

Assignment: NYC Green Taxi Fares

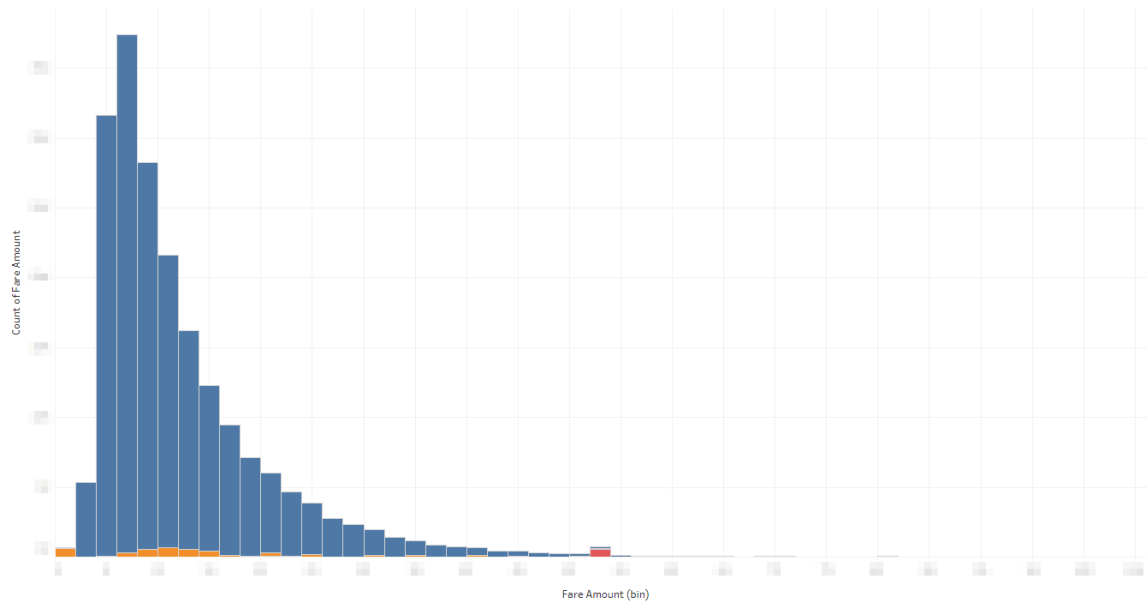
1. There's a couple of encoded features that we want to transform into plain language to make their interpretation easier once we use them in our plots.
 - a. The Rate Code field indicates how a fare was calculated for each trip, encoded as a number. Create a calculated field, Rate Type, that maps the numeric values to interpretable strings:
 - 1 = Standard Rate
 - 2 = JFK
 - 3 = Newark
 - 4 = Nassau / Winchester
 - 5 = Negotiated Fare
 - 6 = Group Ride
 - 99 = Unknown
 - b. The Payment Type field also encodes its values using numeric labels. Create a calculated field, Payment Type String, that maps the numeric values to interpretable strings:
 - 1 = Credit card
 - 2 = Cash
 - 3 = No charge
 - 4 = Dispute
 - 5 = Unknown
 - 6 = Voided trip
2. To start, let's plot the distribution of fares.
 - a. On Sheet 1, create a histogram of Fare Amount. Use a bin size of 2, and filter to fares between \$0 and \$100. *Note:* Make sure your filter is performed on the original field values and not the bins!
 - b. Describe the shape of the distribution of fares. Are there any unusual or interesting features to the histogram?
 - c. Add Rate Types to the Marks card as a Color encoding, making the chart somewhat of a stacked histogram. What additional insights can you see from the chart?

3. Let's use a histogram to see what the typical tip amount is for individual fares.
 - a. Create a calculated field, Subtotal Amount, that adds up the Fare Amount with all additional trip fees: Extra, Mta Tax, Improvement Surcharge, and Tolls Amount.
 - b. Create another calculated field, "Tip:Subtotal Ratio", that divides the Tip Amount by the Subtotal Amount.
 - c. On Sheet 2, create a histogram of Tip:Subtotal Ratio across all trips. Use a bin size of 0.01 and filter to values less than 1.
 - d. Add Payment Type String to the Marks card as a Color encoding. Under what payment type are most trips where no tip was made?
 - e. Answer the main question: when riders make a tip, what percentage of the fare do they usually leave?

Visualization Reference

You can check your work on the SkillBuilder assignment by referencing the images below. Each image is a general depiction of what you should see on each Sheet of the workbook, with various details hidden or omitted. **Your visualizations do not need to look exactly like these reference images!** These should just be a general guide to check if you're on the right track.

Sheet 1 (Question 2)



Sheet 2 (Question 3)

