

WHY DOES A SCATTER PLOT BY DEFAULT HAVE ONLY 1 MARK

If we place one **measure** on the **Rows** shelf e.g., Profit and another **measure** on the **Columns** shelf e.g., Sales, we are by default asking Tableau to compare two numerical values.

Typically, Tableau chooses a **Scatter Plot** as the default visualization in such cases. The initial view will most likely be single mark, showing the sum for all values for the two measures. We would need to increase the level of detail in the view

Given below are the possible methods of adding detail to a scatter plot:

Method-I: We can add **dimensions** to the view. **Marks** card, **Rows** Shelf, **Columns** Shelf etc.

Method-II: We can **disaggregate** the data i.e., **Clear the Analysis > Aggregate Measures** option

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STEP 1: Select the **Profit** measure in the **Data grid**, Press Ctrl and select **Sales** measure

The screenshot shows the Tableau Desktop interface. On the left, the 'Data' pane is visible, displaying a list of fields under 'Tables' and 'Measure Names'. The 'Profit' and 'Sales' measures are highlighted with green bars. The 'Columns' shelf is empty, and the 'Rows' shelf is empty. The 'Marks' card is set to 'Automatic'. The main view area displays the text 'Why does a Scatter Plot by default (without any dimension in the view) have only 1 mark?' in orange. The view area is divided into two sections by a vertical line, with 'Drop field here' text in each section.

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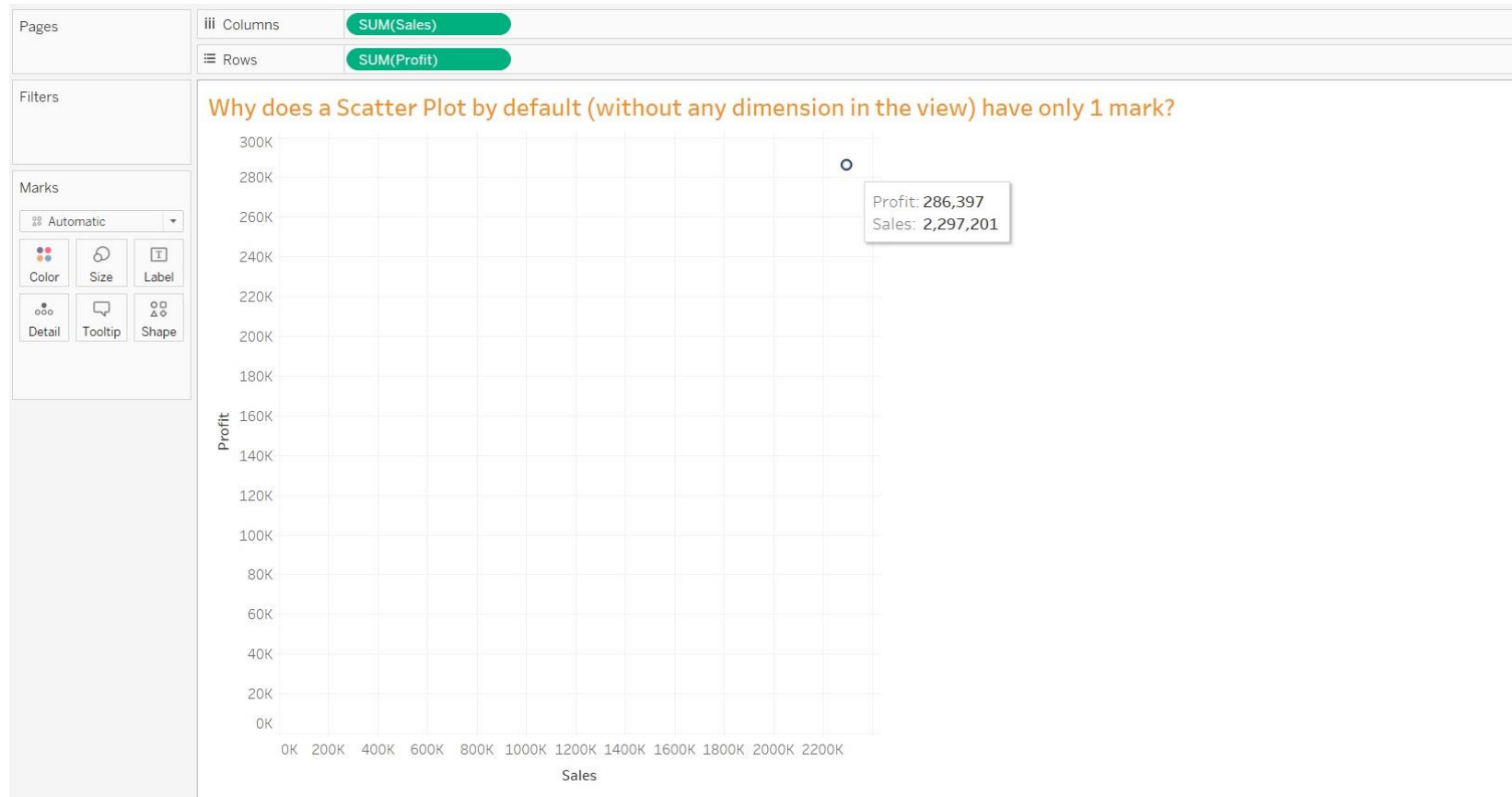
STEP 2: Under **Show Me** the **scatter plots** is the **Recommended Viz**
Select the **scatter plots**

The screenshot displays the Tableau 'Show Me' interface. The main view area contains the text 'Why does a Scatter Plot by default (without any dimension in the view) have only 1 mark?' and two 'Drop field here' prompts. The left sidebar lists various data fields under 'Tables', including 'Category', 'City', 'Country/Region', 'Customer ID', 'Customer Name', 'Order Date', 'Order ID', 'Postal Code', 'Product ID', 'Product Name', 'Region', 'Row ID', 'Segment', 'Ship Date', 'Ship Mode', 'State', 'Sub-Category', 'Measure Names', 'Discount', 'Profit', 'Quantity', 'Sales', 'Latitude (generated)', 'Longitude (generated)', 'Orders (Count)', and 'Measure Values'. The 'Marks' card is set to 'Automatic'. The 'Show Me' panel on the right shows a grid of visualization types, with a scatter plot highlighted and labeled 'Recommended'. Below the grid, it suggests 'For scatter plots try' with '0 or more Dimensions' and '2 to 4 Measures'.

