared a graphical representation of the data highlighting the fact that the county is approaching residential “build-out”, and that the majority of remaining units (54%) are anticipated to be in higher density developments and comprised of rental apartments or condos.

Mr. Bronow then described the stages and timing for non-residential uses (existing – current year; signed Site Development Plan – 1<sup>st</sup> projection year; in process – 2<sup>nd</sup> through 4<sup>th</sup> depending upon phase; and undeveloped land - 5<sup>th</sup> projection year and later). Jeff shared a summary of the distribution of non-residential acreage in the county by planning area and by stage and unit type, noting that there is not much non-residential acreage available – with 94% already developed. Moving forward the county is focusing on redevelopment efforts to fuel non-residential growth.

Next steps include working on the General Plan (coincidentally, at the same time as neighboring Anne Arundel and Montgomery counties), and they have hired a consultant to help: City Explained Incorporated. The consultant started a few months ago with the intent to complete the plan by the end of 2021 or early 2022 (an election year). The pandemic delayed the start of the process. Before beginning, the guidelines of the General Plan must be approved by the Planning Board, and then by County Council. When the guidelines went to County Council, there were some members that were not comfortable moving forward with the general plan, as public participation might be difficult under the pandemic circumstances. The final vote was to move forward with the plan and to make special efforts to accommodate public participation.

Mr. Bronow said that they are using CommunityViz for an updated capacity analysis and to develop a projection model. In the 1990s and early 2000s CommunityViz existed largely as a group of extensions to ArcGIS as an analysis tool for a variety of planning applications. City Explained has taken ownership of CommunityViz and are working to expand and improve upon its capabilities. Jeff offered to provide a demonstration of the uses of the application once they have it operational (in a few months). Jeff noted that he is particularly interested in using CommunityViz for their non-residential analyses, as the application has a series of sophisticated tools to perform redevelopment scenarios.

Ms. Zhao commented that Baltimore County had just completed the comprehensive rezoning process, and that the next step is to update their Master Plan, for which they may be hiring a consultant. She inquired about the timing of the stages for projections, noting that they were

largely defined in the near term, and asked about projections beyond the five-year mark. Jeff clarified that about half of the outstanding residential development potential (in units) is in process, permitted, or in recorded lots – and may be phased in beyond the five years mentioned in the presentation (within approximately 10 years). The remaining 11,000 units get built thereafter, and are paced by the annual growth targets set in the county’s APFO.

Mr. Kimberly asked if the other agencies in county government utilize the same forecasts that DPZ develops and submits to BMC. Jeff said that that is the intent and that most are aware that DPZ creates and shares the forecasts. He added that the General Plan in effect sets the control totals for the forecasts, and serves as the guiding document for the whole county, including other agencies. The schools use the output from the Maryland Department of Planning (MDP) cohort component model, which use DPZ data as inputs.

Mr. Al Sundara, MDP, asked if Jeff regularly compares the DPZ population figures with the Census Bureau’s Population Estimates Program figures. Jeff said that he does check to see if the figures align, and makes adjustments as necessary.

Jeff anticipates that residential development activity will remain strong for the next few years, averaging about 1,000 to 1,500 units per year, but that things will drop-off significantly after that. The plateau of population growth seen in the later years of the forecast is due to the constraints in place in the current General Plan. Jeff noted that it is possible that the next General Plan could revise growth expectations, and mentioned the redevelopment of “Gateway” as an example of one such potential adjustment.

When asked to clarify the methods for employment projections, Jeff said that it is not excessively sophisticated, and relies upon an assumption of employees per acre by use type. Jeff is hopeful that CommunityViz will allow them to perform more complex analyses.

Mr. Charles Baber reminded Jeff that BMC has a spreadsheet based cohort survival model and population synthesizer that can be of assistance for demographic analyses and scenario planning exercises.

