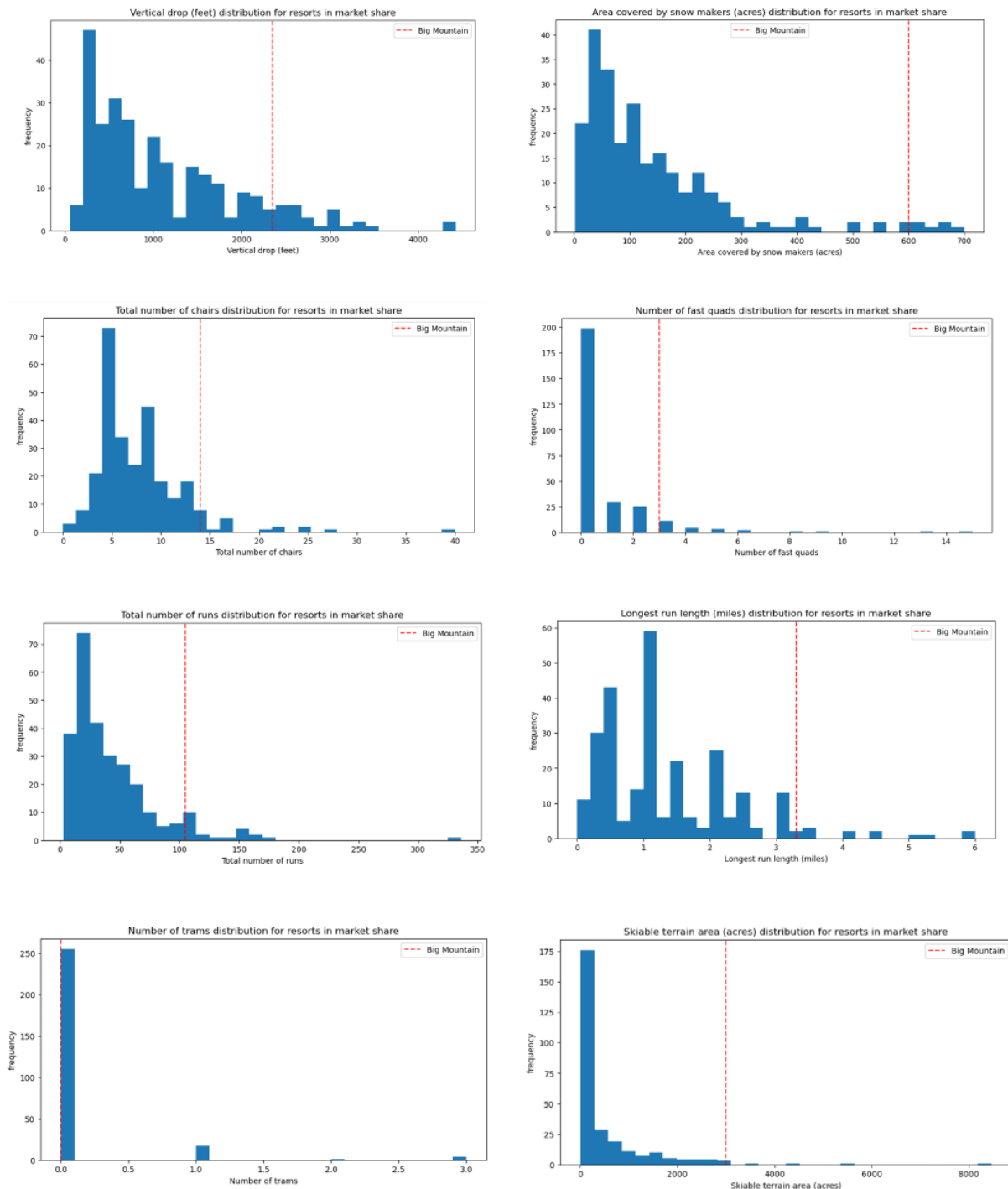
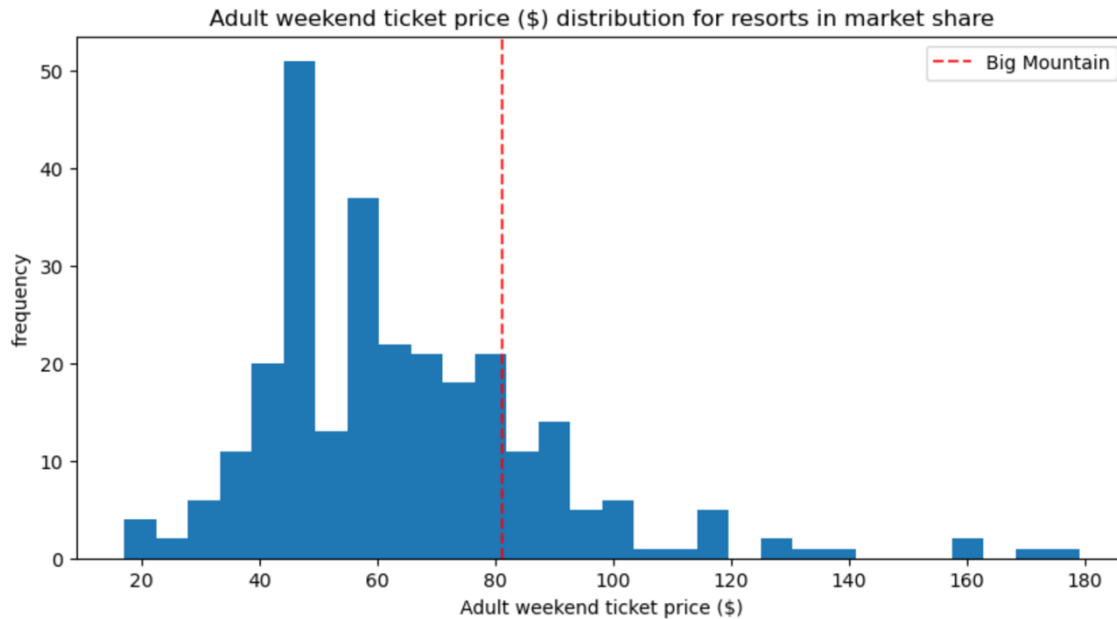


