
Before you begin: Access Library in the Education sandbox

The Education sandbox is a shared, cloud-based environment to help you learn about and experiment with MicroStrategy Web and Library.

Use the Education sandbox to complete various report and dossier exercises. Complete the steps below to access the sandbox.

Access Library in the Education sandbox

- 1 In your browser, navigate to **education.microstrategy.com/MicroStrategy/servlet/mstrWeb**.
- 2 Log in to the sandbox with your **MicroStrategy Account** credentials.
Open the Tutorial project
- 3 The MicroStrategy landing page opens. Click the **MicroStrategy Tutorial** project.



MicroStrategy Tutorial

MicroStrategy Tutorial project and application set designed to illustrate the platform's rich functionality. The theme is an Electronics, Books, Movies and Music store. Employees, Inventory, Finance, Product Sales and Suppliers are analyzed.
Server name ENV-218880LAIOUSE1

The MicroStrategy Tutorial home page opens.

- 4 Click **Go to MicroStrategy Library**.
- 5 If prompted, enter your **MicroStrategy Account** credentials, and then click **Log in with Identity**.

Your Library home page displays.

Exercise: Format a line chart to support quick comparisons

While the grid is helpful for viewing precise details, your team also wants a visualization that helps analysts quickly understand the change in total riders over time. Your colleague created a line chart that uses two lines to easily compare the total rider values and trends for 2020 and 2021 and has asked for your help with optimizing the visualization.

You consider the analysis goals and improve the line chart by:

- Adding more details to the tooltip, so that analysts can easily see details about different types of riders
- Changing the color of the lines to adhere to your corporate branding
- Displaying markers for each data point, so that each month is easier to see
- Adding a reference line for the average number of total riders to make quick comparisons to a baseline

Prerequisites

This exercise builds on progress you've made with the dossier so far. Before you begin:

- 1 Access Library. For a reminder on how to do this, see *Exercise: Access Library in the Education sandbox*.
- 2 In Library, open the Golden Bikes dossier in Edit mode. For a reminder on how to do this, see *Exercise: Add the Golden Bikes dossier to MicroStrategy Library*.
- 3 Ensure that you have:
 - Manipulated the grid visualization (*Exercise: Manipulate a grid visualization to meet analysis goals*).
 - Formatted the grid visualization (*Exercise: Format a grid visualization to enhance readability*).

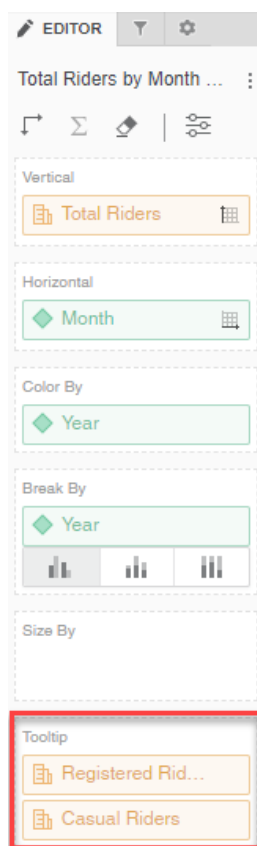
Add details to the tooltip

- 1 In the Contents panel on the left of the dossier, click **Page 2** to display the line chart that your colleague created.
- 2 The lines help you see the overall trend of total riders over the months of a year. To view precise values, hover over a data point in the line chart to display the tooltip.

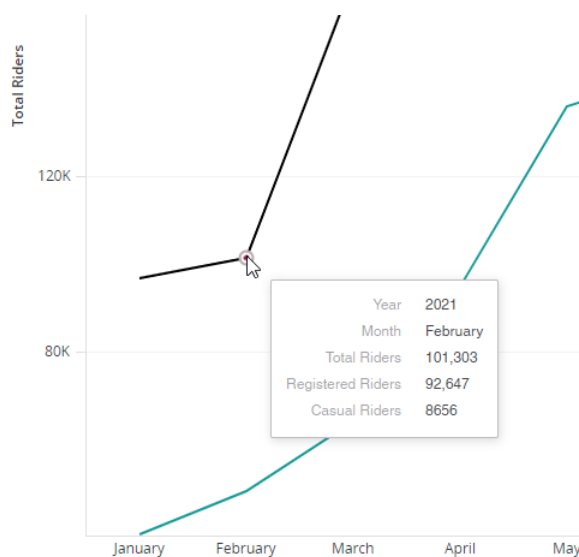


- 3 You want the main focus on the line chart to be on the trend of total riders, but you also want analysts to be able to view details about the types of riders if they need to. To add more details to the tooltip, drag **Registered Riders** and

Casual Riders from the Datasets panel to the **Tooltip** drop zone in the Editor panel.



