Foundation for Puerto Rico

CDBG-DR FUNDS DEPARTMENT OF HOUSING Government of Puerto Rico

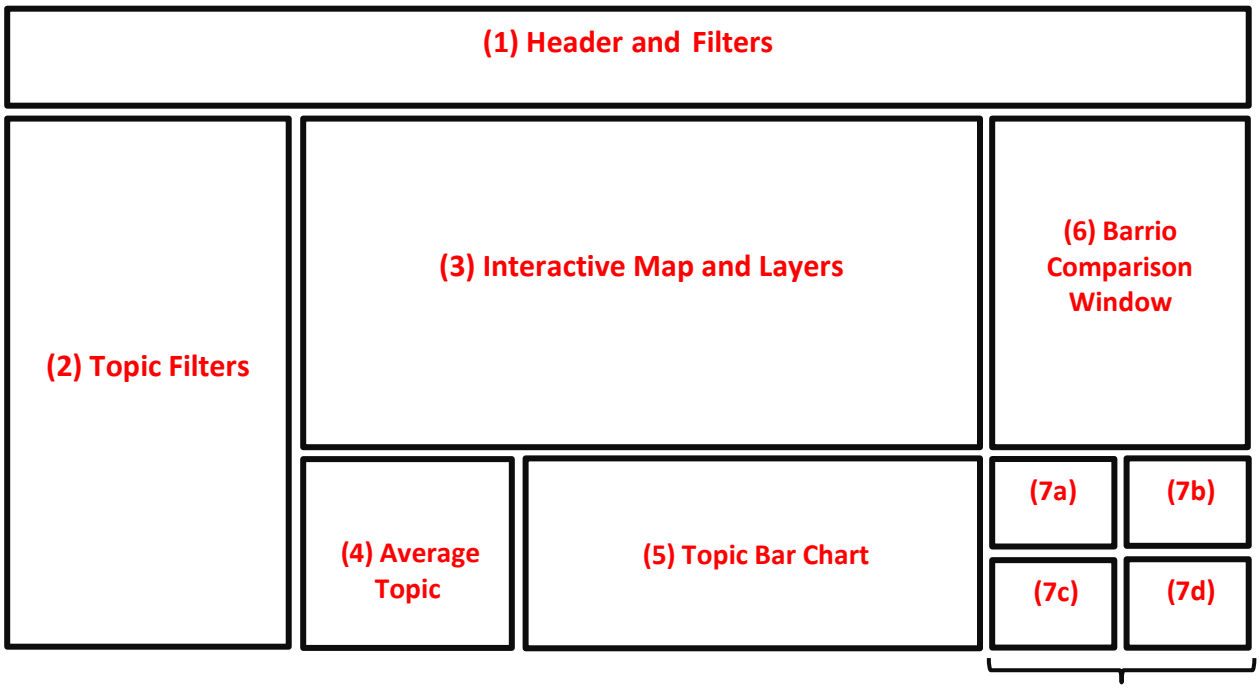
HUNTER CUNY The City University of New York

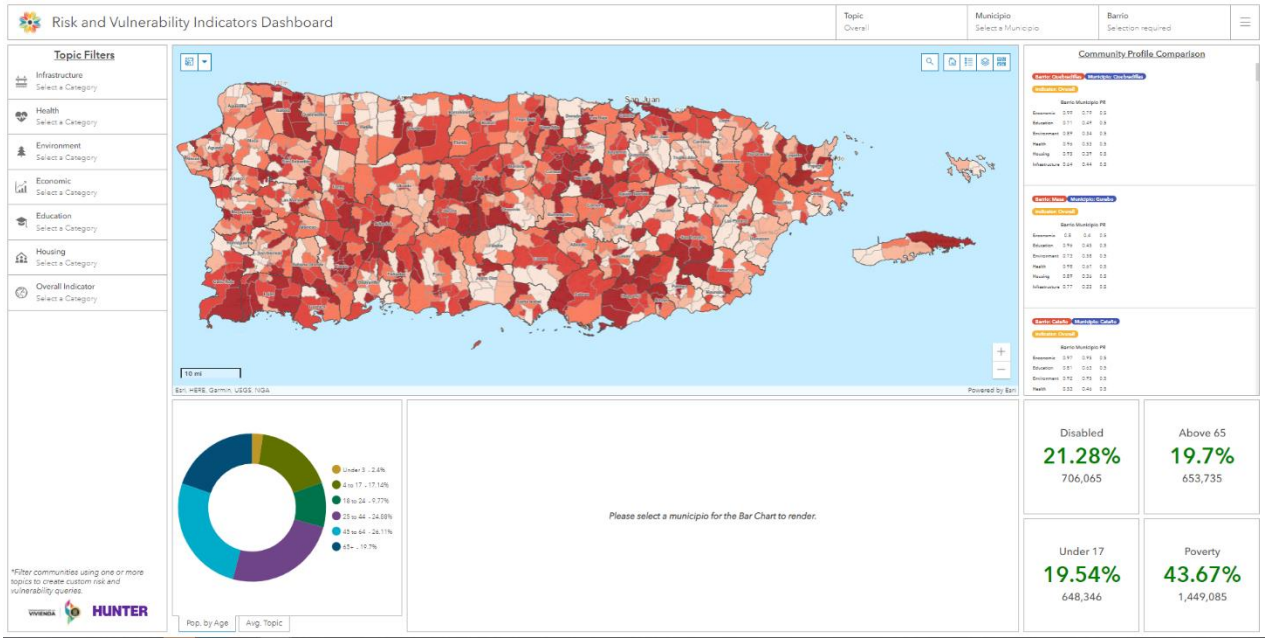
Risk and Vulnerability Indicators Dashboard

User Guide

Contents

General Layout of Dashboard

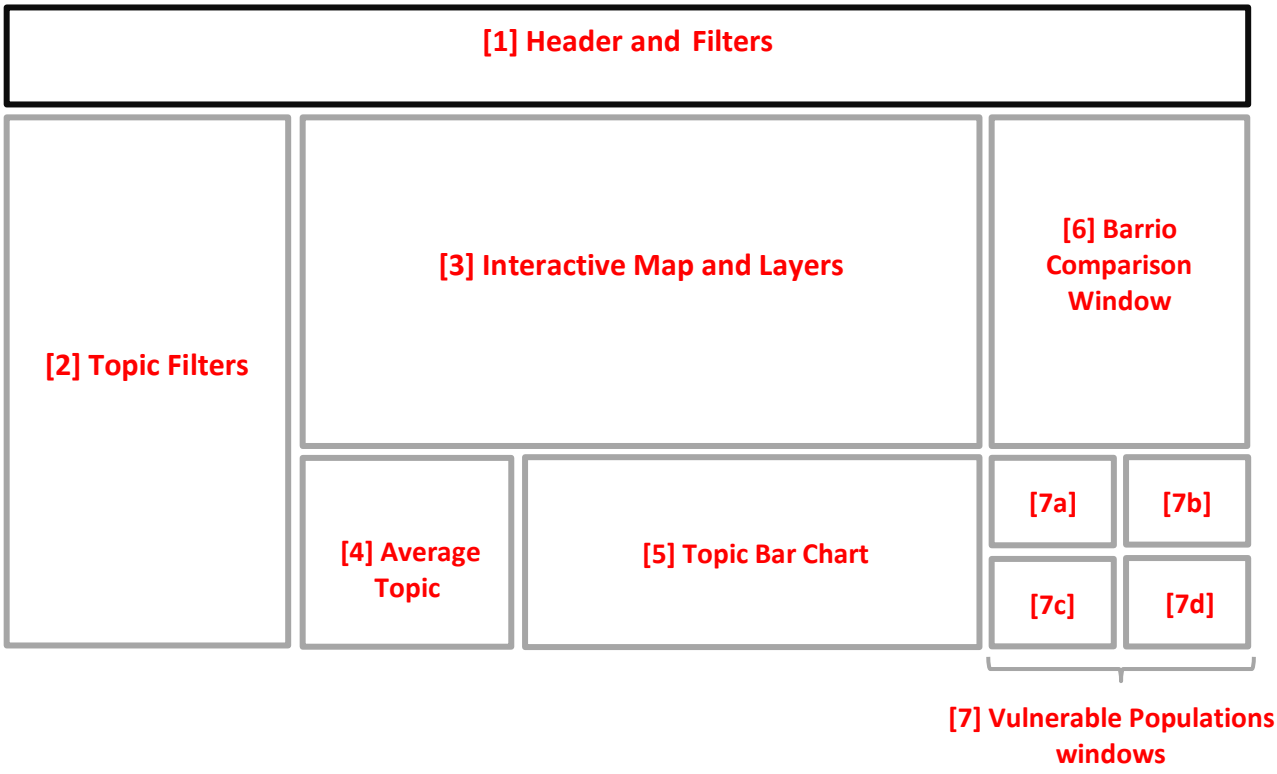




[1] Header and Filters

The filters in [1] *Headers and Filters* interact with every other window in the dashboard [2-7]. Selecting in one or more of the filters in [1] *Headers and Filters* will determine what geographies are rendered in the [3] *Interactive Map* and what information is displayed [4] *Average Topic Window*, [5] *Topic Bar Chart*, [6] *Barrio Comparison Window*, and the [7] *Vulnerable Populations Windows.*

The geography filters in *[1] Headers and Filters* control what options are available for user selection in the *[2] Topic Filters* window. Similarly, the filters in the *[2] Topic Filters* also control what geographies are available for selection in the *[1] Headers and Filters* window. The relationship between [1] Header and Filters and [2] Topic Filters will be discussed at the end of this section and in *[2] Topic Filters* section.



The header contains three filters: the Topic filter, the Municipio (county) filter, and barrio (sub county) filter. See below for descriptions.

