Free Training Transcript: Parameters

Welcome to this Parameters video. You can download the Exercise workbook to follow along in your own copy of Tableau.

What is a Parameter

Parameters add interactivity and flexibility to a workbook. We can think of a parameter as a variable in an equation whose value can be controlled by the end user. Parameter controls, like Shipping Cost Cutoff here, are sometimes confused with Filters, like Ship Mode. However, Filters trim down the data in the view, showing data only for the specific Ship Modes. Parameters simply provide a single output to another element, such as providing the reference value for the calculated field on Color.

Using Parameters

Because parameters simply control a variable's value, they are only useful once that value is incorporated into something else such as a filter, set, reference line, or calculated field. Changing this orphan parameter has no impact, because that parameter is not tied to anything, it's like adjusting a dial with no wires attached.

Parameters with Filters

Parameters aren't the same as filters, but they can be used in filters. Here we're looking at the top 10 Customers by Sales. However, we could let the end user decide what top number of Customers they want to look at by using a parameter. Right click on Customer ID and select Edit Filter – this brings us back to the Filter setup. Click to the Top tab – we see this filter was originally set as top 10, but we can click on the dropdown, here, where it says 10, and change that to "Create a new parameter". Note that our pre-existing parameter Shipping Cost Cutoff appears as well– parameters are workbook-wide and can be used in multiple places. We'll create a new one, and name this Top N, set the Maximum to 10, and click ok. The parameter control automatically comes out into the view, and now we can adjust how many customers to show in the view.

Parameters with Sets

Parameters can also be used in the definition of a set. Here we're looking at a different data set all together. Instead of filtering to the top N, we can create a set for the top N. Right click on Product and select Create > Set, we'll name it Top Products. Click on the Top tab. Just like before, we'll choose by field, click on the dropdown beside 10, and we'll select our Top N parameter. Now we'll bring Top Products to Color. In this case, the parameter control didn't automatically appear in the view, so we can right click on the Top N parameter and say "Show Parameter Control".

Parameters with Calculated Fields

Our original view, looking at the shipping cutoff, we used the parameter in a calculated field. If we right click on Shipping Cost Color, we can edit the calculation and see how it was constructed. We have a simple IF statement – if our average shipping cost is greater than our cutoff, then we'll call those orders "high". Otherwise, call them "low". That's all it takes to tie the parameter to the view. We use this calculation on something like color, and now the parameter control impacts the view.

Parameters with Reference Lines

Note that the reference line automatically adjusts with the color as the parameter is changed. Let's recreate that reference line to see how we can leverage the parameter. Click to the Analytics tab. Drag out a reference line to Shipping Cost. For Value, clicking on the dropdown offers us the relevant parameters – we'll pick Shipping Cost Cutoff. And change the label to Value. Now that reference line is set to display whatever the parameter is set to.

Parameter Types

All of these examples have used numeric parameters. However, parameters support a variety of data types. Back on the data pane, right click and select "create Parameter". Data type options include float (decimal), integer, string (text), Boolean (true/false), date, and date & time. Which data type is selected impacts where the parameter can be used and the display formats available. Our "orphan parameter" is a date, which is why that parameter did not show up in dropdowns that only supported numerical values.

Conclusion

Thank you for watching this parameters training video. We invite you to continue with the Free Training videos to learn more about using Tableau.