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STEP 3: By default, whenever a **measure** is brought into a **view** it is always **aggregated** hence each **measure** will only **1 value**. In this case since we have **Sales** on the **X axis** and **Profit** on the **Y axis**.

We get only **1 mark** as the **intersection** of **Sales** and **Profit**



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STEP 4: We can add a Reference Line, Right-click Sales Axis,
Click on **Add a Reference Line**

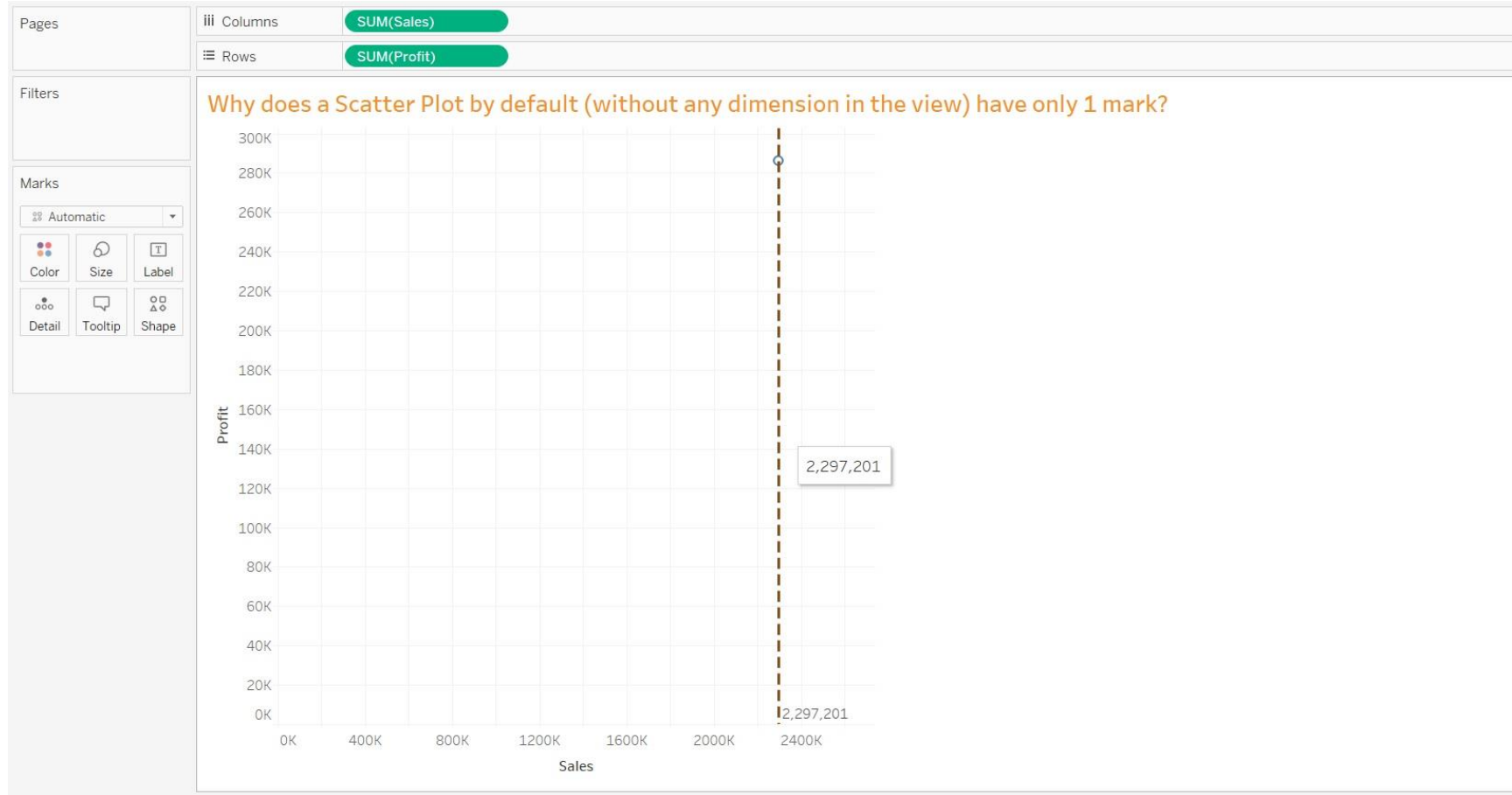
If required, we can carry out the various formatting options



The screenshot shows the 'Add Reference Line, Band, or Box' dialog box. The 'Line' tab is selected. The 'Scope' section has 'Per Pane' selected. The 'Line' section has 'Value' set to 22,97,200.8603, 'Constant' selected, 'Label' set to 'Value', and 'Tooltip' set to 'Automatic'. The 'Line only' section has 'Line only' selected and '95' selected. The 'Formatting' section has 'Line' set to a dashed orange line, 'Fill Above' set to 'None', and 'Fill Below' set to 'None'. The 'Show recalculated line for highlighted or selected data points' checkbox is checked. The 'OK' button is at the bottom right.