Ms. Zhao asked if the General Plan predicts population, household, and employment growth, or if it works the other way around, and that the projections have policy implications in the General Plan. Jeff explained that there will be a land use element in the General Plan, and that CommunityViz will be used to run a base case trend scenario, based upon current zoning. Then alternate scenarios would be run. Jeff explained that the land use element of the General Plan will contain estimated population and employment growth, based upon a preferred scenario. Kui clarified the question, asking: which drives the process, the projections or the General Plan? Jeff said that he sees them as interconnected.

***[PowerPoint: ForecastMethods\_HowardCounty]***

### **3. METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS METHODOLOGY FOR BASELINE EMPLOYMENT ESTIMATES**

Mr. Greg Goodwin, Metropolitan Washington Council of Governments (MWC<sub>o</sub>G), provided a brief background of the work of the MWC<sub>o</sub>G, focusing on the transportation function. He noted that their Cooperative Forecasting and Data Subcommittee (CFDS) is currently working on the region's Round 9.2 forecast update. He added that their modeling region includes three jurisdictions from the Baltimore region: Anne Arundel County, Carroll County, and Howard County. The CFDS develops the forecasts for the MWC<sub>o</sub>G region and MWC<sub>o</sub>G staff requests the most recently developed forecasts from the CFG to include in their modeling efforts. The CFG's Round 9A dataset, endorsed by the BRTB in July, will be incorporated into the MWC<sub>o</sub>G Round 9.2 forecast update for their modeling work.

Mr. Goodwin explained that a number of years ago the MWC<sub>o</sub>G determined that it would be important for there to be a consistent method for developing baseline employment across all jurisdictions in the region. While the method has been utilized for many years, it was only in the last several years that the process become formalized, with a written methodology statement and annual update of employment estimates. Mr. Goodwin shared a slide illustrating the components of their region's definition of employment:

- Wage and Salary Employment (which comprises about 95% of total employment)
  - o Employment Covered by Unemployment Insurance (Source: Quarterly Census of Employment and Wages)
  - o Adjustment for Employment Not Covered by Unemployment Insurance (Source: Current Employment Statistics)
- Self-employment and Unpaid Family Workers
  - o Adjustment for Self-employment and Unpaid Family Workers (Source: ACS 1-year PUMS data)
- Military
  - o Number of Active Duty Personnel (Source: Department of Defense Base Structure Reports – Defense Manpower Data Center)

Mr. Goodwin said that while 2015 continues to serve as the base year for their employment forecasts, MWC<sub>o</sub>G produces annual estimates of employment utilizing the base year methodology for distribution to the local governments in their membership. He explained how the MWC<sub>o</sub>G methodology accounts for the wage and salary employment that is not covered by unemployment insurance by applying an adjustment factor. The adjustment factor is created from the Bureau of Labor Statistics' Current Employment Statistics (CES) program. While the CES data is not available at the county level, it is provided by metro area. A ratio of CES/QCEW employment is developed at the metro area level, and applied to each of the component jurisdictions to arrive at totals for wage and salary employment. While different among the metro areas included within the MWC<sub>o</sub>G region, the overall CES adjustment factor for the region is 1.06.

An adjustment factor is then developed to account for self-employment and unpaid family workers through the use of ACS 1-year PUMS data. While different among the jurisdictions included within the MWCoG region, the overall ACS self-employment adjustment factor for the region is 1.05.

The estimate of military employment relies upon the Department of Defense Report. The data used to be reported at the base level, but is now reported only at the state level. This requires staff to estimate the military numbers for the military bases in the region. There are estimated to be 47,000 military jobs in the MWCoG region.

Mr. Goodwin then shared a table of jurisdictional level employment illustrating each of the adjustments in the methodology, resulting in 3.3 million jobs in 2018. He added that while the methodology is “suggested”, most jurisdictions in the region adhere to the methods, with only minor adjustments to the components in a few circumstances. For example, some jurisdictions may have relationships with their local military bases and can obtain more accurate data than is reported in the defense report – and will report what they have obtained at the local level. Arlington County is an example where QCEW data reporting may be “off” because of employment at the Pentagon, as some agencies within that facility may be reporting as a DC location. Mr. Goodwin noted that when there are disparities between the QCEW and local figures for employment, the differences are generally minor.