(a) Topic Selector

Allows user to select the topic to be visualized in the map and featured in the list, indicator average, serial chart, and community comparison tool window. The user can choose from:

- Overall
- Health
- Environment
- Education
- Housing
- Infrastructure

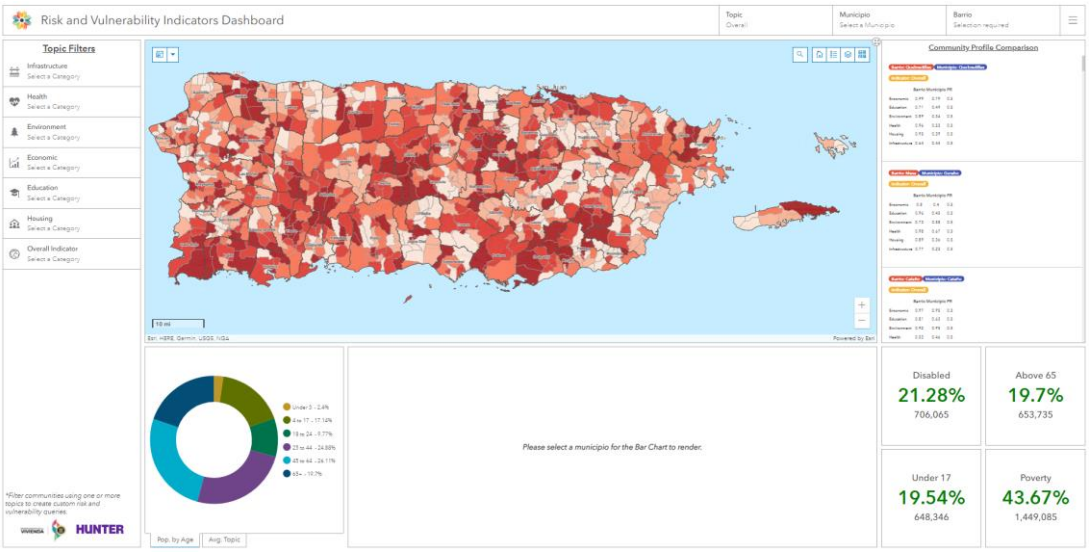
(b) Municipio Selector

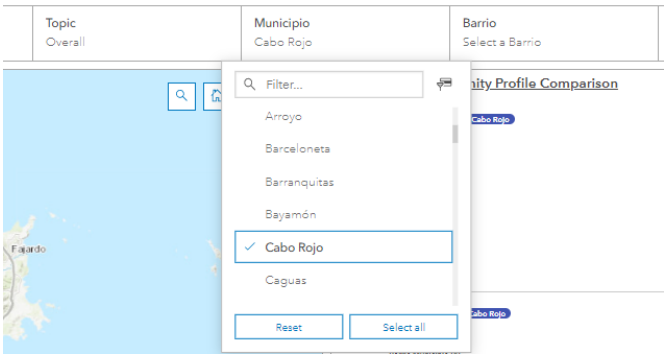
Allows users to filter for any Municipio in Puerto Rico. The user can select and single Municipio or multiple Municipios.

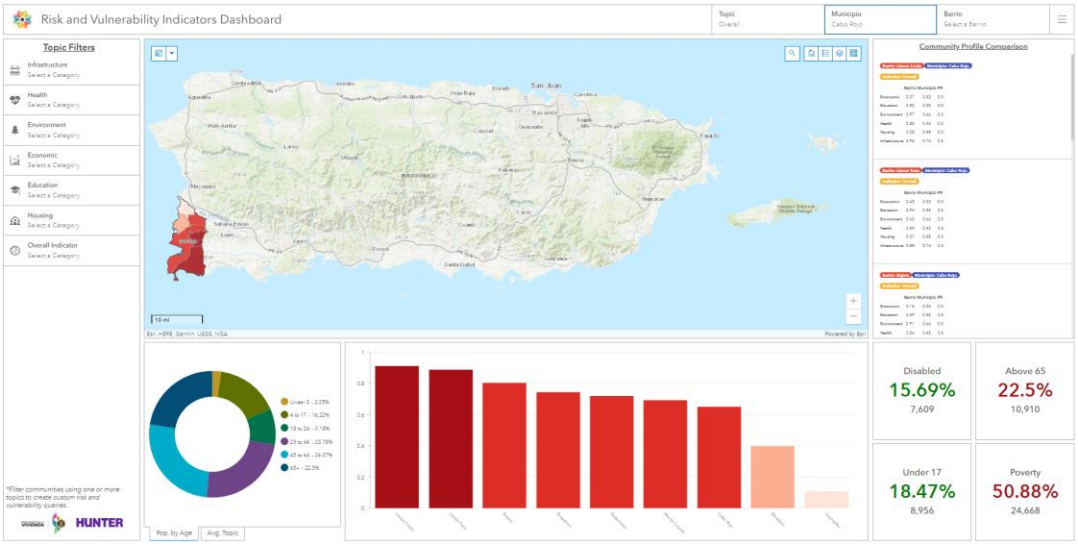
(c) Barrio Selector

The Barrio's available in the Barrio Selector Dropdown will be determined by the user's Municipio selection.

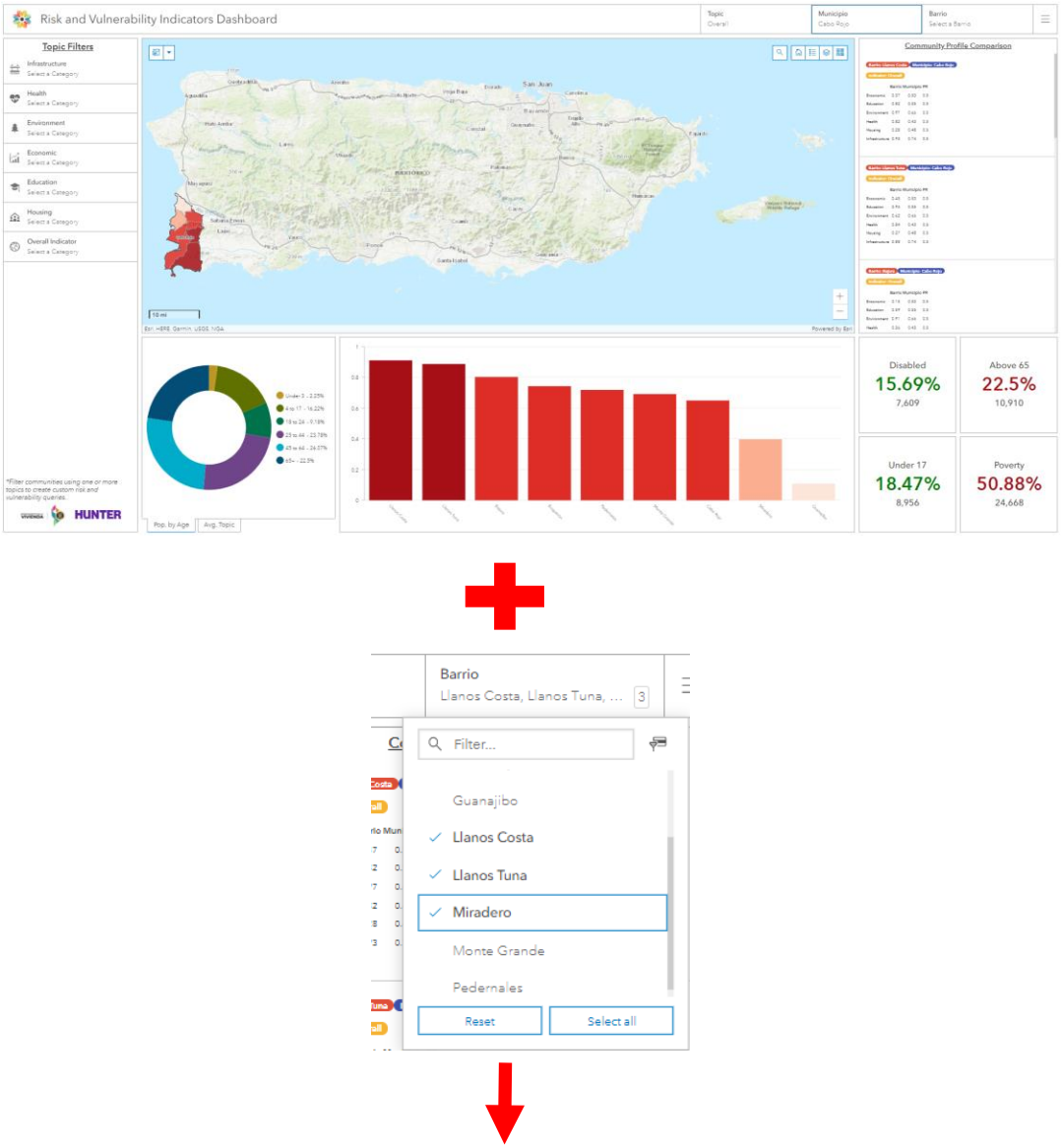
EXAMPLE: In this example we select Cabo Rojo using the Municipio Selector with “Overall” as the selected topic. We then select for the Llanos Costa, Llanos Tuna, and Miradero Barrios:



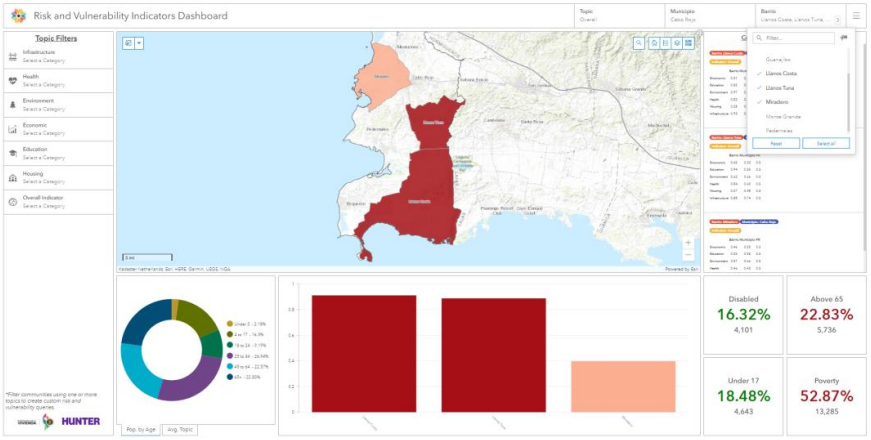


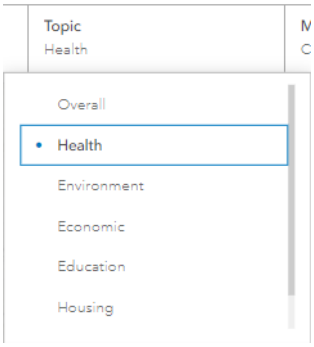


Selecting Llanos Costa, Llanos Tuna, and Miradero Barrios.

