BMC Demographics Dashboard

USER GUIDE

Contents

1. Overview

This document contains documentation and reference materials supporting the BMC Demographics Dashboard development. The purpose of this dashboard is to explore a number of American Community Survey (ACS) Census tables for geographies within the BMC jurisdiction.

This document is organized into **User Guide** and **Technical Documentation** sections. The goal of the **User Guide** section is to describe the core functionality of the dashboard from a user's perspective, providing an overview of the dashboard organization and highlighting specific features of interest. The goal of the **Technical Documentation** section is to equip developers with the tools and knowledge needed to make updates to the ACS Survey data showcased in the dashboard.

2. User Guide

The dashboard is structured around four tabs, each representing a specific ACS table. The technical guide will provide a set of instructions for developers to process and add additional tables from the ACS survey. The ACS tables in the current version of the dashboard are the following:

- *Employment*
  - o 2020 ACS table *C23002 (A-I) Population by Gender and Age and Race and Employment Status*
- *Income*
  - o 2020 ACS table *B19037 (A-I)* Households by Age and Income and Race
- *Tenure x Race*
  - o 2020 ACS table *B25003 (A-I)* Occupied Housing Units by Tenure and Race
- *Tenure x Income*
  - o 2020 ACS table *B25118* Occupied Housing Units by Tenure and Income

Since each tab is similarly organized, the following section will summarize one of the above ACS Table Tabs, Employment.

2.1 ACS Table Tabs

Each tab allows for the user to explore one ACS table. The tab in this example (Employment) is pulled from the census data displayed is from the 2020 ACS table *C23002 (A-I) Population by Gender and Age and Race and Employment Status*, for tracts in counties in the BMC model region.

All tabs contain three categories of filters that allow the user to segment the data: (1) Geographic, (2) Demographic, and (3) Tract-Level. The resulting filtered data is displayed in three sections: (4) a map displaying the spatial distribution of the demographic variable, in this case Employment Rate, by either tract or county; (5) the Top/Bottom-N Counties/Tracts by demographic variable; (6) a collection of cross-tabulation bar chart distributions of the census unit by available demographic variables (e.g., Population by Employment by Age).
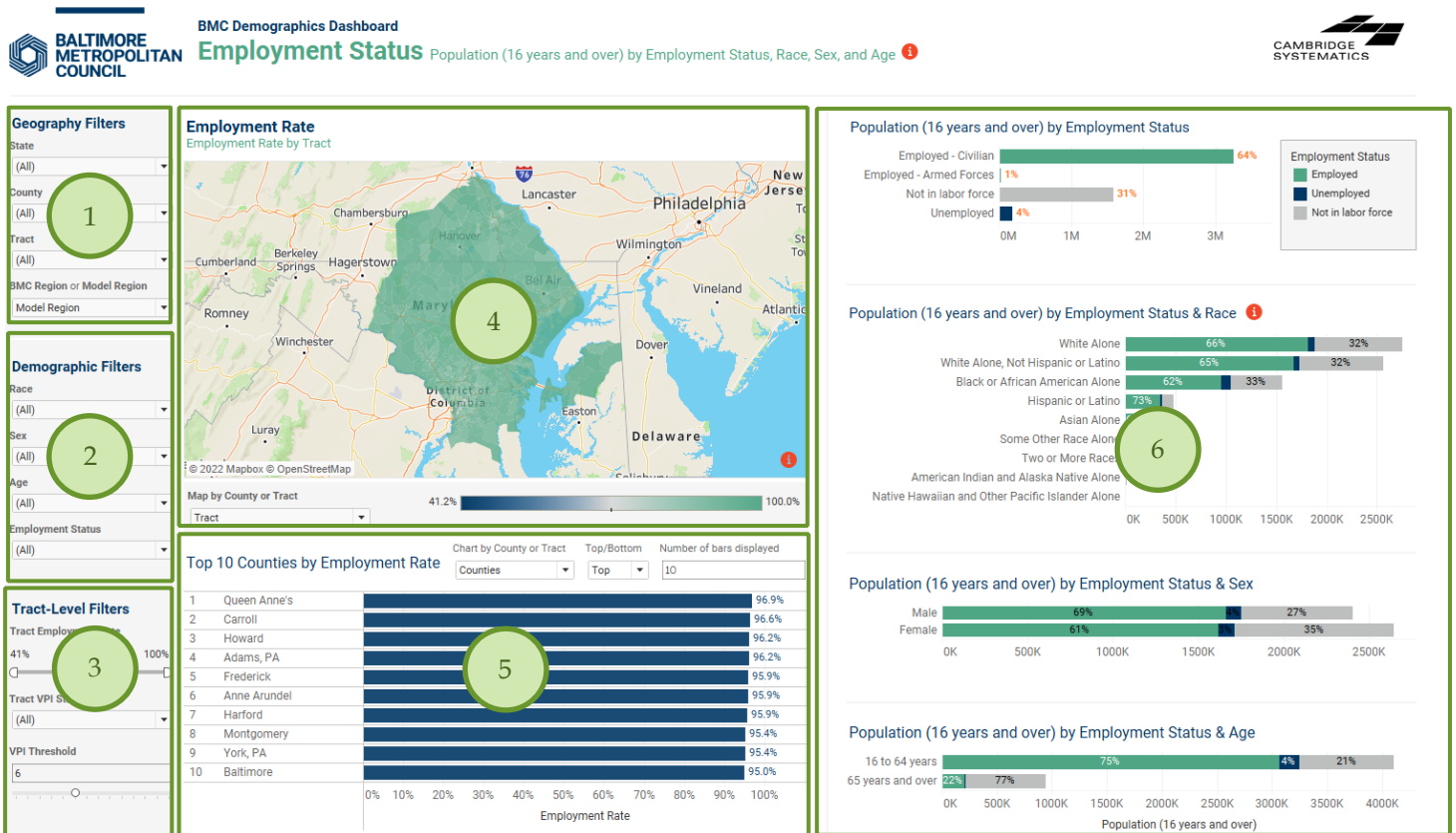