## Big Mountain Report

After analyzing the data on the ski resorts in Big Mountain's market, we found that the facilities offered at Big Mountain will likely support a higher ticket price. Right now, the ticket price is set at \$81, but our machine learning model predicted a ticket price of \$95.87. For context on the model, we performed cross validation and found that the model had an average mean absolute error of about \$10.40 with a standard deviation of about \$1.47. To further support the increased ticket price, we looked at Big Mountain's position in the top 8 key feature distributions. Those key features, identified through our analysis process, were the vertical drop, the amount of land covered by snow making machines, the total number of chairs, the total number of fast quads, the total number of runs, the length of the longest run, the number of trams, and the amount of skiable terrain. The figures below show that Big Mountain ranks in the top of the distributions for most categories.



However, Big Mountain's ticket price falls closer to the middle of the ticket price distribution.



We also explored the impacts on ticket price of the four proposed changes. The four scenarios were:

1. Permanently closing up to 10 of the least used runs.
2. Increase the vertical drop by adding a run to a point 150 feet lower down, which would require the installation of an additional chair lift to bring skiers back up. However, we would not add additional snow making coverage.
3. Same as number 2 but add 2 acres of snow making cover as well.
4. Increase the length of the longest run by 0.2 mile to boast 3.5 miles in length. This would require additional snow making coverage of 4 acres.

For each case, we made the adjustments in the model and looked at how it changed the predicted ticket price. We found:

1. Closing runs had a negative impact on the predicted ticket price. The more we decreased the total number of runs, the lower the predicted ticket price became.
2. This scenario had a positive impact on the ticket price. Our model showed support for an increase of \$8.61 for the ticket price resulting in about \$15,065,471 in revenue. (Revenue estimate based on predicted 350,000 visitors that each purchase about 5 tickets.)
3. This scenario also had a positive impact on ticket price. This time the model showed an increase of \$9.90 in ticket prices, resulting in about \$17,322,717 in revenue.
4. Making the changes proposed in #4 did not support any increase in ticket price.

Both scenarios 2 and 3 have the potential to add value to the resort and support higher ticket prices. However, we would need to investigate how much it would cost to implement those changes before proceeding.