Date: November 17, 2014

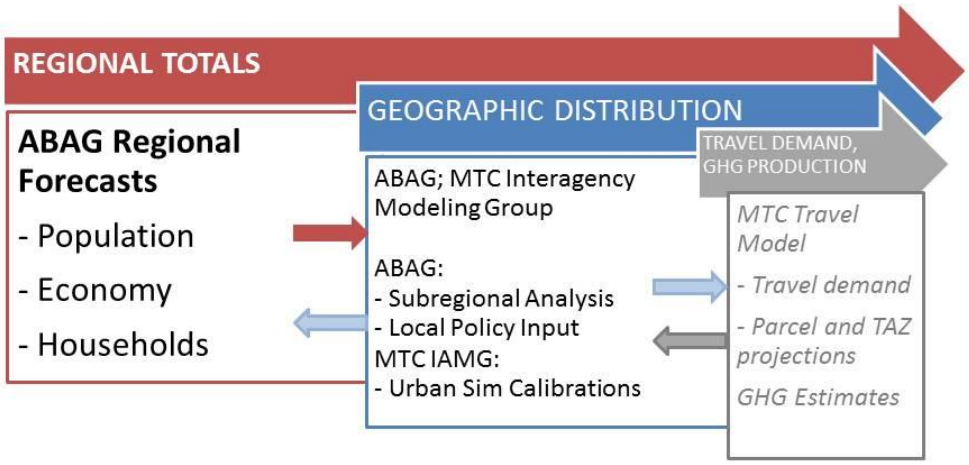
To: ABAG Regional Planning Committee
From: Cynthia Kroll, ABAG Chief Economist
Subject: Regional Forecast Overview for the Plan Bay Area 2017 Update

The ABAG research team has revised the regional forecasting approach from earlier years. The approach used in this cycle is built on expertise within the agency but also takes advantage of outside resources and new tools. ABAG has established a technical advisory committee to review the forecasting process, with technical experts from other public state and regional agencies, academia, the business community, and the nonprofit research sector. (Advisory committee members are listed at the end of this memo).

The ABAG research group will use several tools to prepare an updated regional forecast for Plan Bay Area 2017. Stage one of the forecast will combine a set of population, economic and household models to produce the total regionwide forecasts of population, jobs and households through 2040, including expected net migration and commute. Stage two of the forecast, conducted in partnership with our local jurisdictions and with modeling input from MTC, will distribute the regionwide forecasts to different locations within the region. Plan Bay Area 2017 will also include travel model forecasts which will be prepared by MTC. Figure 1 shows the different components of the regional forecast. This memo addresses primarily the methodology for Stage 1.

Figure 1

ABAG/MTC Regional Forecasting Process



Approach to the Regional Forecast

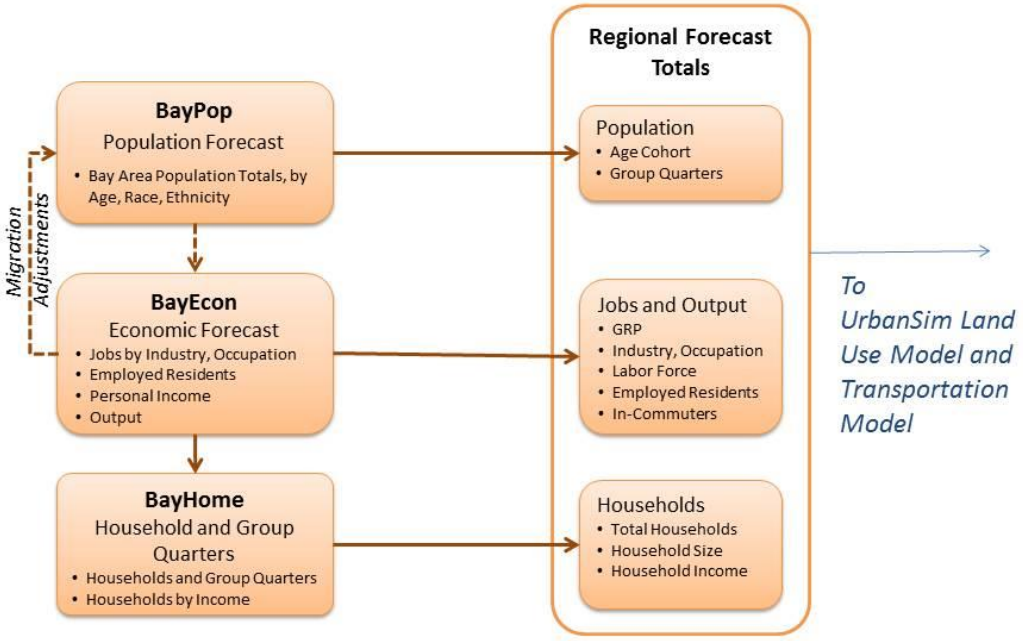
The regional forecast has three components, as shown in Figure 2:

- BayPop creates a forecast of population based on natural increase and migration assumptions
- BayEcon forecasts gross regional product, employment by industry, occupations and income
- BayHome forecasts household growth based on population growth and economic factors

Figure 2

Regional Forecasting Model

Stage 1 – Population, Economic and Household Regional Totals



BayPop is based on a demographic model estimated by John Pitkin and Dowell Myers, that takes into account the unique characteristics of the Bay Area's population in terms of ethnicity, age distribution, and place of origin, as well as the propensity to migrate based on historic patterns by age and place of origin. The model results based on historic trends will be adjusted to reflect how expected economic growth patterns identified through the REMI differ from historic trends.

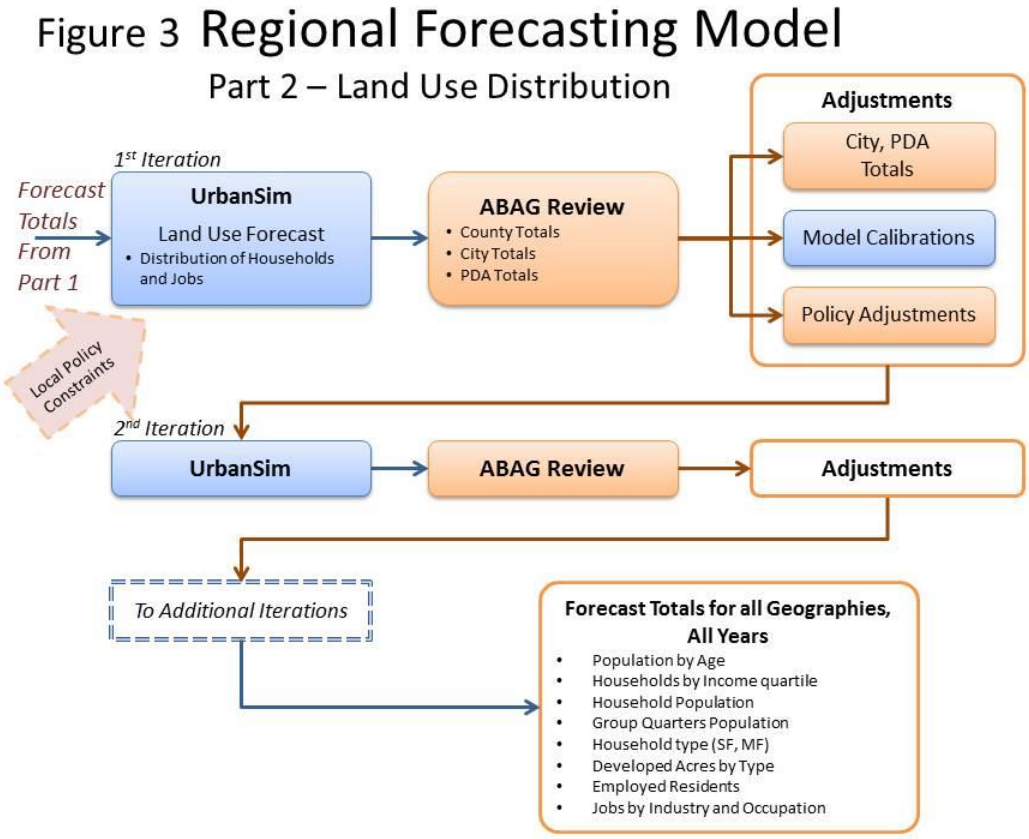
BayEcon forecasts economic factors using the REMI model. The model drives regional economic activity from overall national and international economic conditions, the economic structure of the region (industry mix, for example), and relationships among regions. Relationships within the model are derived primarily from econometric and input-output analysis. The model provides a long range forecast without economic cycles and is often used for impact analysis.

