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Welcome to this Community Viz Video Tutorial this is an introduction to dynamic attributes. In this video, we'll talk about the basic concept of attributes in GIS. We'll go through viewing attribute values, values, and then we'll go into dynamic attributes in Community Viz. Let's start with the basic concepts of attributes in a GIS system.

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One of the most important things to recognize about a GIS system is that it's more than just a map. Here, for example, I'm looking at the locations of buildings, streets and other features, but I can learn more about them just by looking. For example, from the legend, I learned that these yellow dots are single family residential homes and the red squares are commercial buildings.

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Labeling features, as I just did with these streets, is another way of finding out more about each one. But GIS can store a lot more information as well. One way I can see that is by looking at something called the Attribute table of a layer. I right click on the name of the layer and I choose Open Attribute Table. This is a lot of data that's stored alongside the building points and locations in the database.

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And there's a lot more information for each feature on the map. Each row in this table corresponds to one feature on the map, and each column gives more information. These columns, also called fields, are called attributes in GIS. So here, for example, this particular building that just highlighted has a commercial land use designation. Its parent land use ID is 35, et cetera.

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Now, here's an interesting attribute. It's called distance to landmark. That is the distance from each of these buildings to this star here, which you could think of as a piece of public art or maybe a proposed new statue. Right now it's showing that this feature I've highlighted is from that. Now I can look at this data, I can scroll up and down through the table and get the information, but it's kind of hard for me to picture.

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And so another way of looking at this attribute data is to visualize it on the map. Arc map gives me very powerful capabilities for what's called map symbology, and I can get to those by double clicking on the layer name and choosing the symbology tab on the layer properties. Now, right now it's showing what I'm currently symbolizing on, but I want to symbolize on this interesting feature called Distance to Landmark. So I chose quantities and graduated colors. I chose a field value of Distance to Landmark, and it automatically gave me some suggested symbols.

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I almost like those, but I want to make them a little bit bigger for visibility. So I'm going to go in and increase their size. Click OK. And now the map is showing me data about that attribute, in this case Distance to Landmark. And I can see, for example, that these red buildings are about a third of a mile away.

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I'm checking the legend here yellow, two thirds of a mile, et cetera. So that's a very powerful way of visualizing attribute data.

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Now, normally this data is static, that is, it doesn't change very often. But Community Viz adds a very powerful capability for planners called dynamic attributes. They're called dynamic because they can change in real time. For example, what if that Landmark location were just a proposal and I wanted to consider other locations as well. When I do, look what happens to the map.

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The values change and therefore the colors change and I get new results. If you watch carefully in the table, you can see that those values are changing as well. That's because distance to Landmark is a dynamic attribute. This is a unique characteristic of community vision and it's very powerful.

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If I want to learn more about that attribute, I can go to the Scenario 360, content 360, set up tab and click Dynamic attributes. This brings up a list of all the attributes in my analysis, both dynamic and nondynamic. I can tell the difference because of the icon here. The dynamic ones have a yellow lightning bolt on them and the static or non dynamic attributes have a simple table. If I want to look at the particular one, Distance to Landmark, I can double click it there.

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I can see all its properties, including its formula, and I can even edit its formula or create a new one right here.

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One more thing to know about dynamic attributes is that they have to be in something called a dynamic layer in community is. Dynamic layers are the ones that have this ability to support dynamic attributes. You can tell dynamic layers in the table of contents by the yellow highlight around the check box. Also, if you look in the data list, the icon has again that lightning bolt, whereas reference layers do not. Dynamic layers are stored in a special geo database called an Analysis Geo database and you can find it if you're interested.

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It's called CV analysis. GDB in most cases. So that's a little bit about dynamic attributes in Community Viz, a very powerful capability of the tool. Thank you for watching this Community Viz video tutorial. For more video tutorials and Community Viz resources, please visit the website.