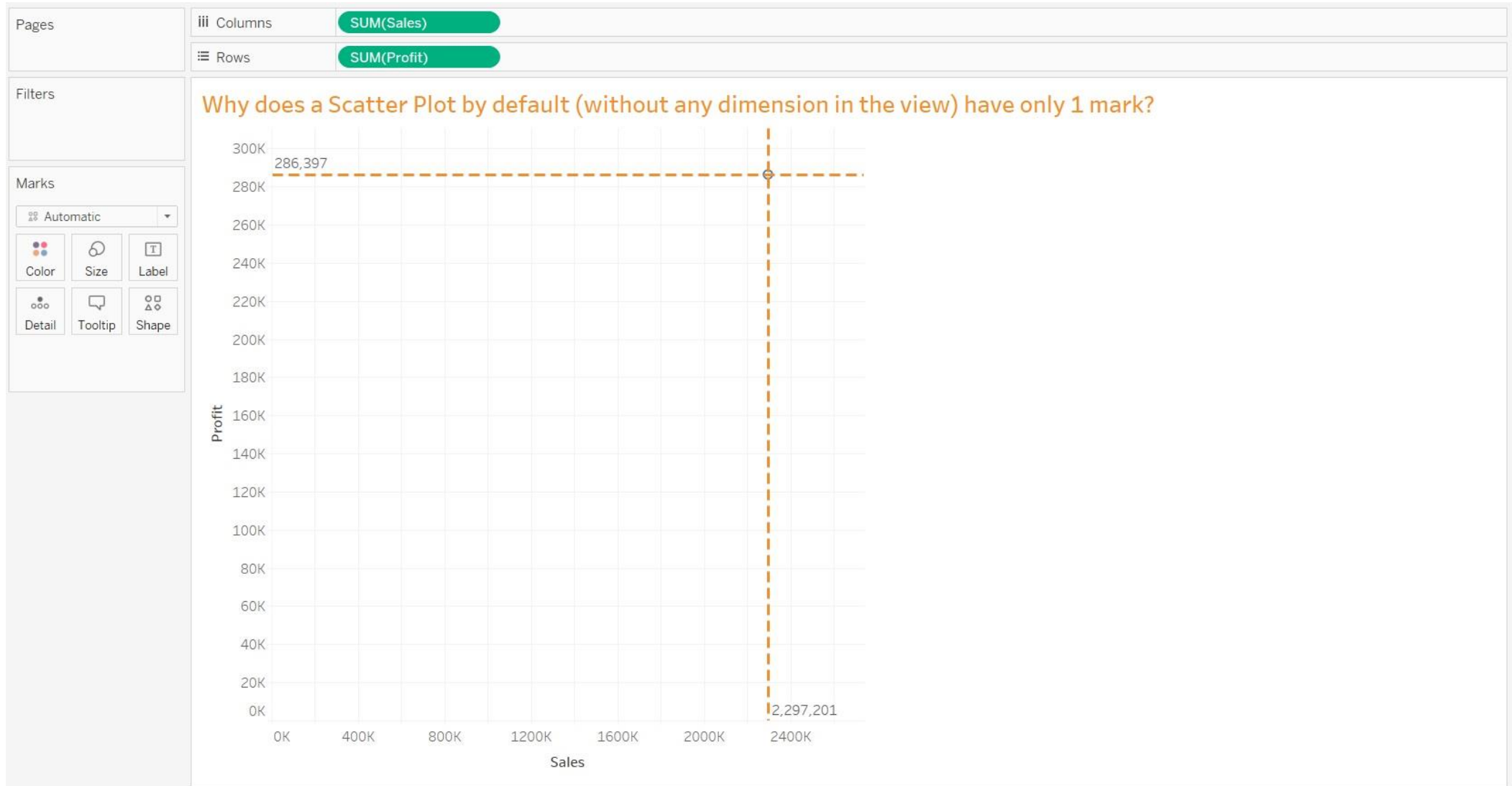
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STEP 5: The Reference Line is added for Sales



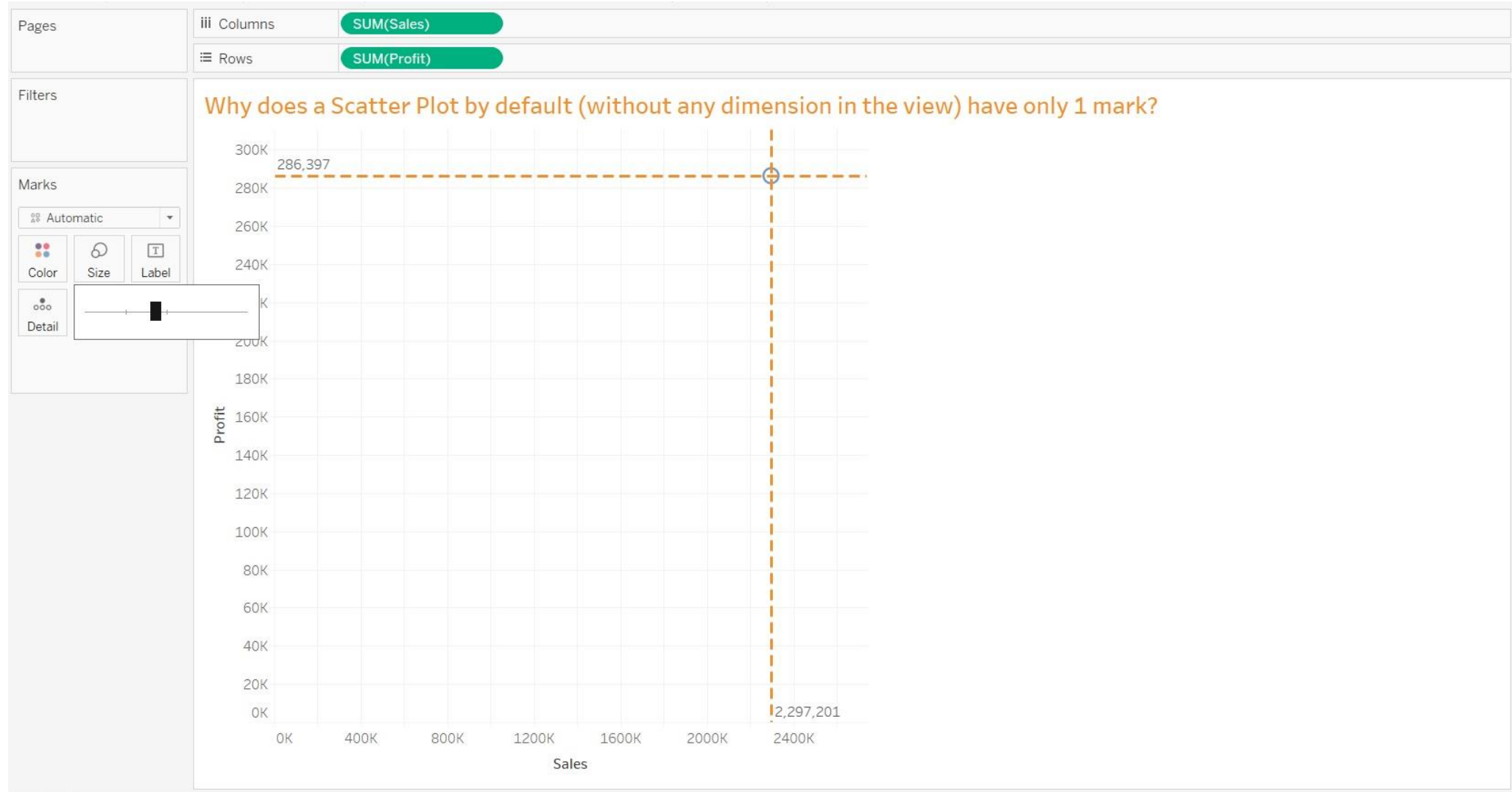
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STEP 6: Similarly, a **Reference Line** can be added for **Profit**