*Figure 1 BMC Demographics – **Employment***

Employment Main Components
1 – Geographic Filters
2 – Demographic Filters
3 – Tract-Level Filters
4 – Map by Demographic Variable
5 – Top N Counties/Tracts by Demographic Variable
6 – Census Unit by Demographics Charts

2.2 Dashboard Sections

2.2.1 Temporal, Spatial, and Demographic Filters

The census table results can be segmented by a three types of filters:

(1) Geographic Filters, which allows the user to view custom spatial areas of the data, increasing in geographic granularity from State to Tract. The *BMC Region or Model Region* parameter allows for the user to choose between the BMC Model region (a region wider in scope and used in the BMC Travel Demand Model) or the BMC Jurisdiction region (to only view data from counties within BMC's jurisdiction).

(2) Demographic Filters, which allows the user to cut the data by the demographic variables available in the table.

(3) Tract-Level Filters, which allow the user to filter by tract-level attributes (e.g., Employment Rate of the tract). This section also contains the Vulnerable Population Index[1] filter. The Vulnerable Population Index is a measure developed by BMC to identify vulnerable populations based on a collection of Census tract-level demographics. A tract is flagged as a Vulnerable Population when its VPI is above the user-defined threshold (default: 6).

2.2.2 Map by Demographic Variable

Each tab displays (4) a map which showcases the distribution of the demographic variable of interest (in this case Employment Rate) spatially for the selected geographic region. Users can choose the Geometry that is displayed (either County or Tract) in the map in the "Map by County or Tract" parameter.