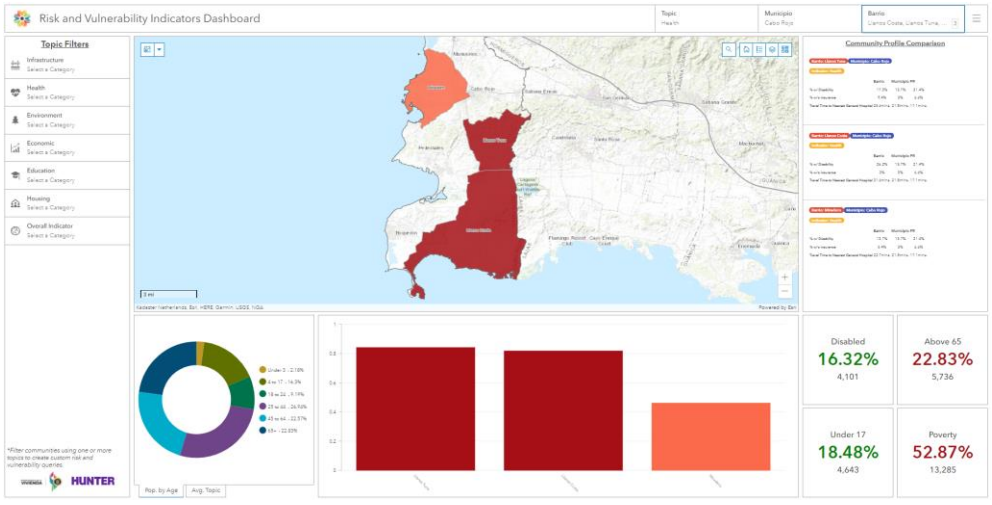


Changing the topic from “Overall” to “Health”:



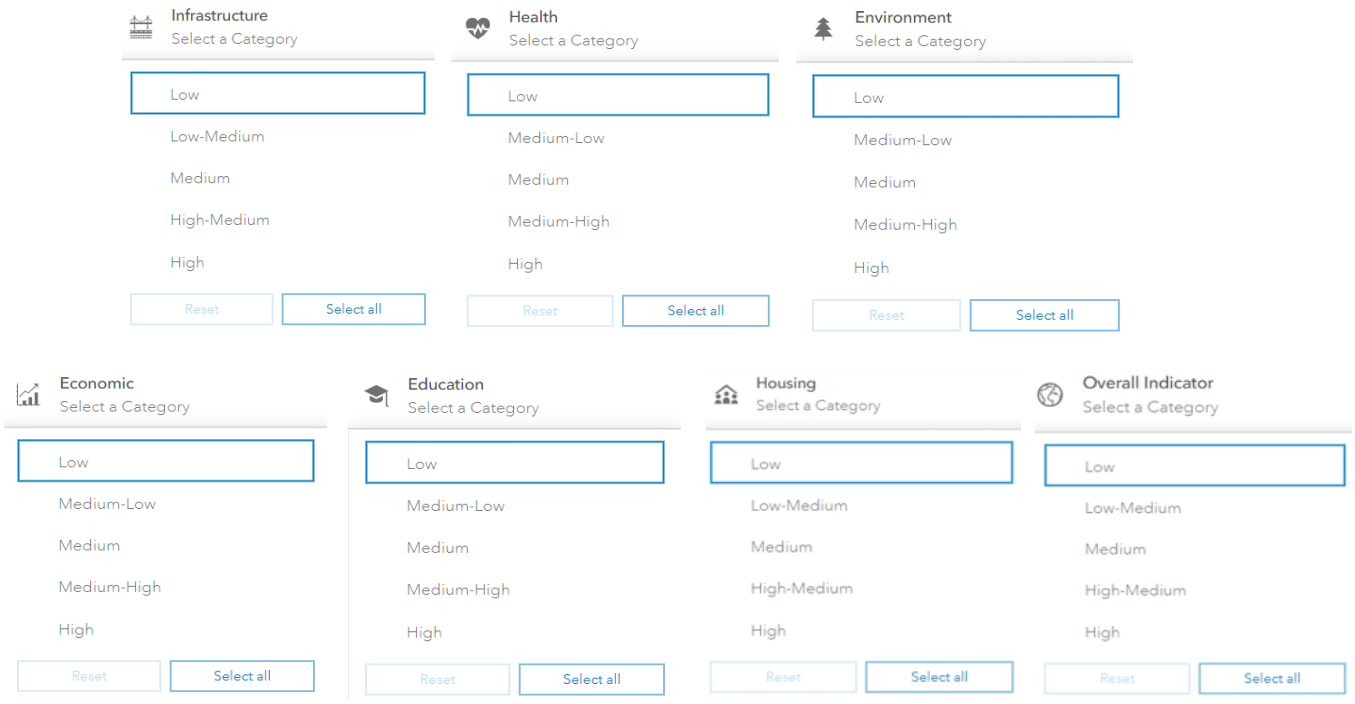


Changing the parameters of the Topic to “Health” will change the indicators value for the dashboard map.

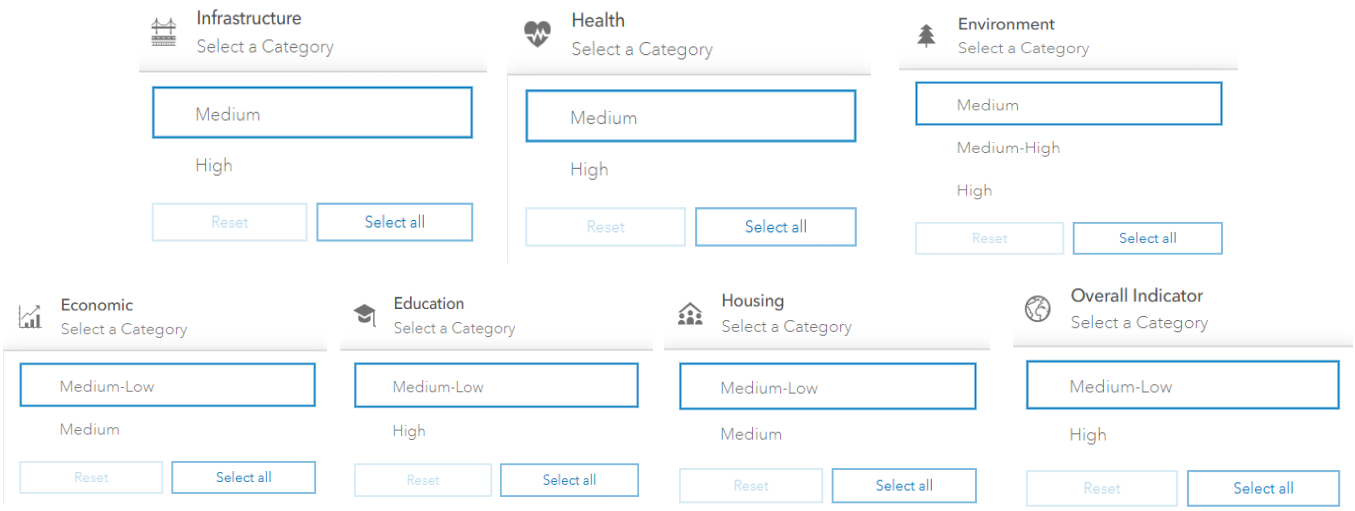


As we can see, changing the parameters of the Topic, Municipio, and Barrio Filters affects every window of the dashboard. These filters also act on the *[2] Topic Filters* by reducing the selections available in based on the Municipios and Barrios selected.

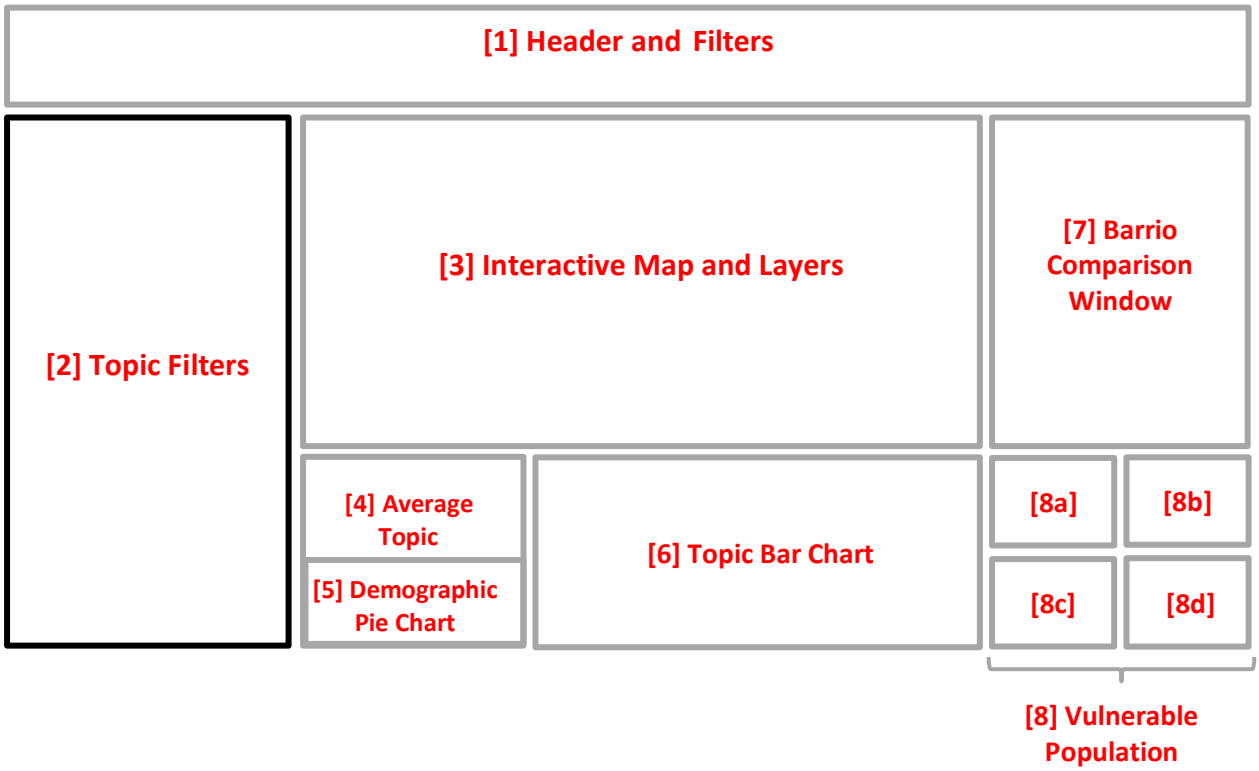
Topics were divided into 5 ranks: High, High-Low, Medium, Medium-Low, and Low. If no Muncipios or Barrios are selected, these ranks are available for each Topic Filter. See below.



With our previous example (Cabo Rojo selected in the Muncipio Filter and Llanos Costa, Llanos Tuna, and Miradero selected in the Barrio Filter), the following ranks are available for selection:

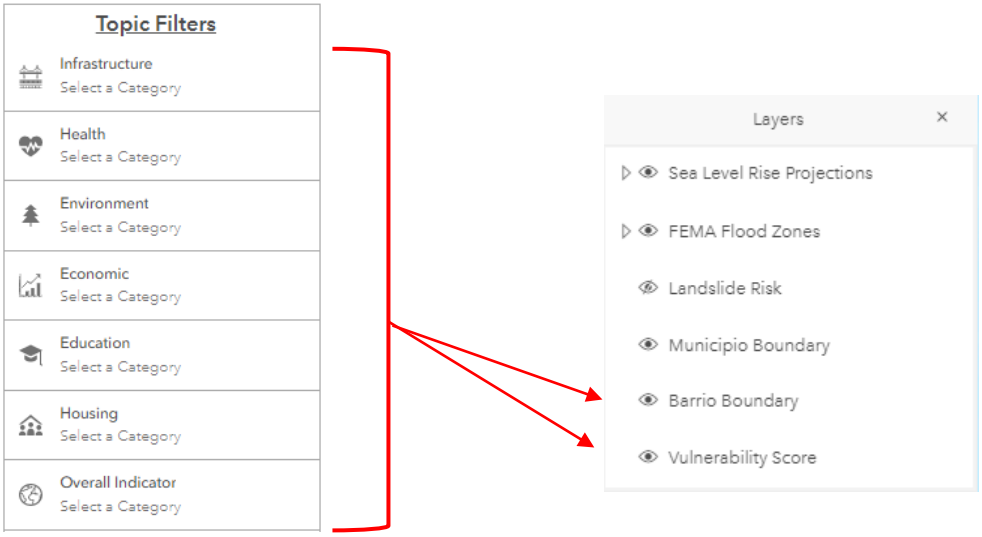


[2] Topic Filters



The examples below illustrate how selections made using the geographic and topic filters can affect not only the geographies rendered in the map, but also the results shown in the surrounding data widows. The serial chart, pie chart, indicator average, vulnerable population indicators, and community profile comparison all change as a result of the filter statement. These tools and their functions will be detailed further in the following sections.