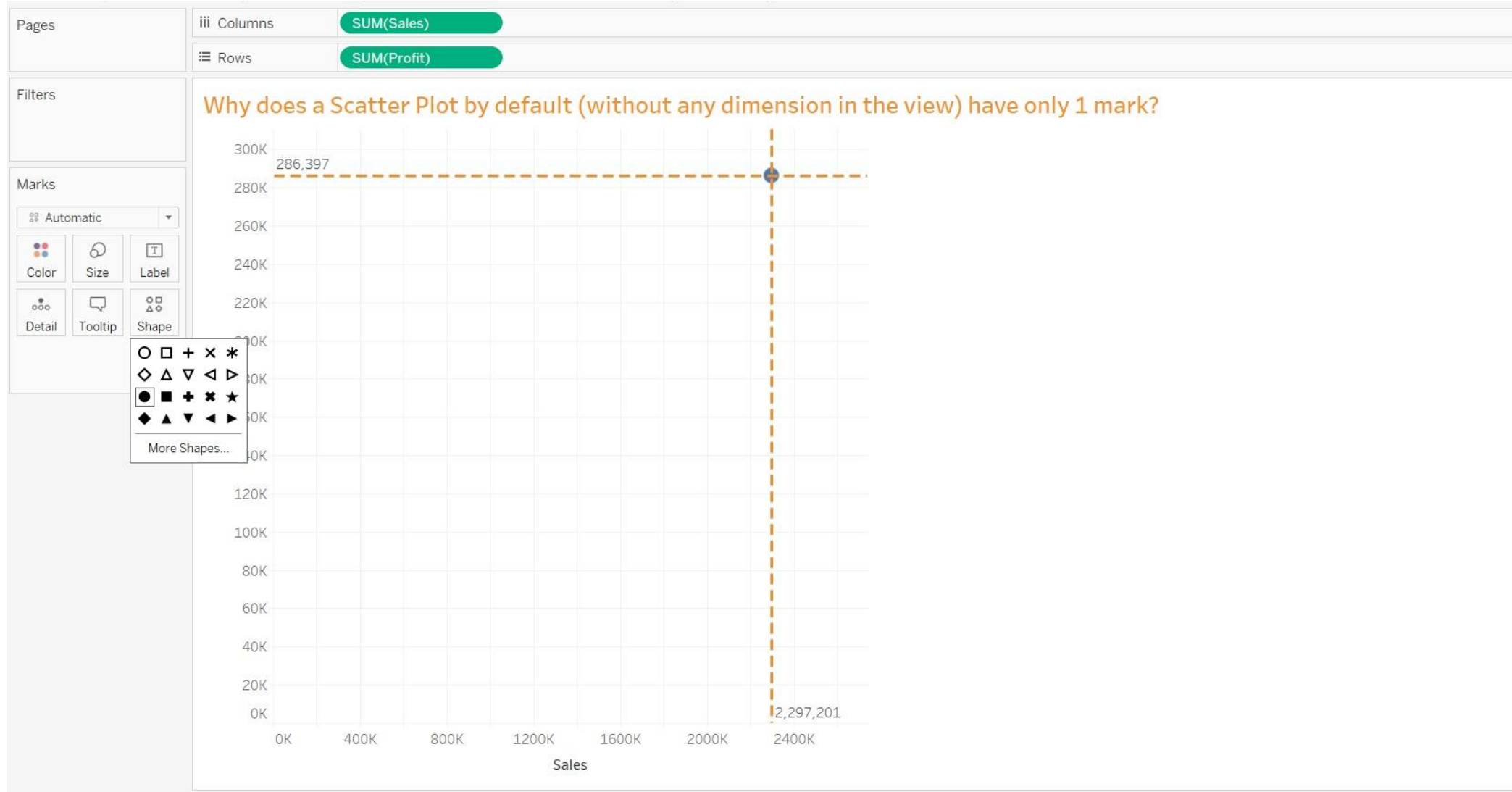
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STEP 7: Increase the **Size** of the mark using the Slider



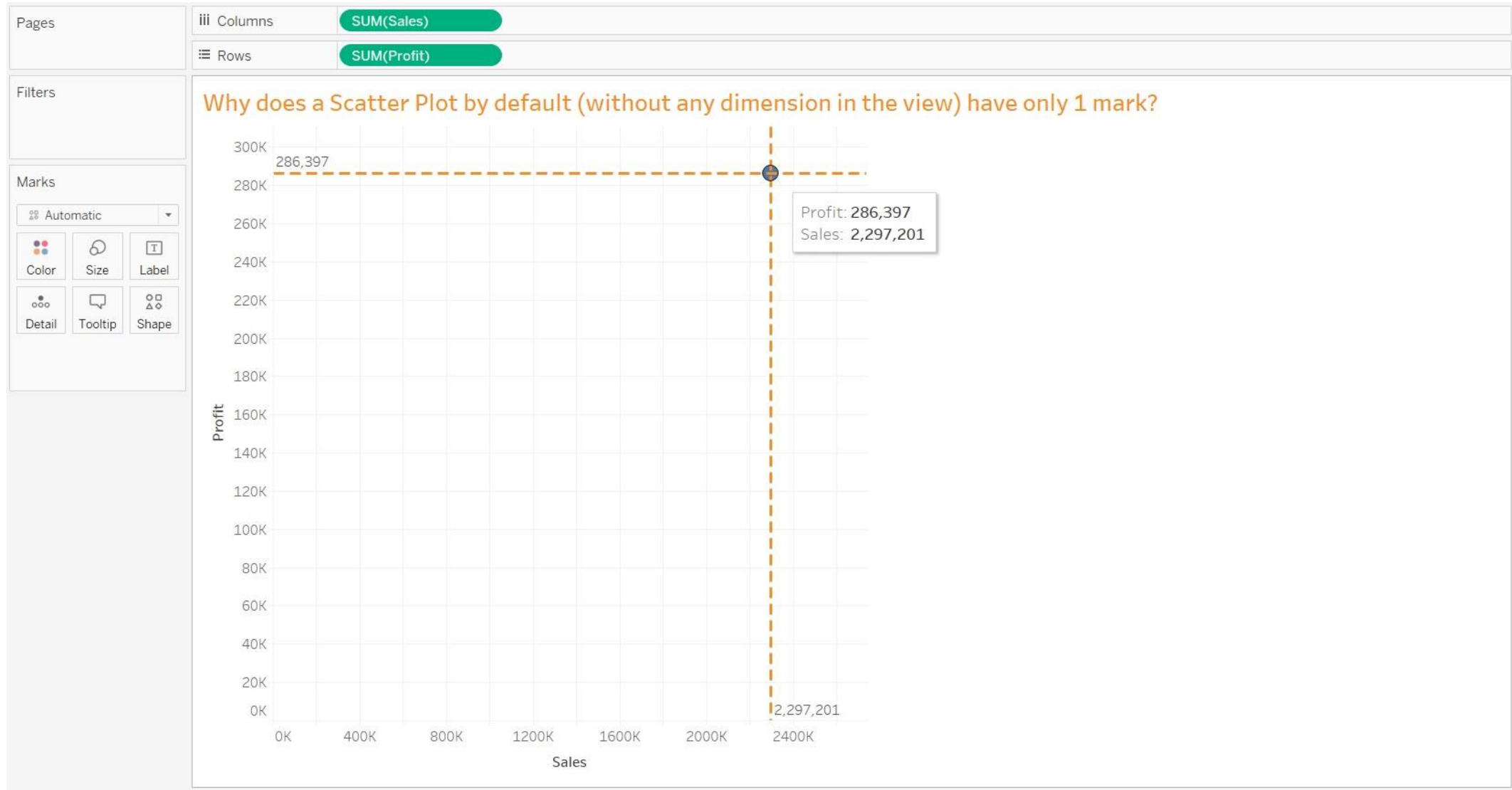
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STEP 8: Change the **Shape** of the mark to a filled circle