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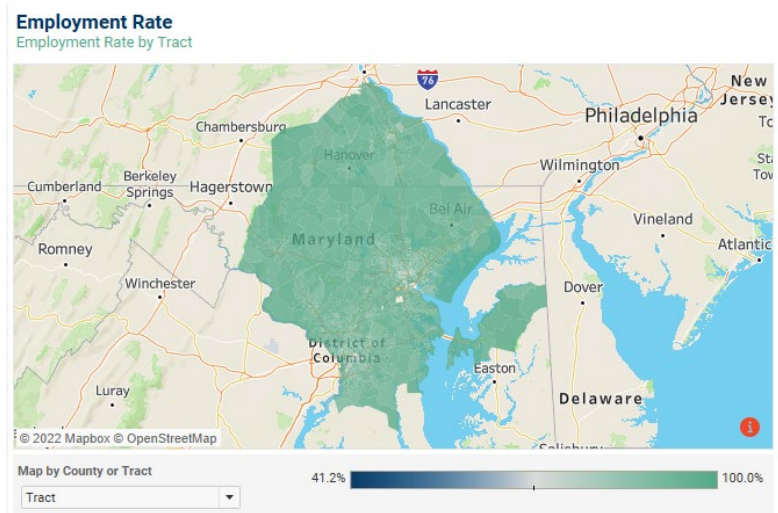
[1] More information about the methodology behind how the Vulnerable Population Index was created can be found here: Vulnerable Populations Index White Paper.

2.2.3 Demographic Segmentation Charts

Each dashboard tab includes (5) a collection of cross-tabulation bar chart distributions of the census unit by demographic variable and available auxiliary demographic variables (e.g., Population by Employment by Age). The main demographic variable of interest (here, Employment) is used as the color dimension
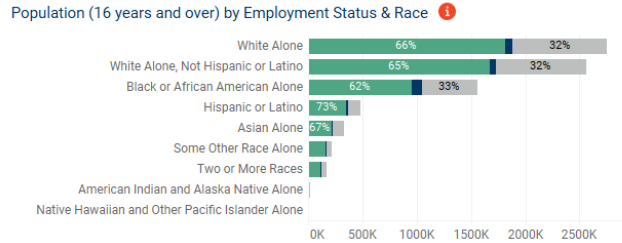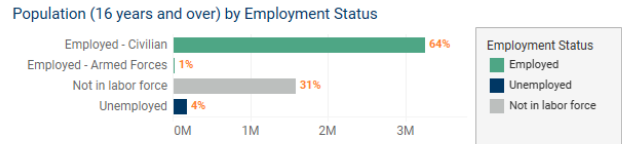

2.3 Dashboard Features

Each dashboard is equipped with auxiliary features that help enhance the user experience and provide a rich set of "details on demand," or further details that are hidden in a visualization's default state but are available upon user need via user interaction (e.g., tooltips).

2.3.1 Quick Tips

- **Info Bubbles**   Users can hover over the red (i) bubble placed near a filter or component to enable a tooltip that shows additional information about that filter or component.
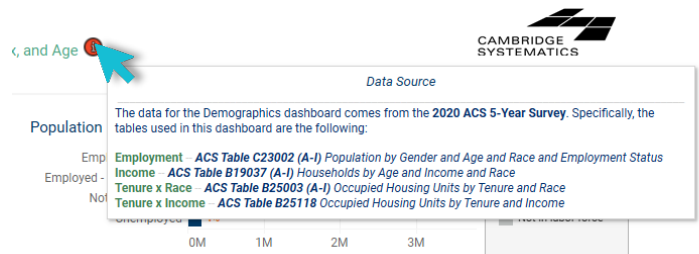
- **Reset Individual Filters**   Users can reset a specific filter to its default selection (in most cases ALL) by clicking the *Clear Filter* button that shows up when hovering over the downward arrow in the filter box.
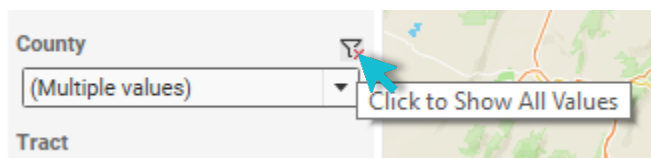
- **Tooltips**   Users can hover over chart components to obtain further details via tooltips.
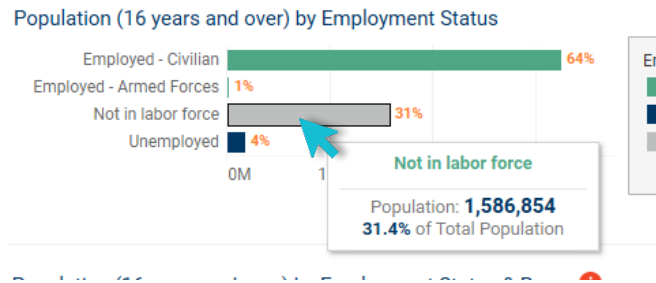
2.4 Saving Data and Images