Mr. Krishna Akundi, MDP, asked through the “chat box” if MWCoG had found any other sources for military employment, now that the source had been adjusted to only report at the state level. Mr. Goodwin said that MWCoG had reached out to the contractor responsible for the report and was told that security considerations were responsible for the change in the geographic detail available in the reporting, and that a security clearance would be required to access the data. Mr. Akundi asked if the MWCoG had considered using the Census Bureau’s Nonemployer Statistics to account for the self-employed. Mr. Goodwin said that they relied upon the expertise of Bob Griffiths (MWCoG) in the development of their methodology. MWCoG will continue to consider other sources of data, but for now this how they are defining their employment.

Ms. Zhao mentioned that in 2019 interest had been expressed to conduct a joint meeting between the MWCoG CFDS and the CFG sometime in 2020. Greg said that he still thinks it is a good idea, and added that perhaps a Census Bureau training session could serve as a mutually beneficial topic for such a meeting. Mr. Goodwin noted that the meeting could be held virtually.

Mr. Kimberly shared with the group a worksheet he developed comparing the 2015 base year employment estimates developed through the current CFG methodology and the MWCoG methodology, for the Baltimore region and for each of the component jurisdictions. Mr. Kimberly showed a table summarizing the calculations used to develop the estimates via the MWCoG methodology, then supplied a table comparing the results of that method with the results of the CFG method. He first displayed the comparison of total employment at the jurisdiction and region levels, noting that at the regional level, the CFG method yields a result of approximately 200,000 more jobs (14% more) than the MWCoG method.

He then displayed a breakdown of total employment into the wage and salary and self-employment elements. At the regional level, the wage and salary component of total employment figures were similar, with the CFG method resulting in roughly 50,000 more jobs (3.5% more) than the MWCoG method. The bulk of the difference between the wage and salary totals was accounted for in Anne Arundel County, where the CFG method resulted in 12.7% more jobs than the MWCoG method. Mr. Kimberly speculated that the disparity between the two may be the result of differences between how military employment and civilian employment at Fort Meade are accounted for in the sources utilized in the different methods.

Mr. Kimberly then presented the comparison between the counts of self-employment jobs between the two methods. He demonstrated that it is the self-employment component of total jobs that drives the difference between the two base year employment estimation methods, with the CFG method yielding 150,000 more (233.6% more) self-employment jobs than the MWCoG method. Three quarters of the difference in total jobs between the two methods is accounted for by self-employment. Mr. Kimberly pointed out that the dissimilarity is attributable to the different sources used to account for self-employment, with the CFG utilizing the Census Bureau's Nonemployer Statistics and the MWCoG method applying a self-employment factor derived from the ACS. He added that the ACS yields lower counts of self-employment as only primary employment is considered (if the respondent held more than one job, the respondent reports only the one at which most hours were worked last week). The Nonemployer Statistics provides data on businesses that have no paid employees, but are subject to federal income tax – and is not constrained by reporting only primary self-employment. Mr. Kimberly stated that the utilization of one source for self-employment over another is a methodological difference, and that one is not “better” than the other; only that they are different, and yield different results.

Ms. Zhao pointed out that Mr. Bronow had mentioned at the June meeting (during a discussion about the potential for the need for a new base year employment estimation for Round 10) that one of the primary considerations in the development of the current CFG method was to bring employment down to a reasonable level.

***[PowerPoint: MWCoG\_BaselineEmploymentEstimates]***

**4. ROUND 10 UPDATE: DRAFT SCHEDULE AND MASTER ESTABLISHMENT FILE**

Mr. Kimberly provided an update on the draft Round 10 schedule, noting that he had presented a draft version of the schedule at the June meeting, then distributed it to CFG membership for comment. Comments were received and incorporated into an updated version of the schedule which was distributed to the group on August 20.

