Visualization Tool for Exploring RHNA Methodology Options and Allocation Outcomes

ABAG/MTC staff has developed a [Visualization Tool for Exploring Factor Weighting and Allocation Outcomes](#) to support the [Housing Methodology Committee (HMC)](#) as they prioritize factors, consider weights for each factor, explore approaches for distributing units across income categories, and develop an initial recommendation for a [Regional Housing Needs Allocation (RHNA)](#) methodology.

The tool currently allows users to explore two different approaches to creating a sample RHNA methodology: the "Income Shift" approach and the "Bottom-Up" approach. When the user first opens the RHNA visualization tool, they are brought to a landing page that describes these two approaches. The user can then select from two different versions of the visualization tool, one for the Income Shift approach and one for the Bottom-Up approach. Both versions of the tool have essentially the same features, and the information below can assist the user with either version.

Regional Housing Needs Determination
ABAG received its Regional Housing Needs Determination (RHND) from the Department of Housing and Community Development (HCD) in June 2020. When the user opens either version of the tool, the upper right corner of the webpage shows ABAG's RHND for the 2023-2031 RHNA cycle. The RHNA methodology distributes the RHND across ABAG's 109 jurisdictions.

HCD divides a region's RHND across four levels of housing affordability that correspond to different income categories. Ultimately, the HMC will need to recommend a RHNA methodology that both assigns a total number of housing units to each Bay Area jurisdiction and distributes each jurisdiction's allocation among the four affordability levels.

Baseline Allocation
As a proxy, ABAG staff used total households in 2019 to establish a baseline allocation. This baseline allocation represents what each jurisdiction's RHNA would be if the allocation was based entirely on each jurisdiction's existing share of the region's households. The HMC will consider in summer 2020 whether to use the Plan Bay Area 2050 Blueprint as the baseline. The RHNA methodology then adjusts the baseline allocation.

When the user first opens the Visualization Tool or refreshes the webpage, the map displays the baseline allocation by default. The baseline allocation results in every jurisdiction experiencing the same growth rate as the region for the 2023-2031 RHNA cycle, which is a 16 percent increase in the number of households. Accordingly, the entire map is shown with the same color (yellow) by default because every jurisdiction would grow at the same rate in the absence of additional methodology factors.

Income Shift Approach

Potential Methodology Factors – Total Allocation
A key purpose of the tool is to explore how factors may adjust the baseline allocation. To this end, the tool includes 10 potential factors the HMC is considering for the methodology that will determine a jurisdiction's RHNA. These factors may be adjusted based on feedback from the HMC at future meetings.

Users can move the sliders to assign a weight to each factor to be included in the methodology. For the Income Shift approach, a factor's weight represents the relative policy importance of that factor in determining a jurisdiction's total unit allocation. Functionally, the weight determines the share of the RHND assigned by a factor. Factor combinations must add up to 100%.

Potential Methodology Factors – Income Shift
The income shift approach produces an allocation that moves jurisdictions' income distributions closer to the regional distribution. In the Income Shift approach version of the tool, users can access the income shift slider by clicking on the "Income" tab below "Potential Methodology Factors." Moving the "income shift" slider adjusts how the RHNA methodology distributes jurisdictions' allocations across the four income categories. A shift of 0% means a jurisdiction's RHNA mirrors the jurisdiction's existing income distribution. A shift of 100% means a jurisdiction's RHNA mirrors the region's existing income distribution. In theory, a higher income shift will close the gap between a jurisdiction's income distribution and the region's distribution more quickly.

Bottom-Up Approach

Potential Methodology Factors – Affordable Housing and Market Rate Housing
In contrast to the Income Shift, the Bottom-Up approach does not start with a total allocation assigned with a factor-based methodology. Instead, this approach builds up the total allocation by using factors to determine allocations for the four income categories separately. Each jurisdiction's total unit allocation is calculated by summing the results for the income categories. The Bottom-Up approach uses factors from the same set of 10 factors that can be selected for the total allocation in the Income Shift approach.

To simplify the Bottom-Up approach, the methodology allocates very low- and low-income units together (i.e., "Affordable Housing") and moderate- and above moderate-income units together (i.e., "Market-Rate Housing"). In the Bottom-Up version of the tool, the "Affordable Housing" tab is selected first under "Potential Methodology Factors" on the right side of the webpage. The user can adjust the sliders for each factor's weight in the methodology that will determine the allocation of very low- and low-income units. In this context, a factor's weight represents the relative policy importance of that factor in determining a jurisdiction's affordable housing allocation. Factor combinations must add up to 100%.

Next, the user can click the "Market-Rate Housing" tab, which is adjacent to the "Affordable Housing" tab. The user can adjust the sliders for each factor's weight in the methodology that will determine the allocation of moderate- and above moderate-income units. In this context, a factor's weight represents the relative policy importance of that factor in determining a jurisdiction's market-rate housing allocation, and factor combinations must again add up to 100%.

Seeing Results on the Map
In the Income Shift version of the tool, users can click on the "Update Allocation" and "Update Distribution" buttons to see results for each jurisdiction on the maps after selecting desired factors and weights for a total allocation and an income shift level. In the Bottom-Up version of the tool, users can click the "Update Allocation" button to view results after selecting factors for both affordable housing and market-rate housing.

For both methodology approaches, users can then toggle between five maps: one for the total allocation and one for each of the four income categories. On the total allocation map, jurisdictions with the darkest green will experience the largest household growth rate relative to the baseline allocation (total households in 2019), while jurisdictions shaded darker pink experience a smaller growth rate relative to the baseline allocation. On the income category maps, jurisdictions shaded darker green have a higher share of their allocation in that category, while jurisdictions shaded darker purple have lower shares in that category.

Summaries of Allocation Results
At the bottom of the page, the "Total Housing Allocation by County" section shows the share of the RHND assigned to jurisdictions in a county, and it also displays a comparison to each county's share from the 2015-2023 RHNA.

The "Results Summary" section contains buttons that produce charts and tables showing the income distribution of the allocations received at the county-level and by each jurisdiction. There is also a table and chart that show each jurisdiction's allocation, including the number of units in each income category and the share of units in each income category.

In the near future, the "Metrics Performance" button will produce graphics showing how an allocation performs on different measures related to the statutory objectives for RHNA.

Downloading Results
Users can click on the "Download Data" button to download a spreadsheet with jurisdiction-specific allocations. Additionally, users can click on the "Share" button to download a spreadsheet that records the factors, weights, and income shift level (if applicable) they selected.