There are seven filters on the left-hand side of the dashboard that allow for users to craft single or multi-topic filter statements that control the features rendered in the map and the results shown in the other dashboard tools and windows. The topic being visualized in the map and featured in the charts and lists is determined by topic selector in the header menu.

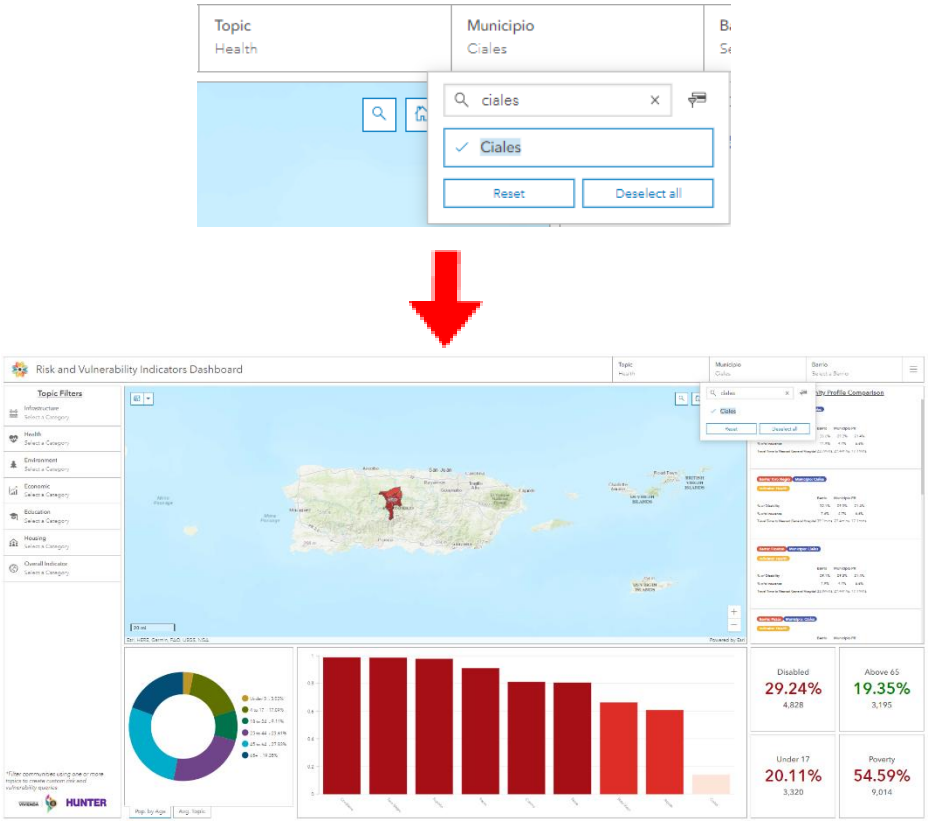


All seven topic filters act on the "Vulnerability Score" and the "Barrio Boundary" layer. As previously stated, each topic is divided into 5 ranks: High, High-Low, Medium, Medium-Low. These ranks are represented and determined using the following colors and topic values.

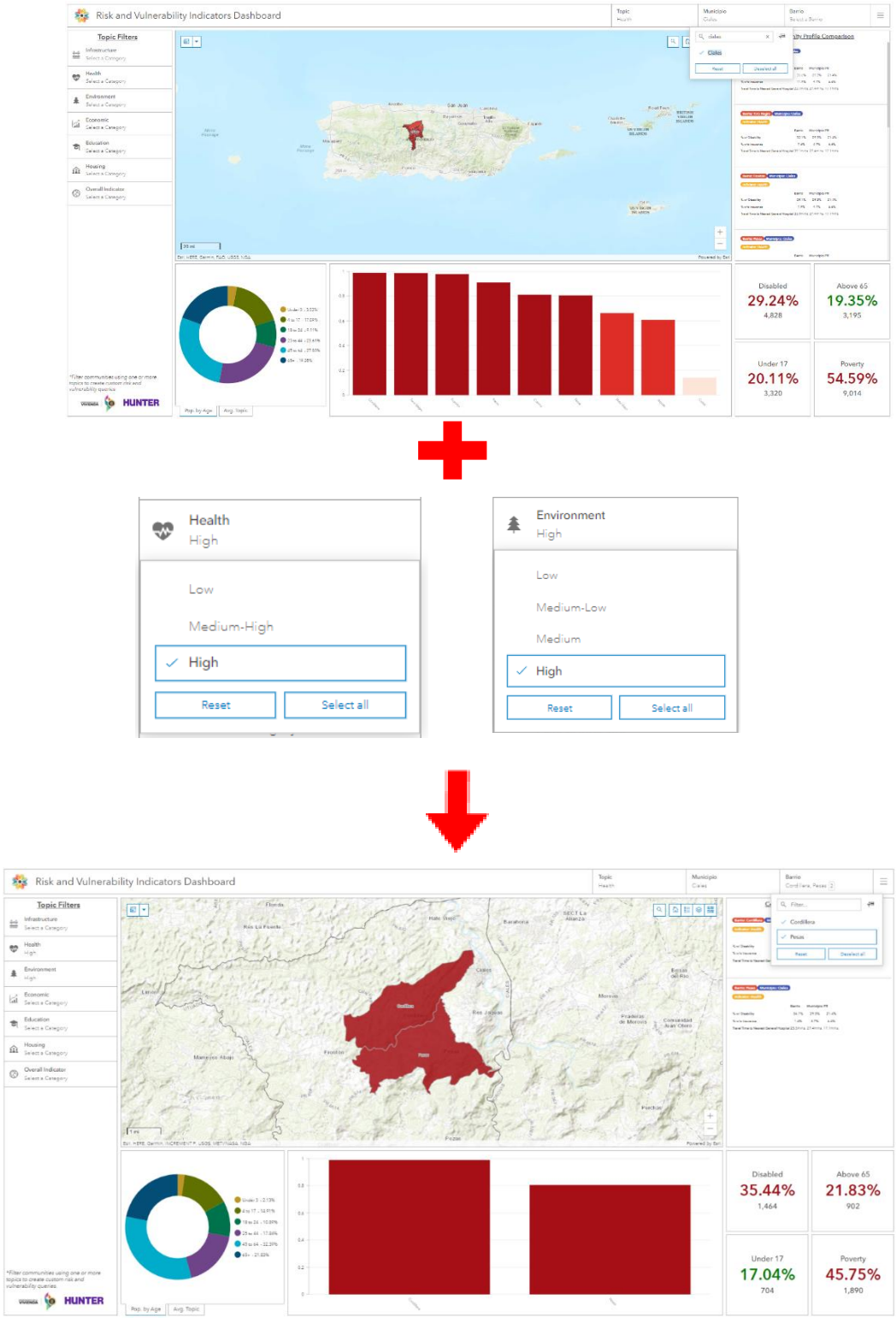
Color	Rank	Value
	High	$> .80$
	High-Low	$.60 > and \leq .80$
	Medium	$.40 > and \leq .80$
	Medium-Low	$.20 > and \leq .80$
	Low	$0 > and \leq .20$

Users can generate filter statements using any combination of the seven topic filters. The flowing example filters for the Barrios with high levels of health and environmental vulnerability in the Municipio, Ciales.

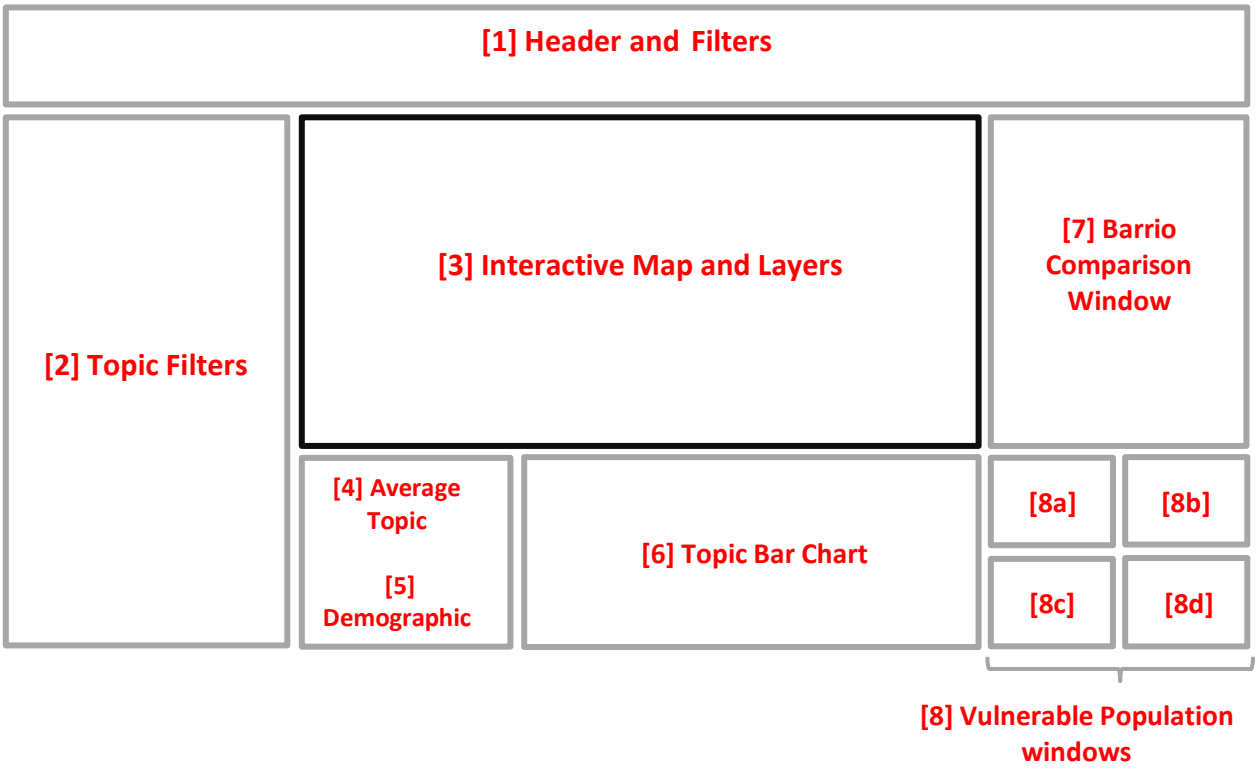
Selecting Ciales in the Muncipio filter:



Then, selecting “High” rank for the Health and Environment Topic Filter:

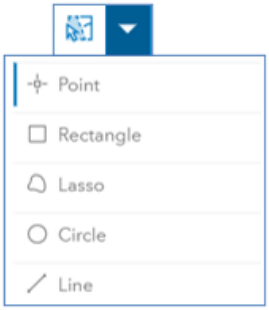


[3] Interactive Map and Layers

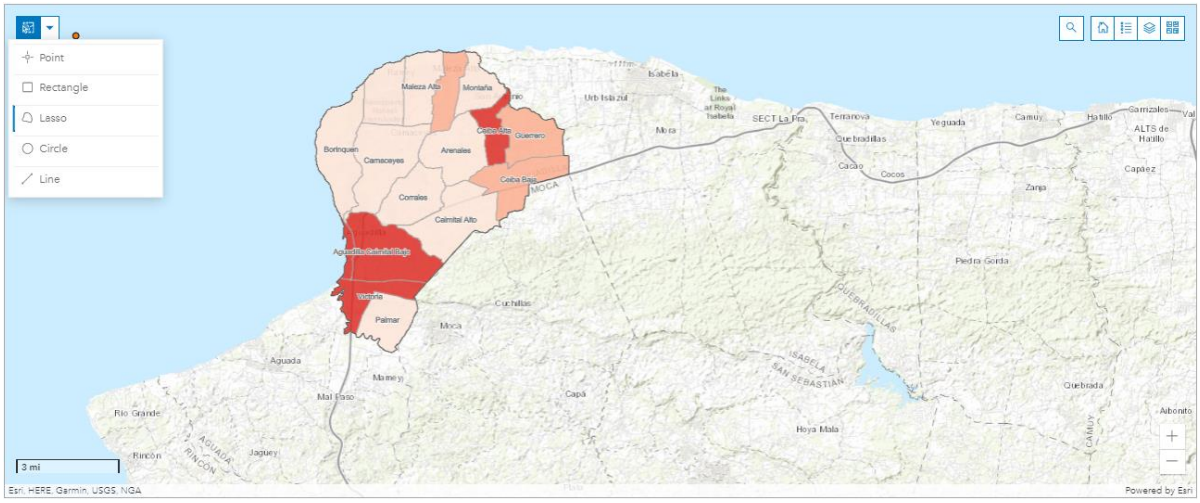


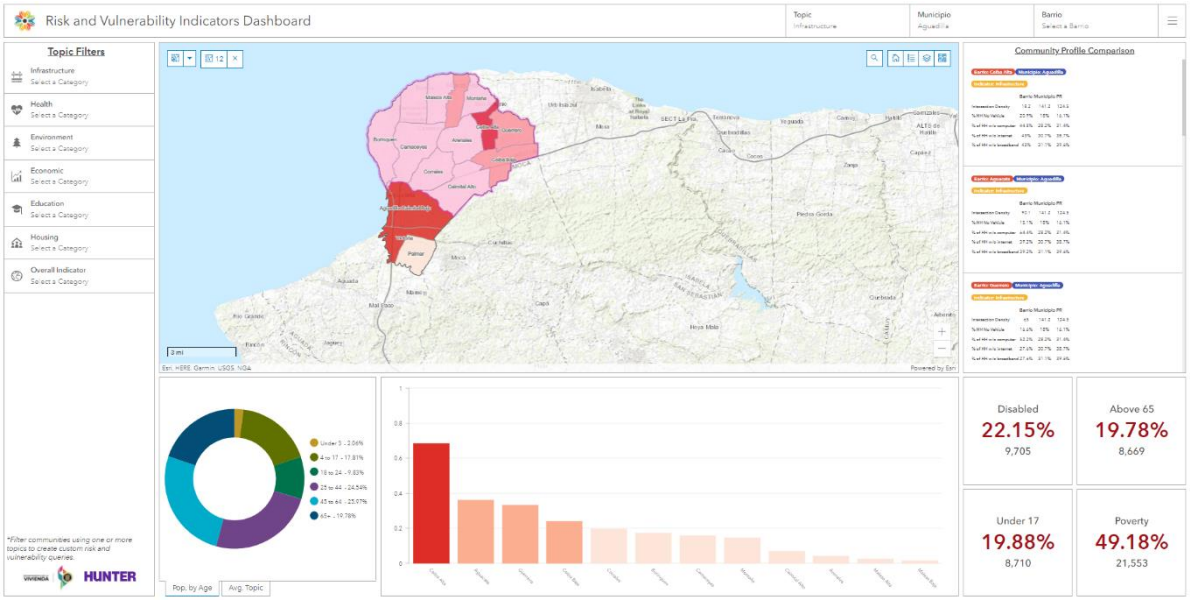
Selecting barrios in the interactive map will affect the *[4] Average Topic window*, *[5] Topic Bar Chart*, *[6] Barrio Comparison Window*, and the *[7] Vulnerable Population Windows*. A selection can be made by navigating to the upper left corner of the map and selecting the mode of selection, then clicking any number of barrios. The default is "Point" Selection.

Click this arrow to see modes of selection …

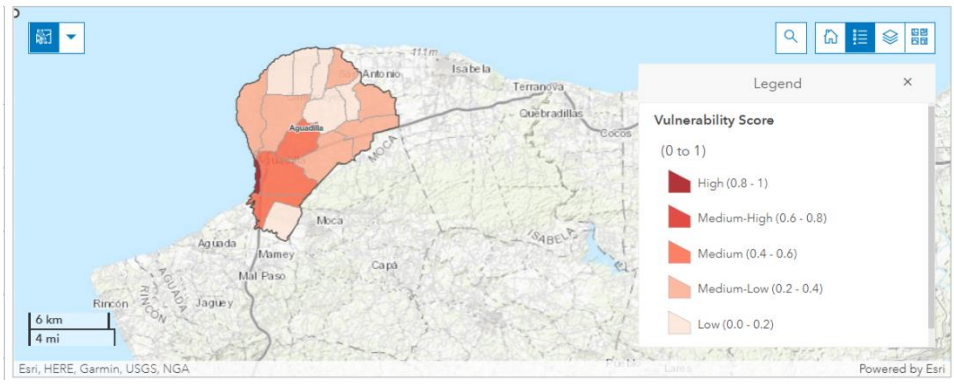


See below for an example using the "Lasso" mode of selection.

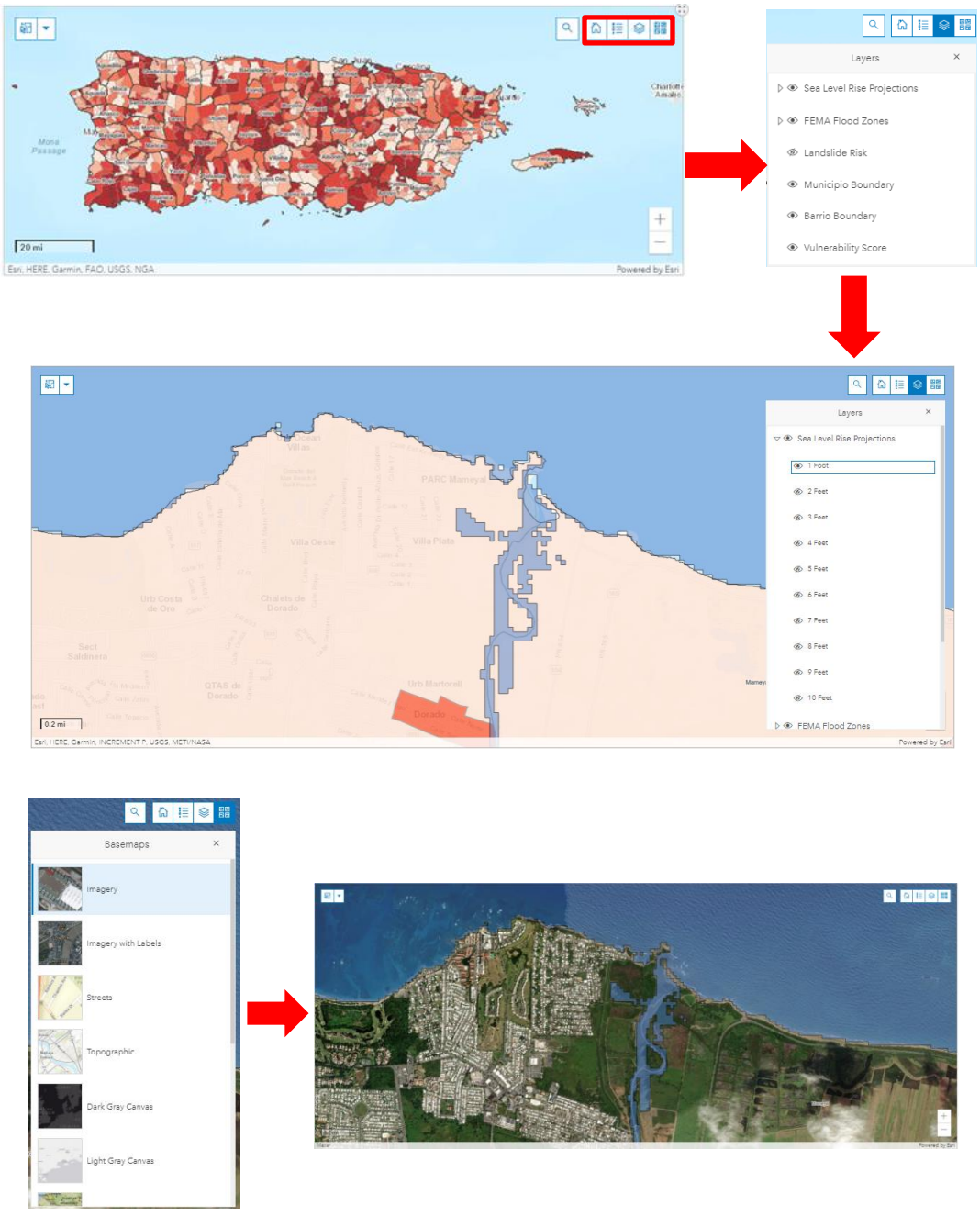




To understand what each shade of red indicates, users may utilize the “Legend” button in the upper right corner of the map