Employment is analyzed using Bureau of Economic Analysis definitions and may be adjusted in the forecast to reflect Census definitions if necessary for the transportation analysis.

BayHome will be designed by ABAG research staff in consultation with Pitkin and Myers, and will build on historic household formation rates by ethnicity and age cohort, research indicating how these rates may change over time, and economic input from the REMI model on relative housing costs and building activity. Household income will be calculated using income forecasts from the REMI model and ABAG analysis of the relationship between overall personal income levels and household income.

Geographic Distribution of the Regional Forecast

Figure 3 diagrams the iterative process that will be used to distribute the regional forecast totals for population, employment, and households. The basic relationships that drive local development are modeled in UrbanSim. The Bay Area UrbanSim model is under development in MTC's interagency analysis group through a contract with Synthicity. The underlying data of the model, on existing buildings, zoning, and community characteristics will be augmented and model results "ground truthed" through interactions between MTC and Synthicity modeling staff and local government and ABAG planners. New information may be added to the model in an iterative process designed to refine the projection and distribution process.



Land Use Scenarios

Alternative assumptions will be drafted for each of the three alternative scenarios for distribution of housing, employment and population, for which impacts can be evaluated. The three scenarios will consider a single set of regional forecast totals.

Schedule

The forecast methodology will be released in Summer 2015. The preliminary regional forecast will be released by Fall 2015 and the final regional forecast will be adopted by January 2016. The forecast methodology, its key assumptions, and preliminary numbers will be shared with local planning staff and stakeholders and will be presented at various regional meetings, public meetings and workshops.

The scenarios approach will be released in Fall 2015. The preliminary growth allocation numbers will be released by the end of 2015 and the preferred scenario will be adopted by Spring 2016. Similarly, the scenarios will be discussed with local planning staff and stakeholders. They will also be presented at regular regional meetings, public meetings and public workshops.

For more details on the Community Engagement Plan see memo in the ABAG Executive Board packet December 4, 2014.

ABAG Regional Forecasting Technical Advisory Committee, Plan Bay Area 2017 Update

1) Irena Asmundson, Chief Economist, California Department of Finance
   Contact Information: irena.asmundson@dof.ca.gov , (916) 322-2263
2) Clint Daniels, Principal Analyst, SANDAG
   Contact Information: Clint.daniels@sandag.org
3) Ted Egan, Chief Economist, Controller's Office of Economic Analysis, City of San Francisco
   Contact Information: ted.egan@sfgov.org , (415) 554-5268
4) Robert Eyler, Professor of Economics and Director, Center for Regional Economic Analysis, Sonoma State University
   Contact Information: robert.eyler@sonoma.edu
5) Gordon Garry, Director of Research and Analysis, Sacramento Area Council of Governments
   Contact Information: ggarry@sacog.org , 916-340-6230
6) Tracy Grose, Bay Area Council Economic Institute
   Contact Information: tgrose@bayareacouncil.org
7) Subhro Guhathakurta, Professor, Georgia Tech University, Department of City and Regional Planning
   Contact Information: subhro.guha@coa.gatech.edu , (404) 385-0900
8) Hans Johnson, Senior Fellow, Public Policy Institute of California
   Contact Information: johnson@ppic.org , (415) 291-4460
9) Jed Kolko, Chief Economist, Trulia
   Contact Information: jed@trulia.com
10) Walter Schwarm, Demographic Research Unit, California Department of Finance
    Contact Information: walter.schwarm@dof.ca.gov
11) Michael Teitz, UC Berkeley and PPIC, Retired
    Contact Information: teitz@ppic.org
12) Daniel Van Dyke, Rosen Consulting Group
    Contact Information: dvandyke@rosenconsulting.com

Ex-Officio Members

David Ory, Metropolitan Transportation Commission, dory@mtc.ca.gov
Michael Reilly, Metropolitan Transportation Commission, mreilly@mtc.ca.gov
Sean Randolph, Bay Area Council Economic Institute, sean@bayareacouncil.org

ABAG Staff Designing the Forecast

Cynthia Kroll, Chief Economist, cynthiak@abag.ca.gov, 510-464-7928
Jason Munkres, Senior Planner, jasonm@abag.ca.gov
Hing Wong, Senior Planner, hingw@abag.ca.gov