4 Hover over a data point on the line chart to see the updated tooltip.






The tooltip helps maintain a focused, uncluttered visualization, while providing a way to gain further insights.

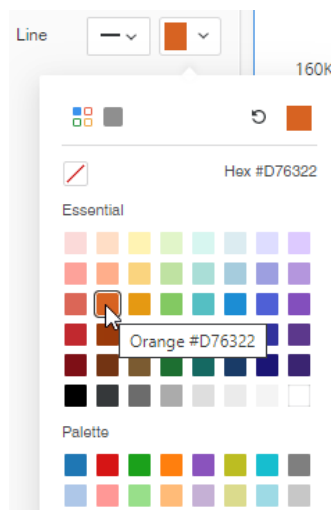
Although the overall goal of the August 2021 advertising campaign was to increase the total number of riders, it was particularly focused on increasing the number of registered riders. Do you think that the advertising campaign effectively targeted the intended audience?

When you view the tooltips for August 2021 and September 2021, you can see that the increase in the number of registered riders was greater than the increase in the number of casual riders, suggesting that the advertising campaign successfully targeted the intended audience.


Change the color of the lines

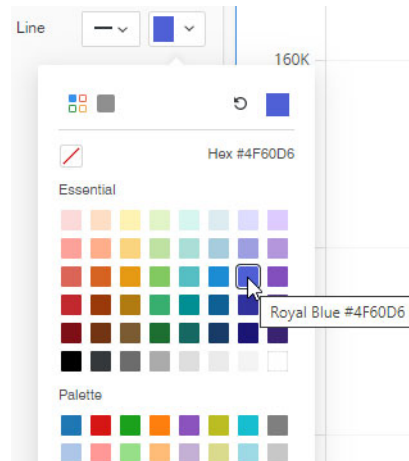
Golden Bikes' corporate colors include yellow and orange, and blue as an accent color when necessary. To match this color scheme, display the line for 2020 in orange and the line for 2021 in blue.

- 1 Click the **Format** icon  to display the Format panel.
- 2 To format the lines on the line chart, select **Text and Form** .
- 3 From the first drop-down list in the Format panel, select **Data Labels and Shapes**.
- 4 In the Shape area of the Format panel, in the first drop-down list, select **2020**.
- 5 In the Shape area, in the Line color drop-down list, select **Orange #D76322** .



In the line chart, the line for 2020 displays in orange.

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- 6 In the Shape area, in the first drop-down list, select **2021**.
 - 7 In the Line area, in the fill color drop-down list, select **Royal Blue #4F60D6** .

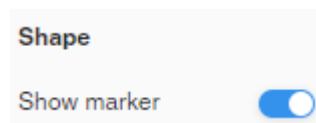


In the line chart, the line for 2021 displays in blue.

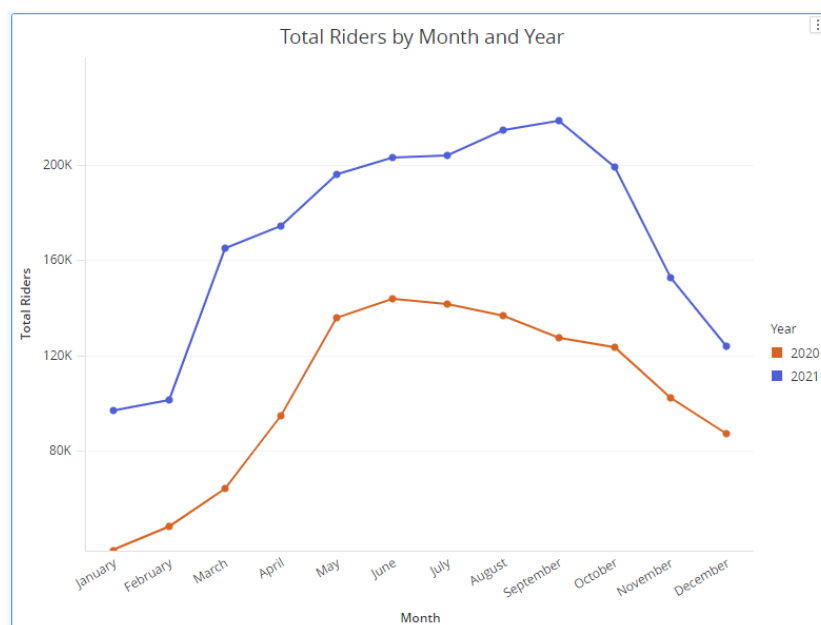
Display markers for each data point

The lines in the line chart connect individual data points, each of which represent the total number of riders for a particular month. Connecting the data points with a line makes it easy to visualize the trend of the data values. To make it easier to visualize each data point, use markers.