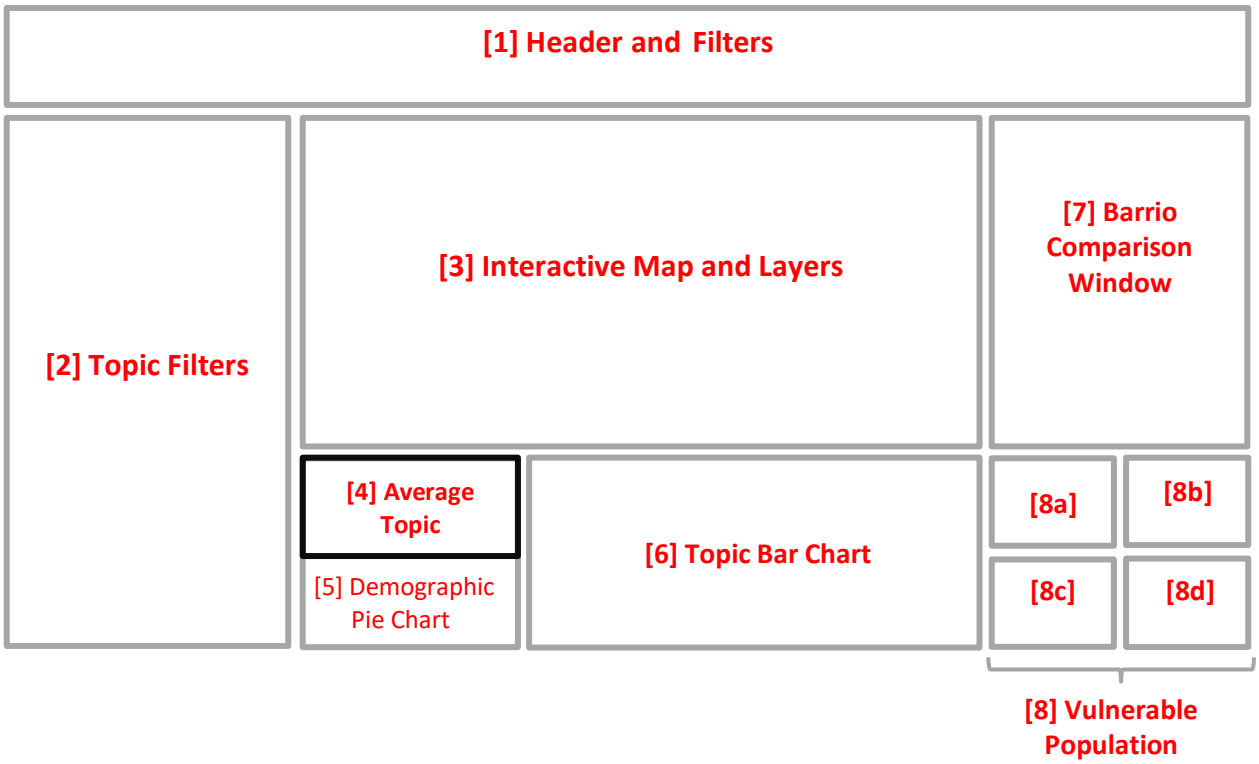


In addition to the vulnerability indicator data, users can also view natural hazard risk layers, specifically, flood risk (100 and 500year flood risk), sea level rise (1 to 10 ft), and landslide risk. These layers can be made visible and used for reference by selecting the layer tab in the map control tool bar.



In the above example, the user selects the 'Sea Level Rise Projection" layer group and enables the visibility for the 1 Foot Projection. Due to the size and detail of these layers, the sea level rise and flood risk layers are only visible when zoomed in. Users will know when they can turn on one of these layers when the text in the layer list goes from gray to black. Users can also disable the vulnerability layer and switch the basemap to any hosted esri basemap. In the above example, the Imagery option was selected from the basemap menu and added to the map.

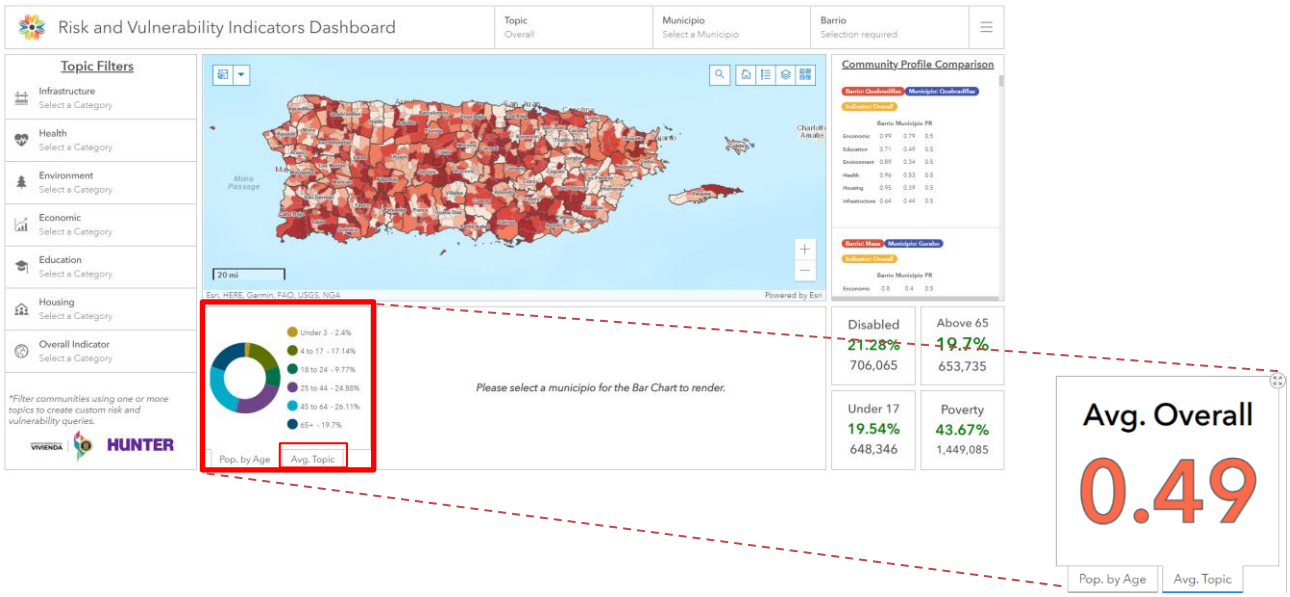
[4] Average Topic Window



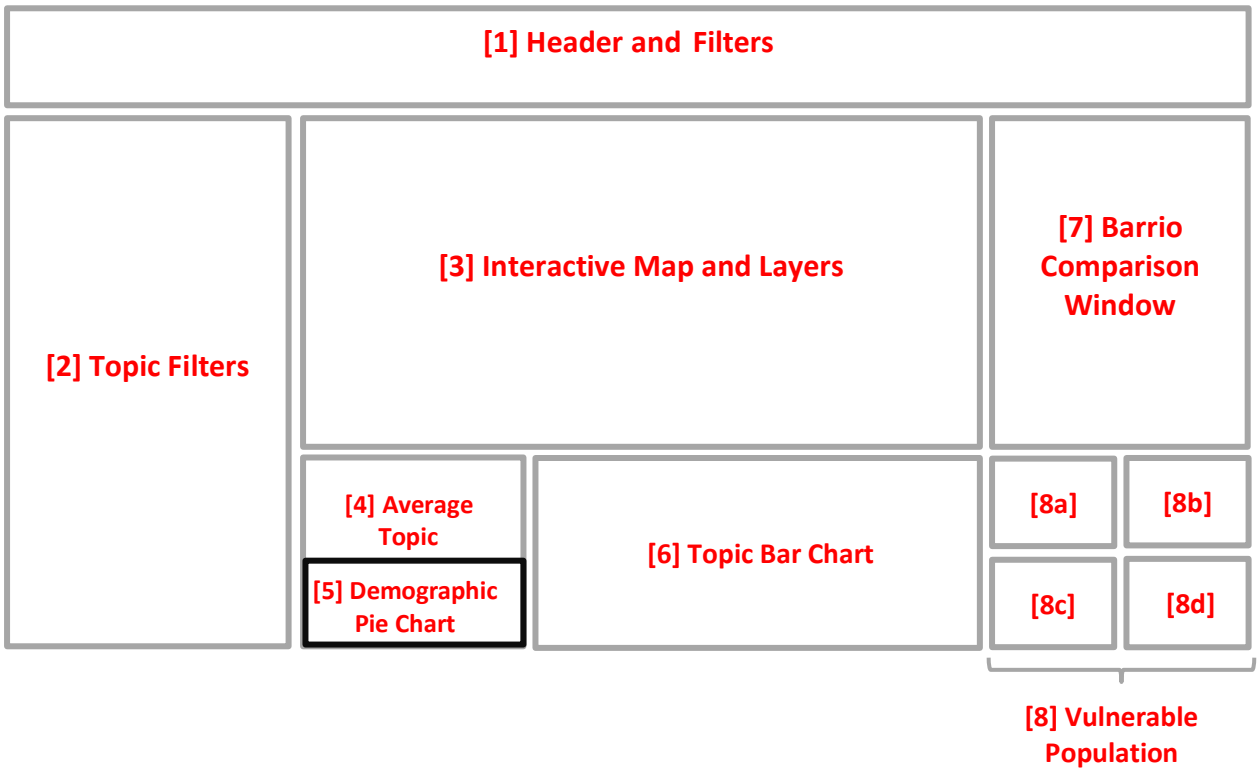
The *[5] Average Topic window* displays the average of current topic selected given any existing filters throughout the dashboard. This includes any existing Municipio or Barrio selected in *[1] Header and Filters,* ranks selected for one or more of the topics in *[2] Topic Filters*, and barrio polygons selected in *[3] Interactive Map and Layers*.

Additionally, selections made in the *[6] Topic Bar Chart* and *[7] Barrio Comparison Window* will also be reflected in the *[5] Average topic window*. These will be discussed layer in the guide.

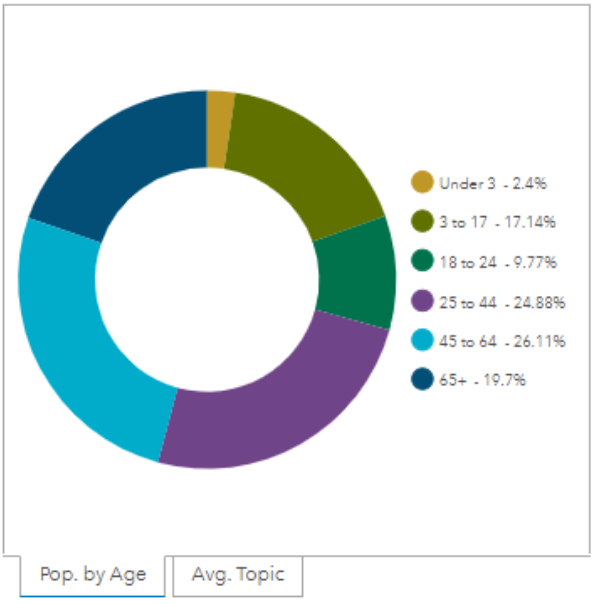
The average topic window can be found under the tab “Avg. Topic” between the *[2] Topic Filters* and *[6] Topic Bar Chart*