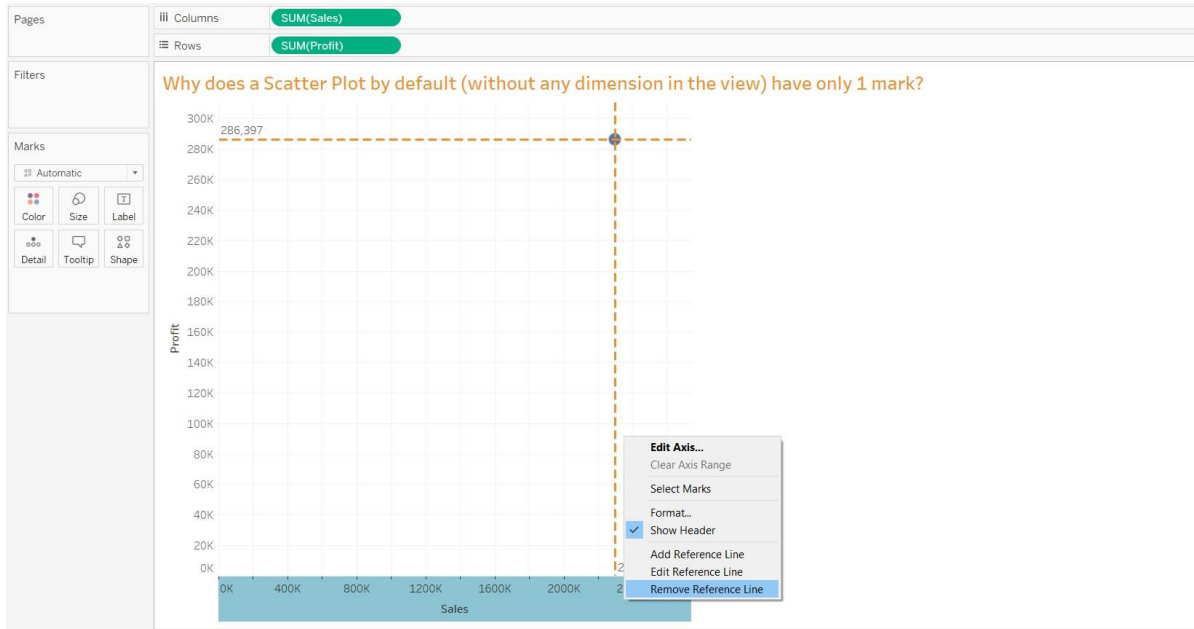
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STEP 9: Now it is very clear that the 1 mark is the intersection of Sales and Profit



