City of Gaithersburg

Brief Overview of MWCOG Projections Methodology

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Summary

The City of Gaithersburg uses a "dual" approach to generate population, households, and employment projections for use in the Metropolitan Washington Council of Governments (MWCOG). A "bottom-up" approach is used first, based on the number and type of dwelling units and nonresidential square footage. The second "top-down" approach is then used to verify the results from the first ("bottom-up") method, and adjustments are made as needed. The projections for MWCOG are prepared in 5-year intervals and usually span a 30-40 year period.

Overview

Step 1: Collect and Compile Data

- Review site plans, building permits, State Department of Assessments and Taxation (SDAT) information, City records, U.S. Census Bureau information (ACS, Economic Census, County Business Patterns, Decennial Census, Population Estimates Program, etc.), Montgomery County Planning Department (M-NCPPC) trend reports, property management and owner websites, online mapping (including street views and bird's-eye views), and other data sources.

- Extract information about the number of existing and proposed dwelling units and dwelling unit types, the amount of existing and proposed nonresidential space, the average number of persons per dwelling unit (and by type of dwelling unit, if available), vacancy rates for residential and nonresidential uses, the average number of jobs per square foot of nonresidential by use type, and the number of persons who are self-employed.

- If necessary to ensure complete information, consult with other City staff, contact other municipalities and agencies, and perform site visits.

- Transfer the final information to each tax parcel or condominium polygon in the City, so that each parcel/polygon will include the number and type of dwelling units and the amount and type of nonresidential uses.

Step 2: Create the Baseline Estimate

- Determine the Baseline year and the "data vintage" year and note the difference (if any) between the two. NOTE: the Baseline Year and Data Vintage year should always be within 1-2 years of each other, to avoid "speculative" adjustments to the data.

- Households and Population raw data total: Based on the Census American Community Survey and Decennial Census, estimate the number of existing households and persons using factors based on the average household size, average number of persons per households, and vacancy rates, preferably by both tenure and dwelling unit type. Note: for multifamily rental units, use the vacancy rate for the City of Gaithersburg that is annually estimated by the Montgomery County Department of Housing and Community Affairs (MC DHCA).

- Jobs raw data total: Based on the jobs-per-square-foot factors from the City's analysis of the 2012 ES-202 data (which takes into account observed vacancy rates), the Montgomery County standardized factors, and vacancy rates provided by CoStar and recent market reports, estimate the number of existing jobs by detailed use type, then summarize into the broader Office, Retail, Industrial, and Other (ORIO) categories that are used by MWCOG for transportation modelling.

- Estimate the number of dwelling units and amount of square footage that is either missing or over-counted in the "data vintage" year, relative to the "baseline" year. For example, if the Baseline year is 2010 and the Data Vintage year is 2011, the development completed in 2011 will need to be subtracted from the overall total, to arrive at the correct Baseline year estimate. On the other hand, if the Baseline year is 2010 and the Data Vintage year is 2009, the development that should be completed in 2010 will need to be added to the overall total, to arrive at the correct Baseline year estimate.

- Any data that was *added* to the raw data total to account for the difference between the Baseline year and the Data Vintage year will need to be *subtracted* from the Near-term pipeline development in Step 3.

- Any data that was *subtracted* from the raw data total to account for the difference between the Baseline year and the Data Vintage year will need to be *added* to the Near-term pipeline development in Step 3.

Step 3: Develop the Near-term (5-10 year) Projections

- Using the Pipeline Development information, determine which pipeline development is likely to be completed within the next 5 years and within 5-10 years and which pipeline development will be completed beyond the 10-year horizon.

- Separate the near-term (within the next 10 years) pipeline development into residential (households and population) and nonresidential (jobs), retaining the split between 0-5 years and 5-10 years.

- Subtract any existing development that will be replaced by the Pipeline development (i.e., existing buildings that will be demolished as part of a redevelopment approval in the Pipeline).

Note that this subtraction may include residential units (population and households), non-residential square feet (jobs), or both.

- Add or subtract any data that was used to reconcile the Baseline year and Data Vintage year in Step 2. (Note: this should be assumed to be within the 0-5 year horizon, since the Baseline Year and Data Vintage year should always be within 1-2 years of each other.)

- Once completed, the Near-term development will usually represent the actual projections for the first two five-year periods, though there may be some small amount of long-term development from Step 4 that will need to be added to the 5-10 year period.

Step 4: Develop the Long-term (>10 year) Projections

- Start with any Pipeline Development that is not included in the 0-5 and 5-10 year periods from Step 3, and allocate among the remaining 5-year periods. (Note that not all of the pipeline development needs to be allocated – if a portion of or an entire development is not likely to be completed within the projections period, it or portions of it should be excluded from the projections.)