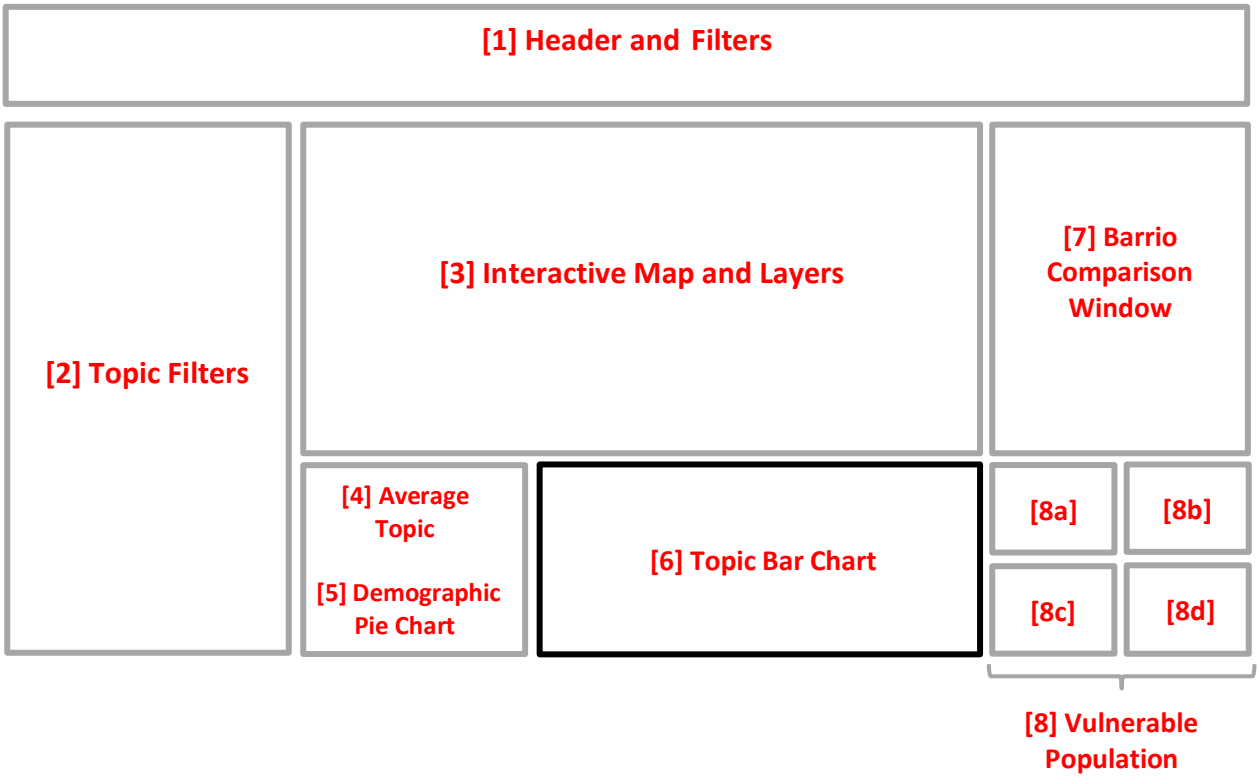
[5] Demographic Pie Chart



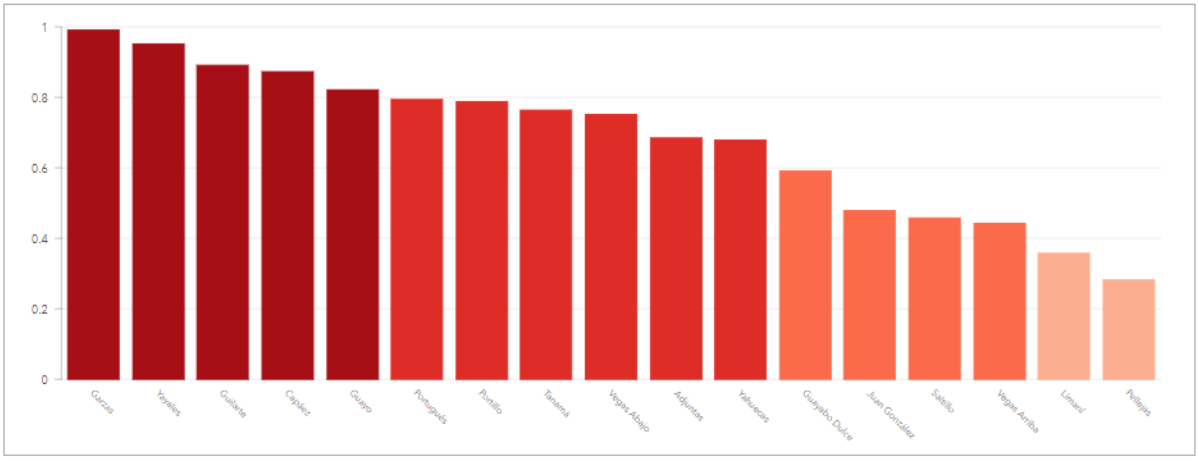
The *[5] Demographic Pie Chart* gives an age breakdown for the population that lives within the selected region. The default selection when the dashboard loads is the population of the entire island. Additional selections made using the geographic filter, topic filters, interactive map selector, or Community Profile Comparison list items will filter the population data used to generate the demographic pie chart. The demographic pie chart breaks the selected population into six age cohorts: Under 3, 3 to 17, 18 to 24, 25 to 44, 45 to 64, and 65 and over. The Pie Chart provides the count of and relative percentage for each age cohort.



[6] Topic Bar Chart

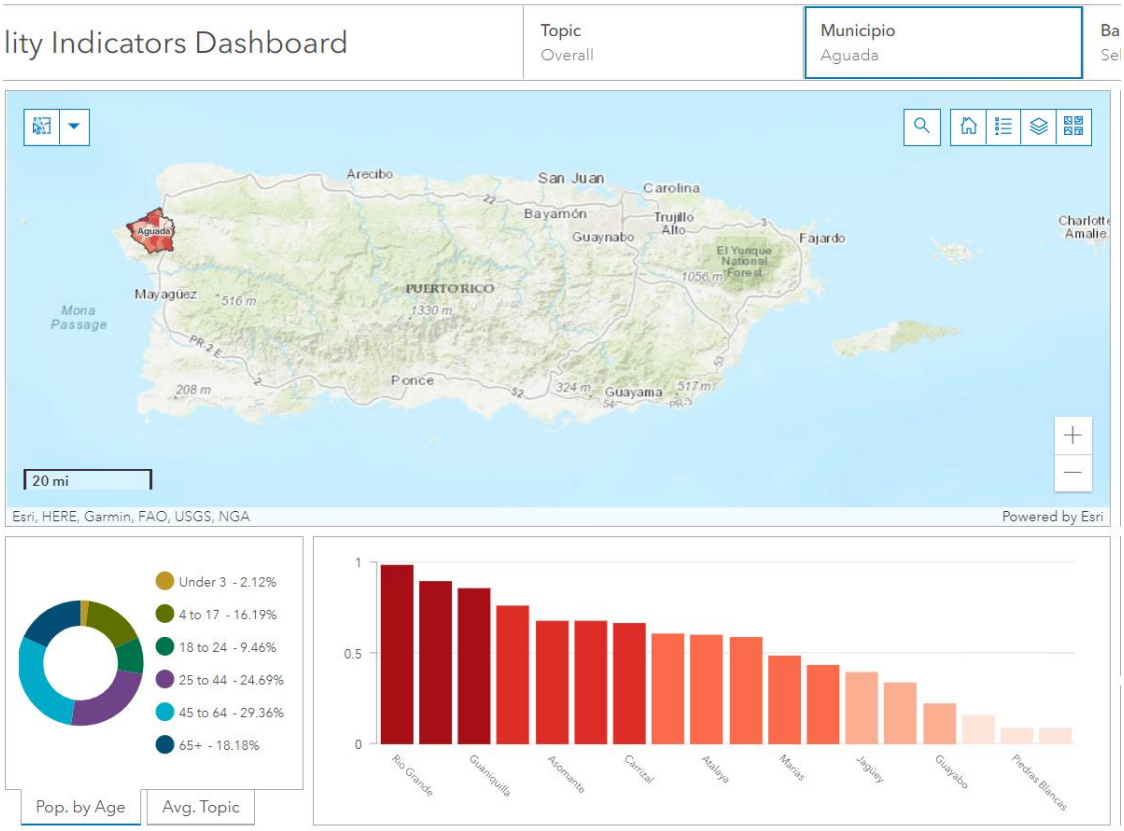


The *[6] Topic Bar Chart* depicts values for the selected topic for a user-defined set of geographic features. For the bar chart to render, the user must first select the desired topic and make a geographic selection (of one Municipio at minimum). Once the bar chart is rendered, the user can hover their cursor over a bar to see the label and value for that barrio. Users can also click on one or multiple bars in the chart to filter the map and other windows in the dashboard.

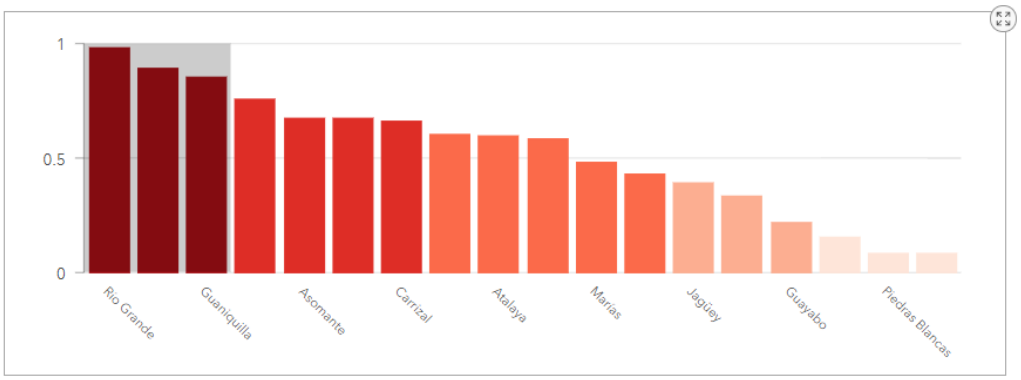


To demonstrate the interactivity of the *[6] Topic Bar Chart*, we will demonstrate an example using “Aguada” as our Municipio selection and “Overall” as our Topic selection. Then we will select all barrios that have High Overall vulnerability using the *[6] Topic Bar Chart* window.

