Visualizing geographical data

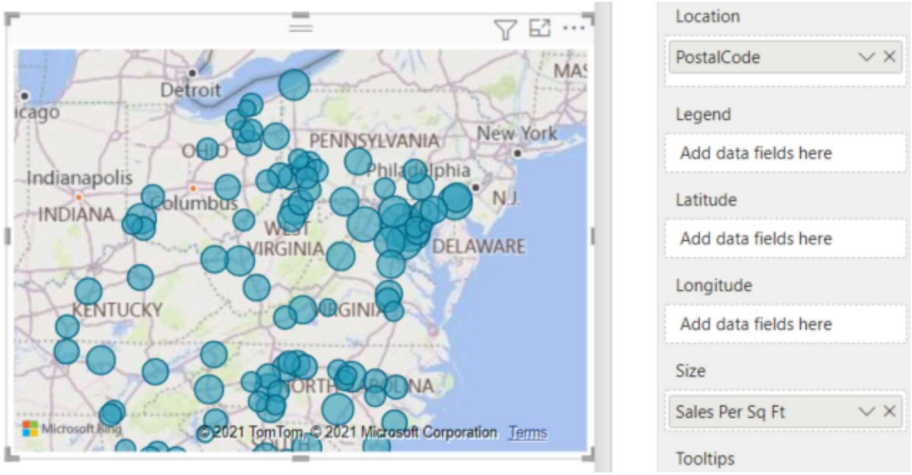
One of the most exciting ways to visualize data in Power BI is through the various maps. All the maps serve the same purpose, to illustrate data in relation to locations around the world, but there are some small differences between each of them. All of the maps, except the **Shape map**, have the option to visualize latitude and longitude coordinates, which will be the best way to ensure the appropriate location is displayed. The reason for this is that the information provided to the visual will be sent to **Azure Maps** or **Bing Maps** to verify the positioning on the map. If you do not provide enough detail, then **Azure** may not return the desired results.

For example, if you were to provide the map visual with a field that contains only the city name, that could result in some confusion because there may be multiple cities with that name in multiple states, provinces, or even countries. In these scenarios, you will either want to supply some sort of geo-hierarchy to give a better definition, or create new columns with more detailed information. Power BI also has a built-in feature when dealing with geographic data that allows users to help identify the type of data that is being provided: this is called the data category.

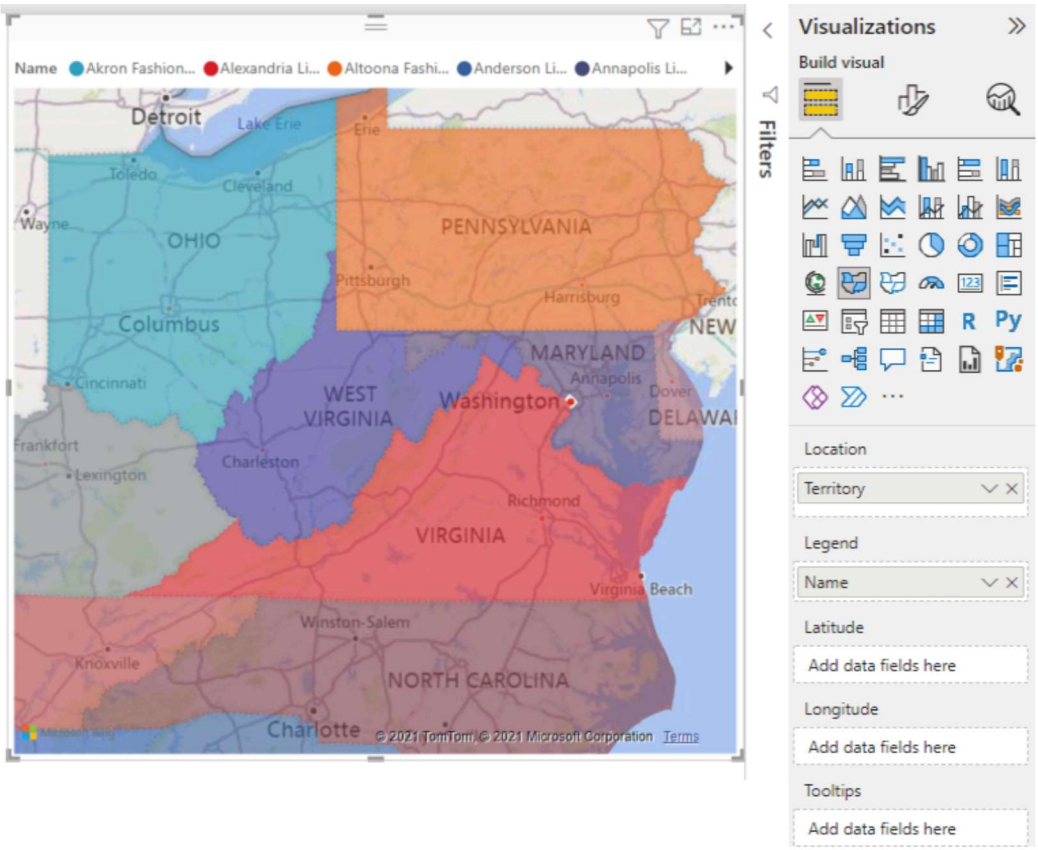
The Power BI service and Power BI Desktop send Bing the geo data it needs to create the map visualization. This may include the data in the **Location**, **Latitude**, and **Longitude** buckets of the visual's field well. Exactly what is sent varies by map type.

