



# Training Transcript:

## Understanding Pill Types

Welcome to this video on Understanding Pill Types.

## Why Pill Type Matters

When we bring a field into the view from the data pane, Tableau creates a pill. Whether or not that pill is a dimension or a measure, or continuous or discrete, impacts every level of functionality in the analysis, from the way the data displays to the deeply technical, behind the scenes approach to how data is processed. Knowing the features of how Tableau works with pills is vital to staying in control of the analysis.

## Dimensions and Measures

Measures are usually metrics, or numerical data, like shipping cost. Inside of Tableau, measures are aggregations – they're aggregated up to the granularity set by the dimensions in the view. The value of a measure therefore depends on the context of the dimensions. For example, the result for the sum of shipping cost is dependent on if we mean overall, just under a million and a half, or per Order Priority level, from 65 to about 550 thousand.

Dimensions are usually categorical fields such as Order Priority and Region. Specifically, in Tableau, dimensions set the granularity, or the level of detail in the view. We typically want to group our data by some combination of categories. What dimensions we use to build the view will determine how many marks we have – here we have 4 order priorities – critical to low – and we have 4 marks.

## Continuous and Discrete

We also need to consider if the pill is continuous or discrete. Continuous numbers can take on any value in a range. Discrete numbers have distinct, separate values.

## Changing Default Pill Types

Most of the time, dimensions are discrete and measures are continuous. However, this isn't always true. It's possible to have a numerical dimension be continuous, or to convert a measure to discrete. For example, Discount is currently down here as a continuous measure, we may want to change it to discrete, by right clicking and selecting "convert

to discrete”. When we hover over the pill, it’s now blue, and the icon is blue as well. We can also convert it to a dimension simply by dragging it into the Dimensions area of the data pane. Note that those two operations – converting to discrete and converting to a dimension, are not synonymous.

For the rest of this video, we’ll mostly be talking about continuous and discrete data instead of measures and dimensions. If you’re ever in doubt, remember: dimensions come out onto the view as themselves, measures come out onto the view as aggregates, discrete pills are BLUE, continuous pills are GREEN.

## Axis vs Label

Let’s start with axes and labels. When a continuous pill is brought into the view, it creates an axis. This will automatically fill the entire view along that direction. When a discrete pill is brought into the view, it creates a label with panes for each value. This will take up as much or as little room as required.

## Color and Maps

Whether a pill is continuous or discrete also has an impact on default behavior for colors. A continuous pill on the color shelf will create a gradient. A discrete pill on the color shelf will create a color palette, where each unique value is assigned a color – here I made a copy of my Sales field and changed it to discrete, but the underlying data is identical.

On a map, the default behavior depends on whether the pill is continuous or discrete, but also if it’s dimension or a measure. If the geographic type allows it, a measure on color defaults to a filled map. A dimension on color defaults to a symbol map. Whether these colors are gradients or palettes depends on if the pill is continuous or discrete.

## Date Types

Dates can be brought into the view as either continuous or discrete. If the date icon is blue in the data window, then the default when we bring out that pill will be discrete, but if we right click drag, we can select specifically what sort of date we want. We can change this property in the pill’s menu – the options at the top are discrete date parts, the lower section are continuous date truncations.

Continuous date truncations are treated as an ongoing progression along an axis. Here, there is a single trend line, and December 2012 leads into January 2013. Discrete date

parts are treated like categories. Each year is a different category, and there is a trend line here per year. There is a break between December 2012 and January 2013 because month and year are simply labels.

## Filtering

Filtering on a discrete pill, such as Category, brings up options related to the specific list of values for that pill. Filtering on a continuous measure pill, such as Profit, asks first if we want to filter at the row-level or aggregate level, then brings up options for continuous ranges.