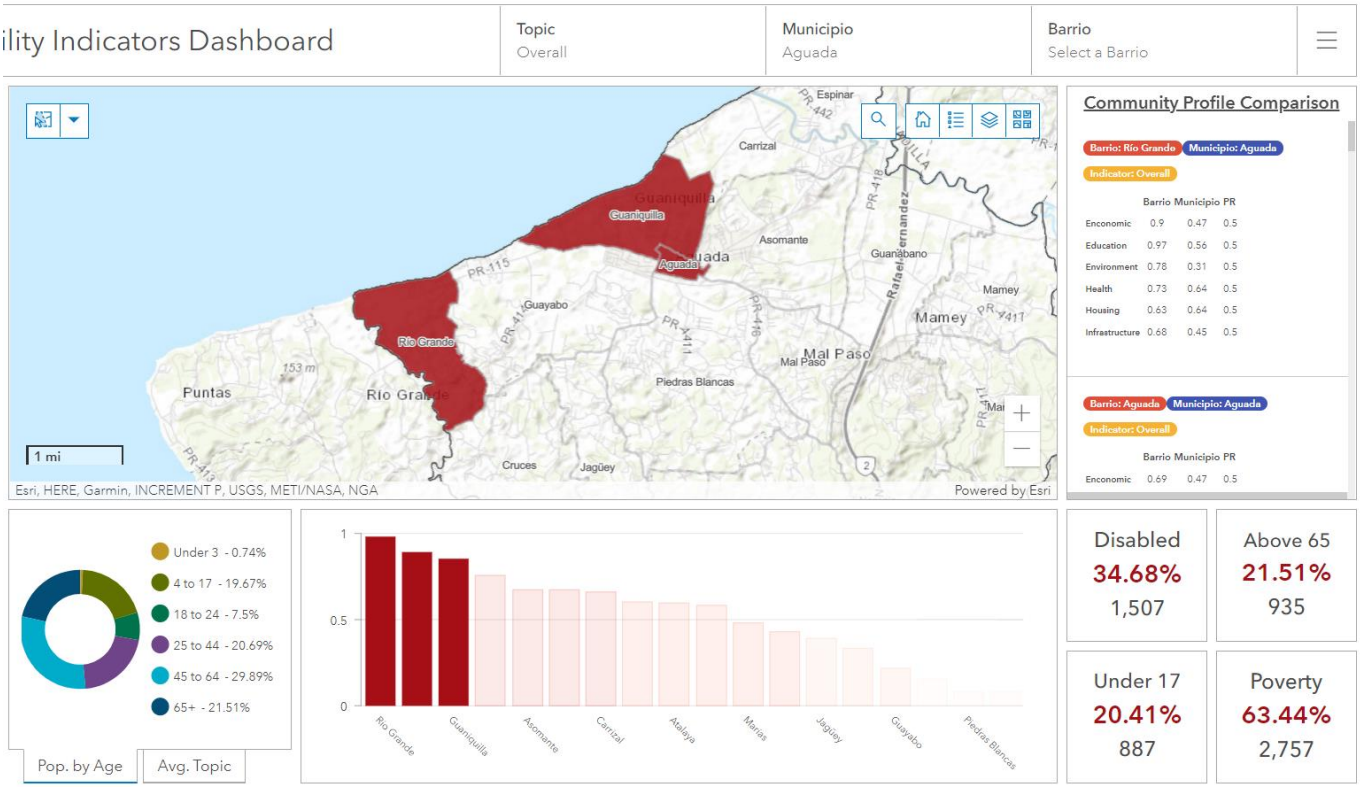
Selecting “Aguada” in the municipio filter and “Overall” in the Topic filter, we have



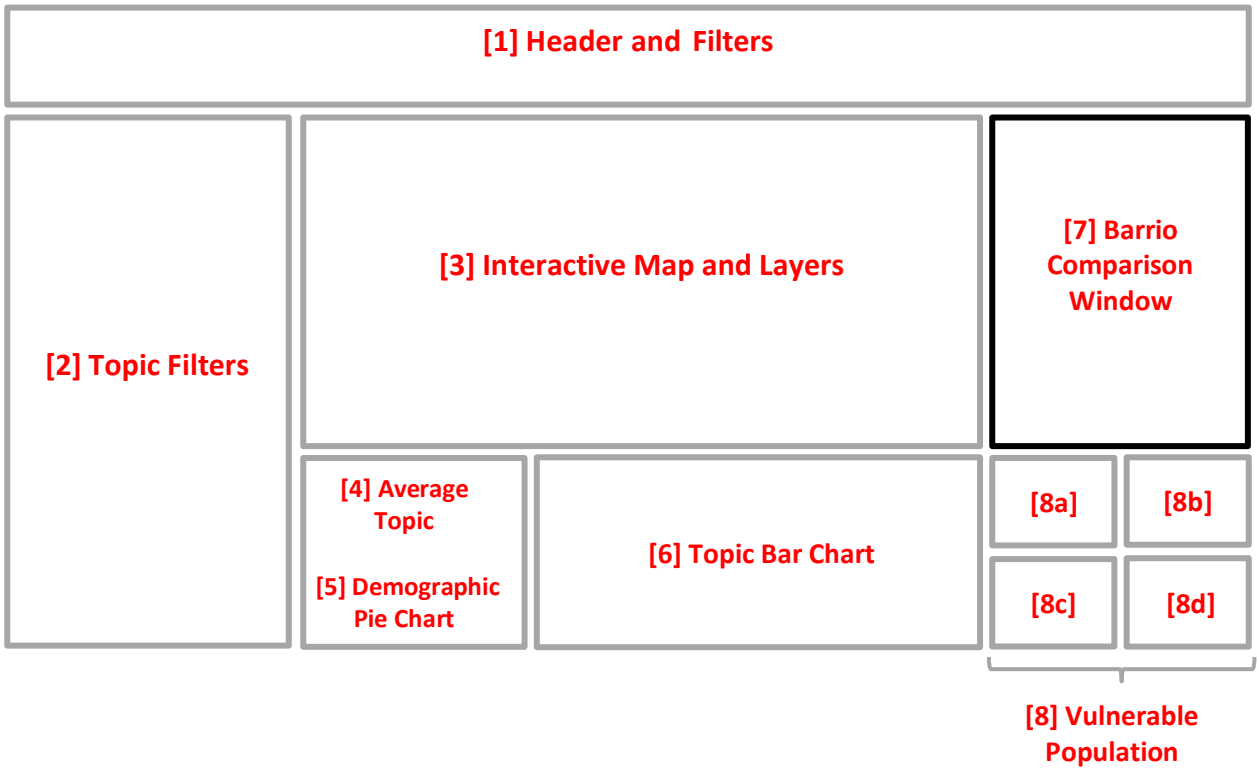
Hovering over the *[6] Topic Bar Chart* and holding a left click on your mouse until dark red ■ bars are highlighted in gray.



After releasing the left click, the barrios with High Overall vulnerability will be filtered throughout the dashboard. See below.



[7] Barrio Comparison Window



The *[7] Barrio Comparison Window* allows users to view the raw data that was used to generate the Topic scores that form the core of this application at the barrio level. The topic that is displayed in the list is determined by the selection in the Topic dropdown in *[1] Header and Filters*. Communities are listed in descending order of the selected topic score. Each community profile table provides the indicator data for that community and the comparison values for those indicators for the surrounding Municipio and the entire island. While the featured topic is determined by the topic selector, the *[7] Barrio Comparison Window* will reflect filter selections made using any other tool in the dashboard.

Community Profile Comparison

Barrio: Yayales | Municipio: Adjuntas

Indicator: Health

	Barrio	Municipio	PR
% w/ Disability	26.5%	19.4%	21.4%
% w/o insurance	11.5%	6.9%	6.6%
Travel Time to Nearest General Hospital	18mins.	18.3mins.	17.1mins.

Barrio: Guilarte | Municipio: Adjuntas

Indicator: Health

	Barrio	Municipio	PR
% w/ Disability	33.7%	19.4%	21.4%
% w/o insurance	6%	6.9%	6.6%
Travel Time to Nearest General Hospital	16mins.	18.3mins.	17.1mins.

Barrio: Garzas | Municipio: Adjuntas

Indicator: Health

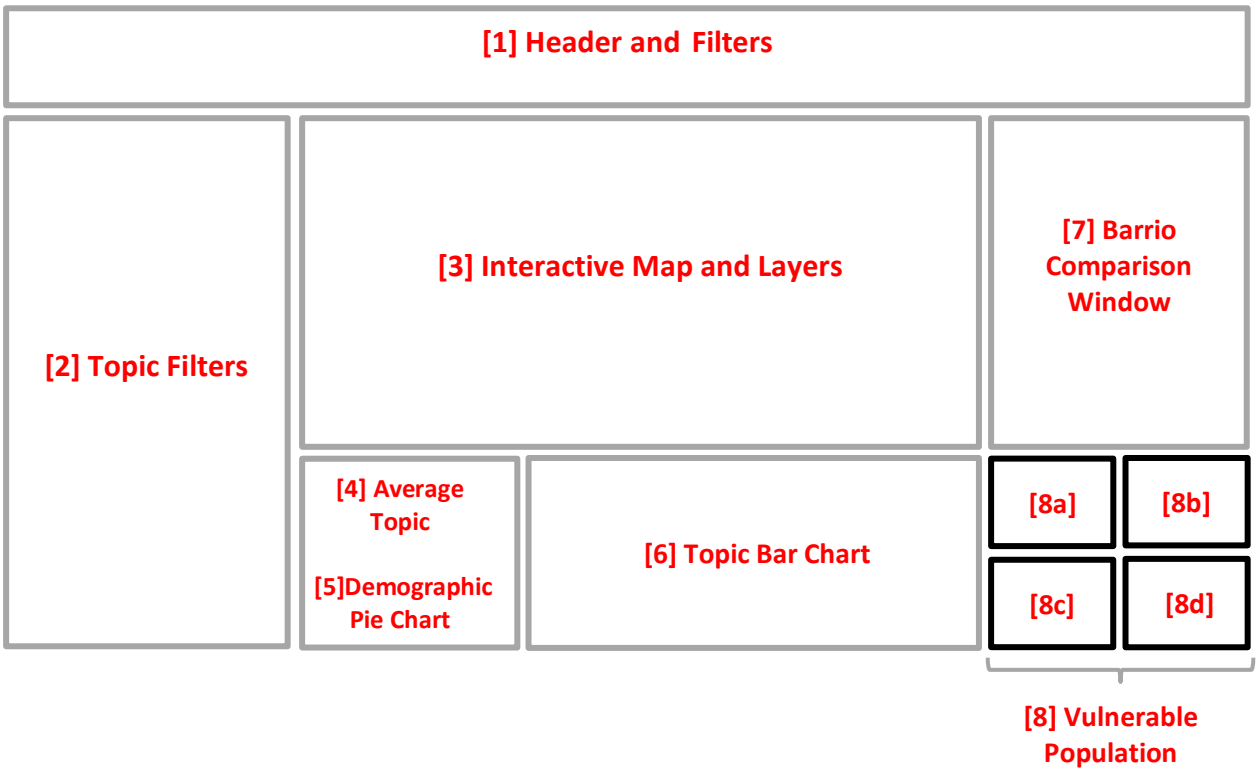
	Barrio	Municipio	PR
% w/ Disability	24%	19.4%	21.4%
% w/o insurance	5%	6.9%	6.6%
Travel Time to Nearest General Hospital	28.2mins.	18.3mins.	17.1mins.

Barrio: Yahuecas | Municipio: Adjuntas

Indicator: Health

	Barrio	Municipio	PR

[8] Vulnerable Population Windows



The *[8] Vulnerable Population* provide the count and relative percentage for four "high-risk" groups. The groups include the population age 65 and over, population below the poverty level, population under the age of 17, and population with a disability. The counts and percentages adjust to applied filters and selections made in the dashboard. The color of the population figured changes depending on whether the observed value is above (red) or below (green) the average value for the statewide value.