Users can save data, tables, charts, and map images from the dashboard corresponding to the filter selections that are made. Users can also save the whole dashboard as an image or save any specific table, map, or chart as an image or data file. The procedures for saving are described in the subsequent sections.

2.4.1 Saving as Images

Through Tableau Online, to save the dashboard as an image, users can navigate to *Choose a format to download > Image* on the main menu bar of Tableau Online.

Through Tableau Reader, to save the dashboard as an image, users should exit the full-screen view and navigate to *Dashboard > Export Image* on the main menu bar of Tableau Reader. Users will be asked to provide a file name and folder location to save the dashboard as an image.

2.4.2 Exporting as PowerPoint

Through Tableau Online, to save the dashboard as a PowerPoint, users can navigate to *Choose a format to download > PowerPoint* on the main menu bar of Tableau Online as shown in Figure 4.1.

Through Tableau Reader, to save the dashboard and/or the elements of the dashboard as a PowerPoint, users may navigate to *File > Export as PowerPoint* on the main menu bar. Users will be asked to select the content to include in the PowerPoint slide from the following three options:

- *This View* – Tableau generates a PowerPoint slide with the current view.

- *Specific sheets from this dashboard* – Users can select and generate PowerPoint slides for each element selected (i.e., the selected charts, maps, summaries generated in separate sheets).

- *Specific Sheets from this workbook* – Users can select and get PowerPoint slides on each element selected (i.e., the selected charts, maps, summaries generated in separate sheets). In this case, users will find the elements/sheets in the Tableau file. Please note that, the last two options will provide the same outcome for the LOCUS dashboard in question.

Finally, users will be asked to provide file name and folder location to save the dashboard as a PowerPoint file.

2.4.3 Exporting as PDF

Similar to exporting as PowerPoint, users can also export the dashboard and its element to a PDF file. To do so, users may navigate to *File > Print to PDF* on the main menu bar in Tableau Reader or select **PDF** as download option in Tableau Online. Likewise, in PowerPoint export, users will have options to export only the dashboard using *Active sheet* option. Users can export all the different sheets with different elements of the dashboards (i.e., the entire workbook) in a single PDF file by selecting *Entire workbook*. Finally, users will be asked to provide a file name and folder location to save the dashboard as a PDF file.

2.4.4 Saving a Chart or Table

To save a specific table or data for any chart shown on the dashboard, Tableau Reader users must select the specific table or chart first. Then, users may navigate to ***Menu > Worksheet > Export > Image***.

Cross-tabulation can also be generated by selecting ***Crosstab to Excel*** option. This procedure will generate the crosstab in an Excel sheet, but the file is ***NOT*** automatically saved. Users must save the file in Excel software to store the data on their local system.

Tableau Reader users can copy and paste a chart or underlying data to a presentation slide or document using the quick export feature of the dashboard. Users need to right-click on a chart and navigate to ***Copy*** option to copy the chart as an image, data table, or cross-tabulation and paste it in a document.