Before opening the draft schedule to discussion, Mr. Kimberly explained to the group that there is some uncertainty in the anticipated delivery date of the redistricting data file from the Census Bureau to the states. The redistricting file contains block level demographic data (including population, households, and group quarters population) that will be instrumental to local jurisdictions in the development of their Round 10 base year estimates at the small area

(TAZs). One section of the Census Bureau website lists a delivery date of March 31. The Census Bureau acknowledges that due to the pandemic, “For a period of time, delivery of apportionment data by 4/30/21 and redistricting data by 7/31/21, were considered.” On August 17, 2020 the Census Bureau released a [Review of the 2020 Operational Plan Schedule](#). This document states that the “Original Date” for the delivery of redistricting data is March 30, 2021, and that the “Pandemic-Adjusted Date” is in development. As a result, it is unclear when the redistricting file will be delivered. Mr. Kimberly noted that the current version of the draft Round 10 schedule reflects the 7/31/2021 date that the Census Bureau had circulated, but that the schedule will be updated as the Census Bureau finalizes their release dates. The timing of the release of the redistricting file will impact the timing of several downstream tasks in the Round 10 schedule.

Mr. Kimberly then pivoted to the second piece of the agenda item, the Master Establishment File (MEF). He acknowledged that there are several new members in the CFG since the last time a MEF was developed, and felt it would be helpful to provide an introduction. He provided a brief presentation explaining to the group what the MEF is (a point level spatial inventory of establishments operating in the Baltimore region) and how it is developed (QCEW file serves as the base, geocoded by BMC, and file review and edits by CFG membership). Mr. Kimberly then explained that the file may be used by local jurisdictions to assist in the employment allocation process of estimate and forecast development and is used by BMC staff in the development of travel demand model inputs.

Mr. Kimberly gave an overview of the confidential nature of the file, stressing that the file needed to be transferred and stored securely, that only those that have signed confidentiality agreements may access the data, and that the data is to be used by CFG membership only for the purpose of the work of the committee. He then described the main focus areas of the QCEW file review process: government records; public schools; and large employers (100+ employees, 50+ if time/resources permit) – both that are in the file, and those that are absent from the file. Finally, Mr. Kimberly displayed a jurisdictional level summary of the file, highlighting the total number of records in each jurisdiction, as well as the number of records that fall into the “large employer” category to provide a sense of the scale of the review task. He stated that the deadline for completion of the QCEW file review is November 30. Mr. Kimberly offered to host a QCEW file review “workshop”, where newer members could learn how senior membership has gone about the cleaning process in previous years and share their methods and best practices for completing the task. The group expressed interest in holding a workshop.

***[PowerPoint: CFG\_MEF Intro]***

## **5. NEW BUSINESS**

Mr. Sundara notified the group that he is in the process of updating the population projections for the state (they do that every three years). He said that he generally accepts the data from the CFG and incorporates it into the State Data Center’s county level projections. He has reviewed the latest round of projections from the CFG, and for this State

Data Center update he has made a few adjustments to the numbers. He added that he did not want to single out any particular jurisdictions, and that he can share his draft figures.

Mr. Kimberly asked that the group contemplate a potential change to the current base year employment methodology (particularly in consideration of what we learned today from MWCoG and the comparison between methods) in anticipation of a group discussion on the topic at the October meeting. He also requested that the group think about the incorporation of COVID impacts upon the base-year estimation and forecasting processes. Understanding that the current impacts have not yet been fully measured and that the timing of the recovery is uncertain, what information will be helpful to you in support of developing estimates and forecasts?

The meeting adjourned at 12:11 P.M.

## **ATTENDANCE**

### ***Members***

Jeff Bronow, Howard County Department of Planning and Zoning  
Steve Cohoon, Queen Anne's County Department of Public Works  
Deborah Grant, Harford County Department of Planning and Zoning  
Sara Paraniham, Baltimore City Department of Planning  
Cody Spaid, Carroll County Department of Planning  
Al Sundara, Maryland Department of Planning  
Kui Zhao, Baltimore County Department of Planning

### ***Staff and Guests***

Krishna Akundi, Maryland Department of Planning  
Charles Baber, BMC  
Blake Fisher, BMC  
Greg Goodwin, Metropolitan Washington Council of Governments  
Shawn Kimberly, BMC