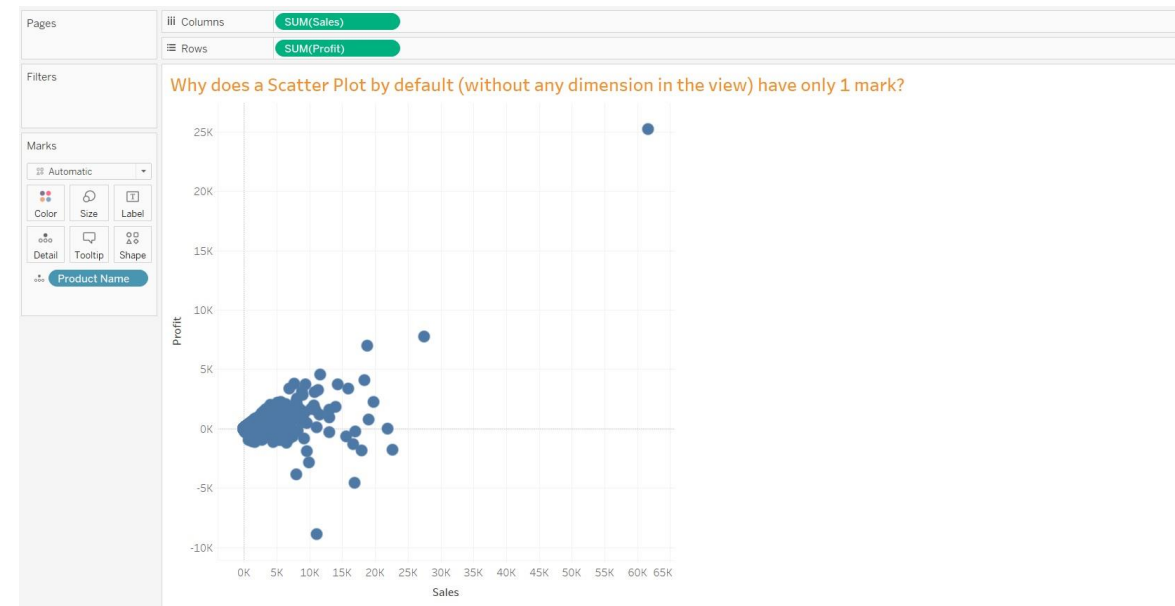
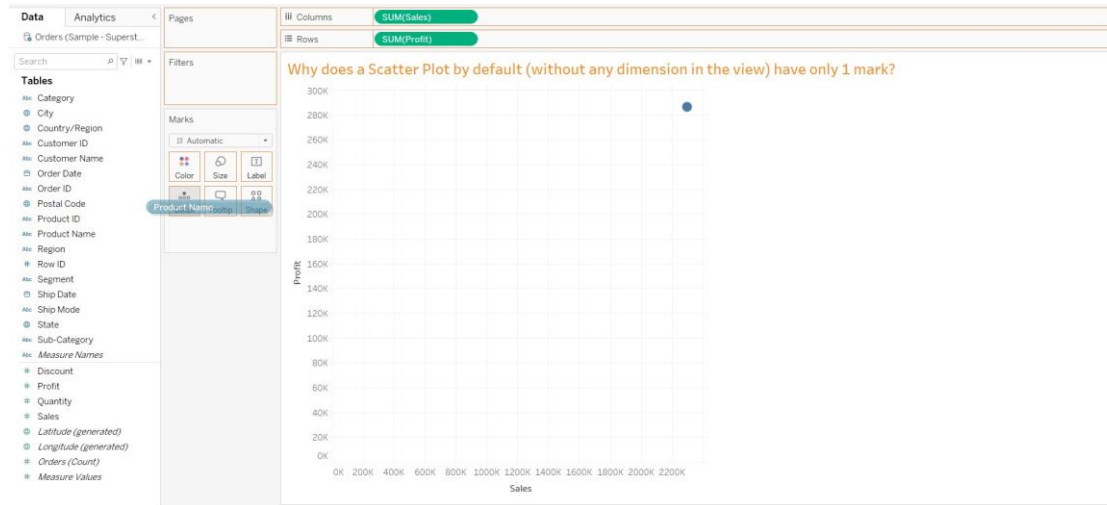
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STEP 10: Remove the Reference Lines, Right-click the axis,
Click on **Remove Reference Line**



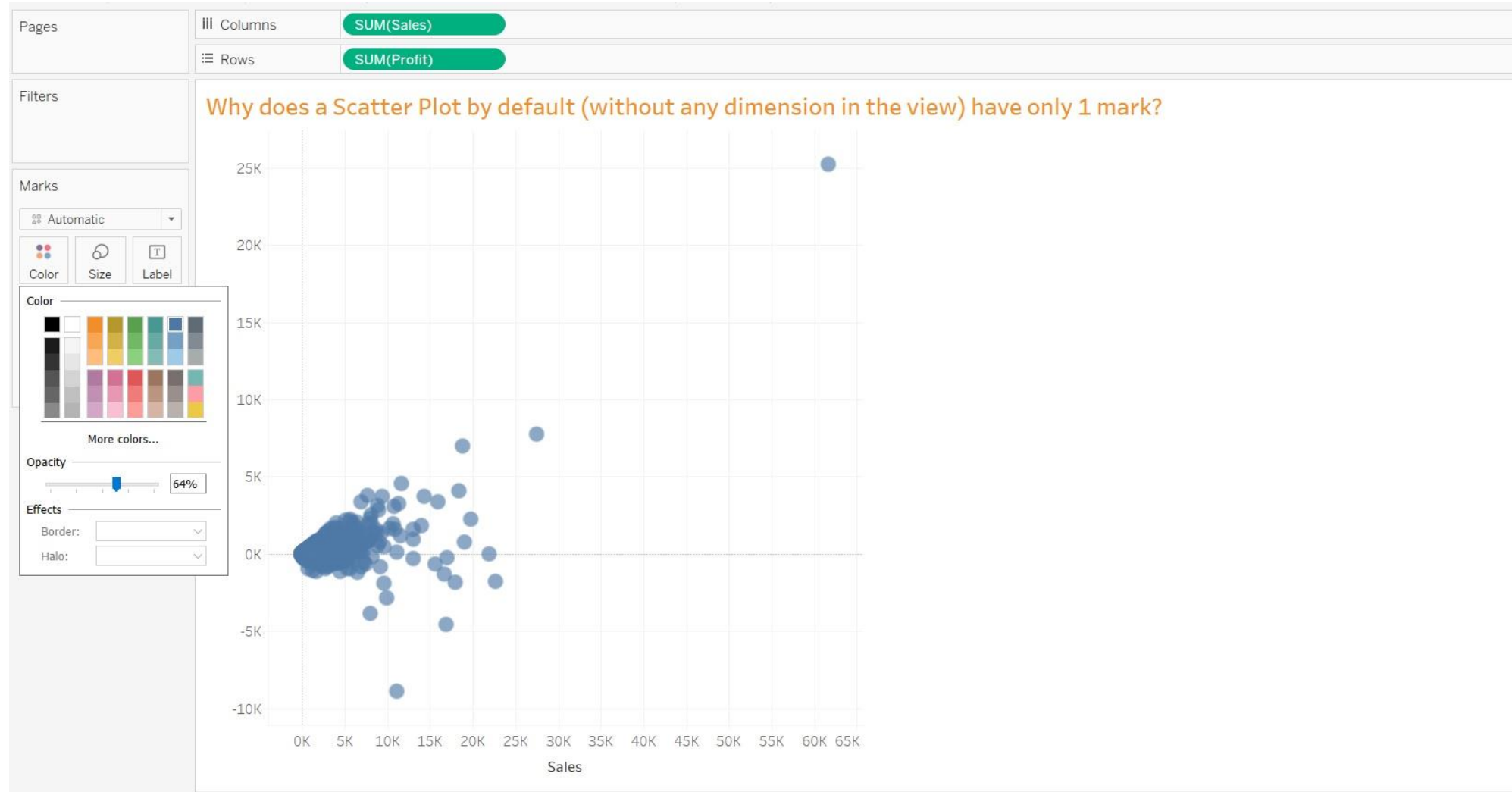
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STEP 11: One way of adding detail to the scatter plot is to add a dimension
Drag and drop **Product Name** to **Detail** on **Marks** card