- 1 In the Format panel, ensure that **Data and Labels and Shapes** is selected in the first drop-down list.
- 2 Enable **Show Marker**.





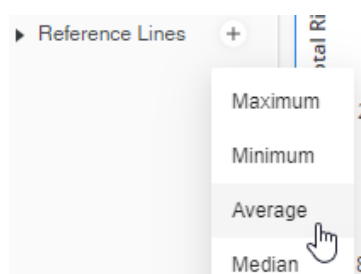
The individual data points display on each line in the line chart. It is easy to see each month on the lines, and the trend of the values between each month.



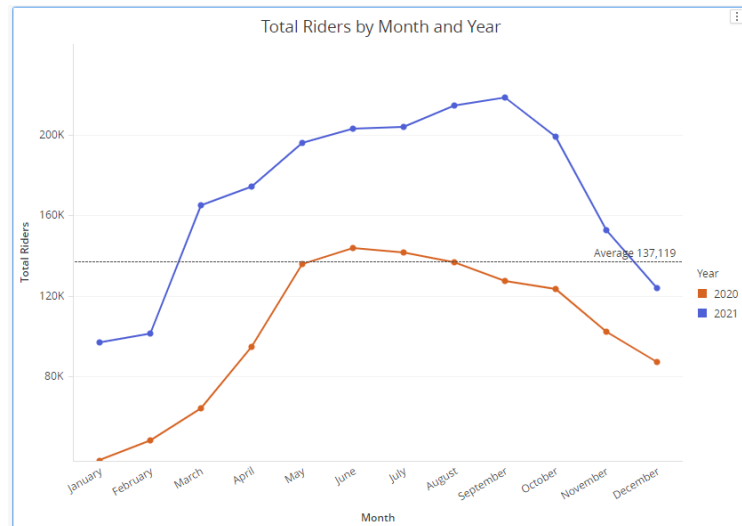
Add a reference line

Analysts use a reference line, also referred to as a baseline, to compare data points to a particular value, such as an average or median. This can be useful to provide context, such as how a particular month's total riders compare to the average monthly total ridership. You can display one or more reference lines in a graph visualization, using different line types, if the vertical or horizontal axis contains a metric.

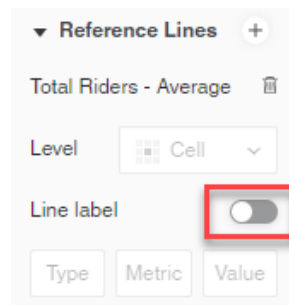
- 1 In the Format panel, select **Visualization Options** .
- 2 To choose the type of reference line, next to Reference Lines, click the add icon  and then select **Average**.



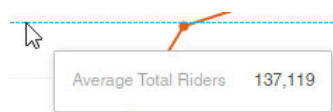
A reference line displays on the graph, indicating the average number of total riders across 2020 and 2021. Total Riders is automatically selected as the reference line, because it is the only metric in the visualization. The line is labeled with the type (average) and the value (137,119). The reference line makes it easy to see how the total number of riders each month compares to the average number of riders over the two-year time period.




- 3 Golden Bikes frequently uses average reference lines, so most analysts will know what type of value the reference line represents. Additionally, the precise average value is not important for the main analysis. To remove the reference line label, expand the **Reference Lines** area and then disable **Line Label**.

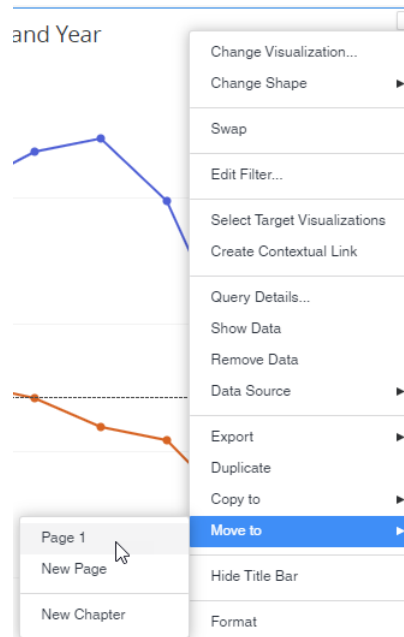


If you hover over the reference line, a tooltip still displays the reference line type, metric, and value.