- For maps (bubble, scatter, and dot plot maps), if latitude and longitude are provided, then no data is sent to Bing. Otherwise, any data in the **Location** bucket is sent to Bing.
- Filled maps require a field in the **Location** bucket; even if latitude and longitude are provided. Whatever data is in the **Location**, **Latitude**, or **Longitude** bucket is sent to Bing.

In the example below, the field **PostalCode** is being used for geo-coding, so the values in the PostalCode column are sent to Bing. Data from the **Size** bucket is not sent to Bing.



In this second example below, the field **Territory** is being used for geo-coding, so the values in the Territory column are sent to Bing. Data from the Legend bucket (and the Color saturation bucket when you use a Shape Map in Power BI Desktop) is not sent to Bing.



Basic Maps for Power BI Reports

Click link to watch a video about map visualizations.

There are a couple types of maps that are built into Power BI and therefore work pretty seamlessly. One is simply called Map, and the other is the Filled Map. They both work with global and regional geographic data, and both are integrated with Bing. This means you don't need to enter longitude and latitude in order to get accurate reporting.

Basic Map

This is the basic native mapping tool available for your Power BI Reports. It's great for straightforward data representations. For example, you may want to show sales by zip code. You can create a map with dots whose size corresponds to the number of sales in the given zip code and time frame.

Filled Map

Filled maps use colors and shading to define sections. They are useful when you need to show spatial boundaries or easily compare one region to another. You can adjust the colors and saturation to display your data. This is often used when comparing something like states, for example.

ArcGIS Map

ArcGIS is another map that is native to Power BI, and it provides some features that cannot be found in other mapping options. One key component is the ability to add clustering when you zoom.

ArcGIS is a proprietary ESRI tool that provides GIS tools to create, manage, and analyze geographic information in a map or geographical database. It is one of the widely used software by GIS experts. Considering that, ESRI has integrated ArcGIS Maps for Power BI.

Click

to watch a video.

Shape Map

Shape mapping is another native feature in Power BI. With it, you can create your own polygons to apply to your geographic data. This type of map actually works for non-geographic information as well.

Route Map

This map is an add-on created by a Power BI user. It gives you the ability to display a route as a line on a map. You do have to use Bing as the basemap though as there are no other options available.

Flow Map

Offered as another custom map, the flow map allows you to show movement on your map, such as lines that converge or diverge from a single point. Again, Bing is your only basemap choice here.

Synoptic Panel

This is a less commonly used option because it does not support standards forms of geographic information. But if you're willing to put in the effort, you can create some amazing visuals. It's available in the Office store and is not just for maps!

Globe Map

The Globe map is also available in the Office store, and displays your data in a 3D model. While this certainly has its perks, many users find it more difficult to view data in the 3D format, and its customization options are limited.

See also Exercise 22.

Olet kirjautunut nimellä Janne Bragge. (Kirjaudu ulos)
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