- Subtract any existing development that will be replaced by the Pipeline development (i.e., existing buildings that will be demolished as part of a redevelopment approval in the Pipeline). Note that this subtraction may include residential units (population and households), non-residential square feet (jobs), or both.

- Gross Land Acreage (GLA): Identify areas that will likely experience redevelopment, "greenfield" development of raw land, and potential infill development within the projections period. Adding these areas together results in the Gross Land Acreage available for potential future growth.

- Compare the identified GLA areas to the MWCOG Activity Centers, Maryland Sustainable Growth areas, and those areas identified in the Municipal Growth Element and Land Use Element of the Master Plan as these are the most likely areas to see growth during the projections period, and these areas should receive priority (first build-out) in the projections.

- Gross Land Buildable (GLB): Using GIS and other sources, remove non-buildable land from the GLA areas, such as stream valleys, floodplains, erodible soils, and wetlands. This reduced area for potential future growth is the Gross Land Buildable (GLB).

- Net Land Buildable (NLB): Reduce the Gross Land Buildable by 25%, to account for roads, parking, stormwater management, forest conservation, and other items required for actual development. This final reduced area for future growth is the Net Land Buildable (NLB), and is used to calculate future growth potential.

- Using the general growth formula from the adopted Municipal Growth Element (20 dwelling units per acre, 2.37 persons per dwelling unit , 1 household per dwelling unit, and 5 jobs per household), calculate the total potential households, population, and jobs that would result from development of the Net Land Buildable (NLB).

- Add the potential growth from Net Land Buildable (NLB) to the Pipeline development, to arrive at the total potential future growth (TPFG) that is likely within the projections period.

Step 5: Perform Top-Down "Sanity" Checks

- Compare the TPFG population, households, and jobs growth rates during the projections period to the observed growth rates for the same immediate period in the past. For example, if the future projections period is 2020-2050 (30 years), the projected growth rates for population, households, and jobs should be compared to the observed growth rates for population, households, and jobs for 1990-2020 (the previous 30-year period). Determine whether the future growth rate is reasonable, as compared to the prior period growth rate – generally, growth rates are expected to decline in future periods, since less land is available and denser growth is not always economical or politically feasible.

- Compare the overall City population density, household density, and jobs density for the baseline and in each of the projections periods to the population density, household density, and jobs density of Baltimore City and Washington, D.C. for the baseline and same projections periods. Generally, the density of the City of Gaithersburg should remain lower than the densities projected for Baltimore and Washington.

- For the baseline and each projections period, calculate the City's population and jobs as a percentage of Montgomery County's population and jobs, and as a percentage of the DC Metro Area's population and jobs. Generally, the City's proportion of population and jobs should be relatively stable or gradually increasing, as compared to the County and DC region.

- If any of the Top-Down "sanity checks" reveals something out of the ordinary, Steps 1-4 should be reviewed, with a focus on Step 5 and in particular, the identification of the growth areas (as the total acreage of those may need to be reduced, if too much growth is observed, or increased, if too little growth is observed).

- Once this step is complete, the Gaithersburg Preliminary City-wide projections are finished. Usually, this is the first step in the MWCOG Forecast Round Update process, and Gaithersburg normally provides the Preliminary City-wide projections in a formal letter to MWCOG after indicating that the City intends to participate in the Round Update.

Step 6: Prepare the Preliminary Projections at the TAZ Level

- Once the overall City-wide Preliminary Projections have been completed, they must be allocated to each of the Traffic Analysis Zones (TAZs).

- Step 1 and Step 2 should be repeated (or done concurrently) for each TAZ, which results in the Baseline population, households, and jobs for each TAZ.

- Steps 3 and 4 should then be repeated (or done concurrently) for each TAZ, which results in the Near-term and Long-term projections for each TAZ.

- Once this step is complete, the Gaithersburg Preliminary Projections by TAZ is finished.

Step 7: Collaborate With Montgomery County and Rockville

- Send Gaithersburg's City-wide and TAZ Preliminary Projections to Montgomery County and Rockville for their review.

- If possible, request and review the County-wide and TAZ Preliminary Projections prepared by Montgomery County and the City-wide and TAZ Preliminary Projections prepared by Rockville and provide comments as needed.

Step 8: Make Final Adjustments

- Review any comments on the City of Gaithersburg's Preliminary Projections received from the County and Rockville and make adjustments and changes as needed, to both the City-wide and TAZ-level projections.

- Review any major master plan changes or development plan approvals that occurred after the projections process was started, and make adjustments and changes as needed, to both the City-wide and TAZ-level projections.

- Once complete, the Final Gaithersburg City-wide and TAZ Projections are finished.