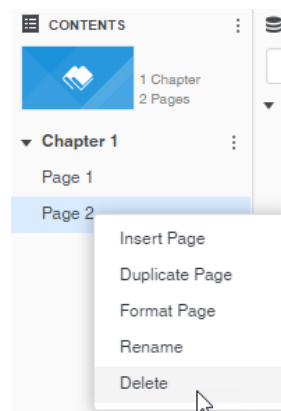
Move the line chart to the same page as the grid

- 1 In the title bar of the line chart, click the menu icon , point to **Move to**, and select **Page 1**.



The line chart now displays on Page 1, below the grid.


- 2 The line chart was the only visualization on Page 2, and you moved it to Page 1, so you no longer need Page 2. In the Contents panel, right-click **Page 2**, and select **Delete**.

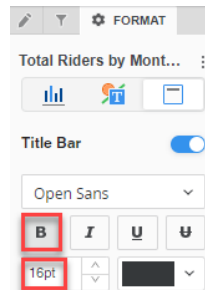


Change the line chart title formatting

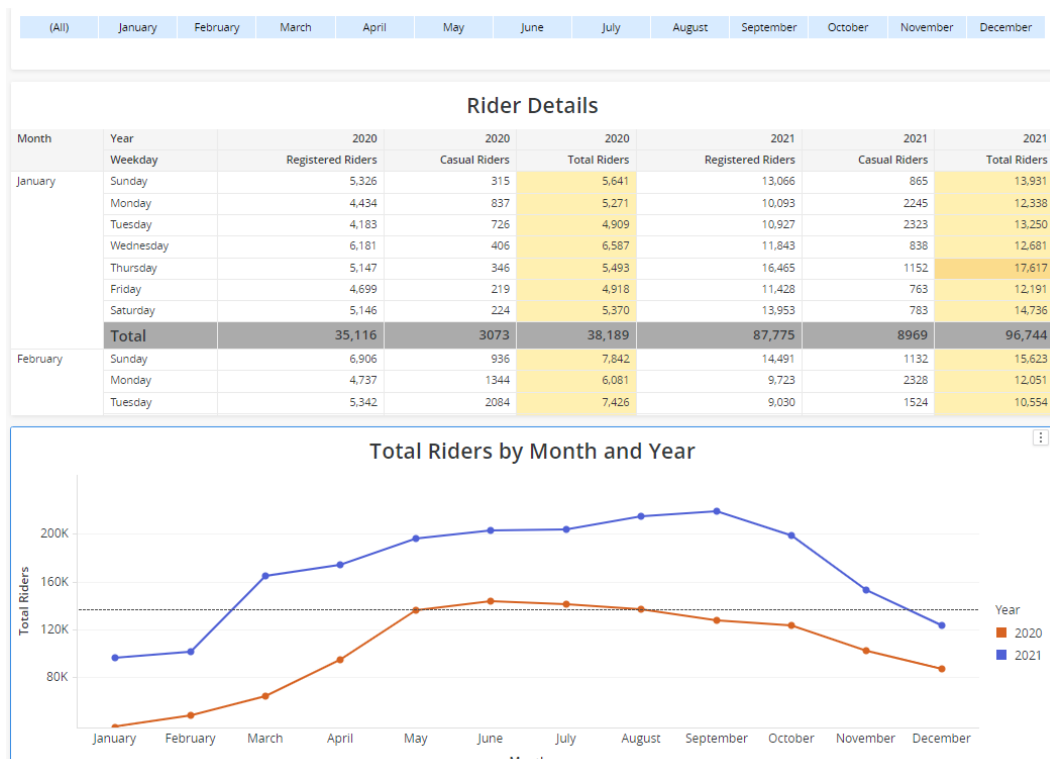
Now that the line chart and grid are on the same page, you notice that the line chart title is formatted differently than the grid title. Consistent formatting

across visualizations provides a clean look and minimizes distractions. Change the line chart title formatting to match the grid chart's.

- 3 On the dossier canvas, click the **Total Riders by Month and Year** line chart to select it.
- 4 To change the formatting settings for the title and container of the line chart in the Format panel, select **Title and Container** .
- 5 In the Title Bar area, change the title's font size to **16** and style to **Bold**.



Your dossier looks like the image below.



- 6 **Save** your dossier.

This exercise covered some of the formatting options for line charts; examples of others include:

- Change the axis configuration, such as the axis scale and origin to adjust the range of values displayed, or whether axes titles and labels display. *To do this, use the Axes options in Visualization Options tab of the Format panel.*
- Add a trend line for various model types, such as linear, logarithmic, exponential, or others. Trend lines help you understand the general directionality of the data and how values might change in the future. *To add a trend line, use the Trend Line option in the Visualization Options tab of the Format panel.*