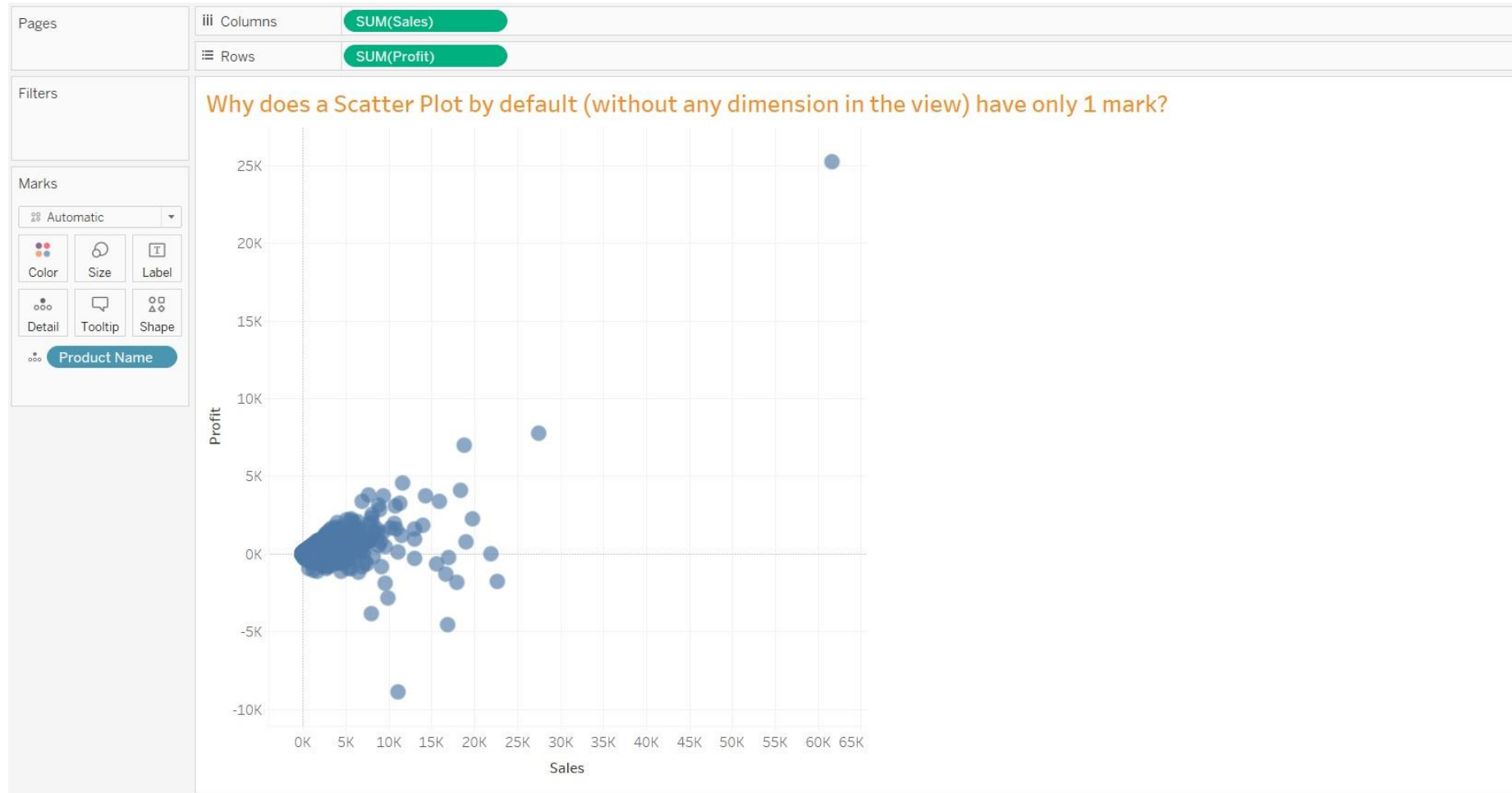
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STEP 12: If required we can reduce the **Opacity** of the marks by using the Slider



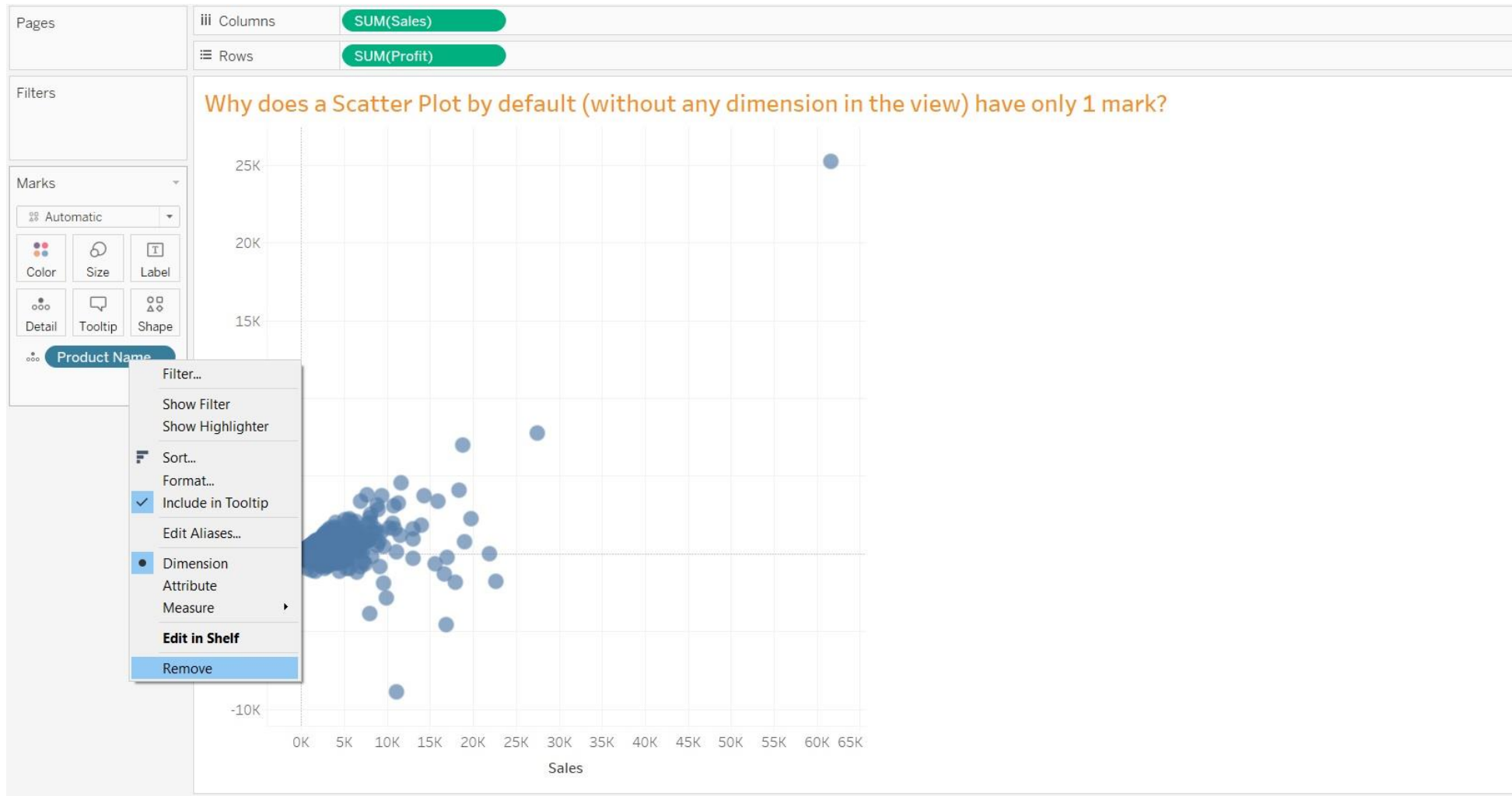
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STEP 13: This is the final **Scatter Plot** with **Product Name** on **Detail**



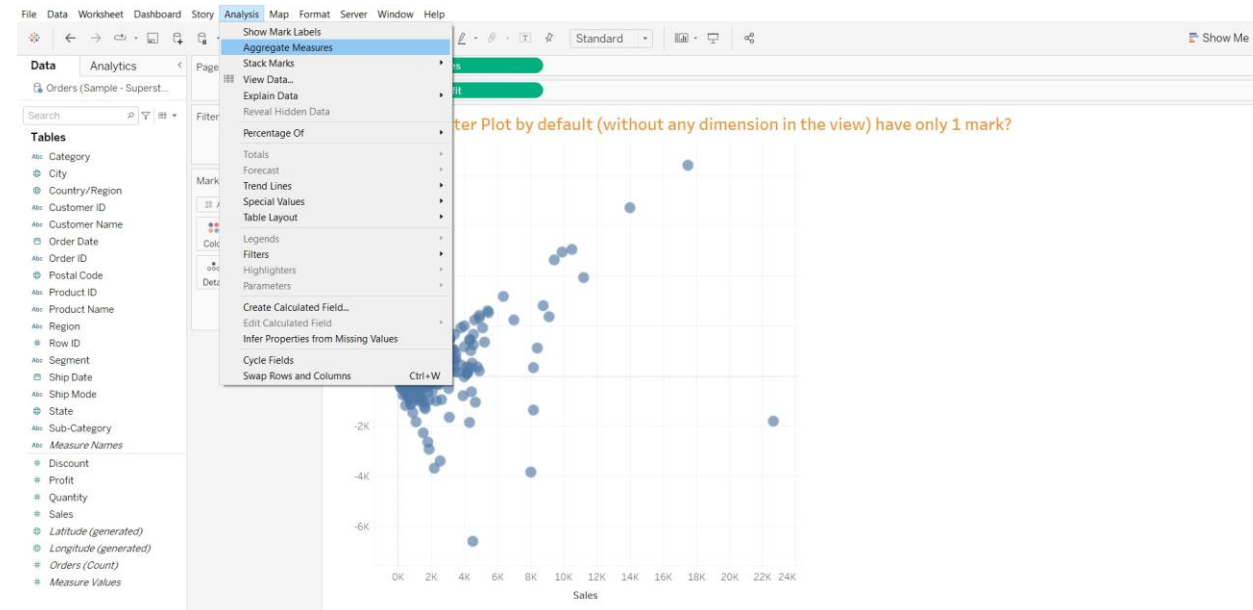
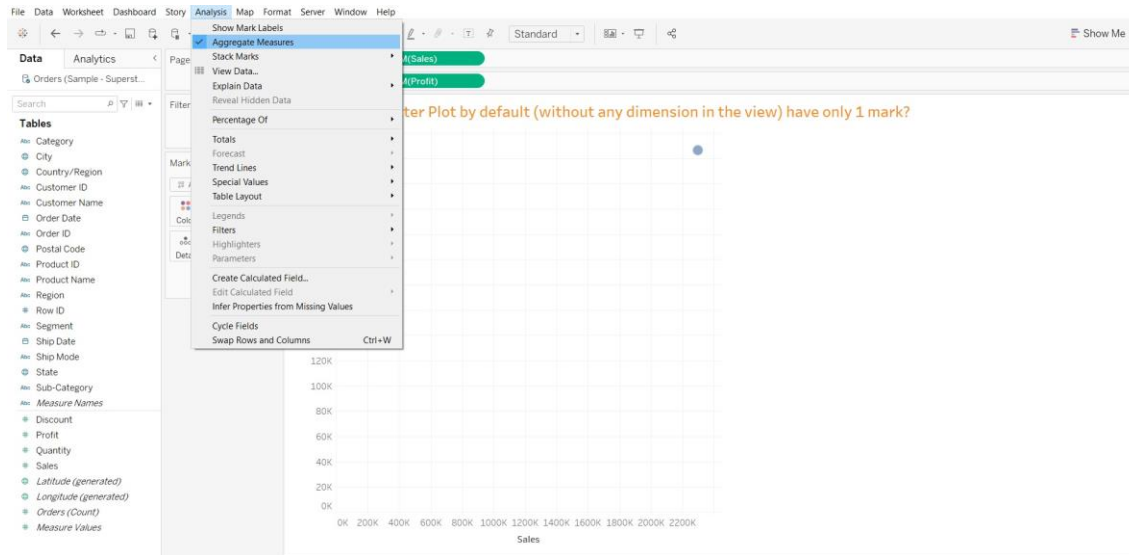
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STEP 14: Right-click Product Name, Select **Remove**



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STEP 15: Another way of adding detail to the scatter plot it is to **disaggregate** the measure
Clear the **Analysis > Aggregate Measures** option (by default it is selected)



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STEP 16: This is the final **Scatter Plot** with the **measures disaggregated**

The status bar will show the number of **marks** as **9964** (i.e., the most granular view possible for this data set)

