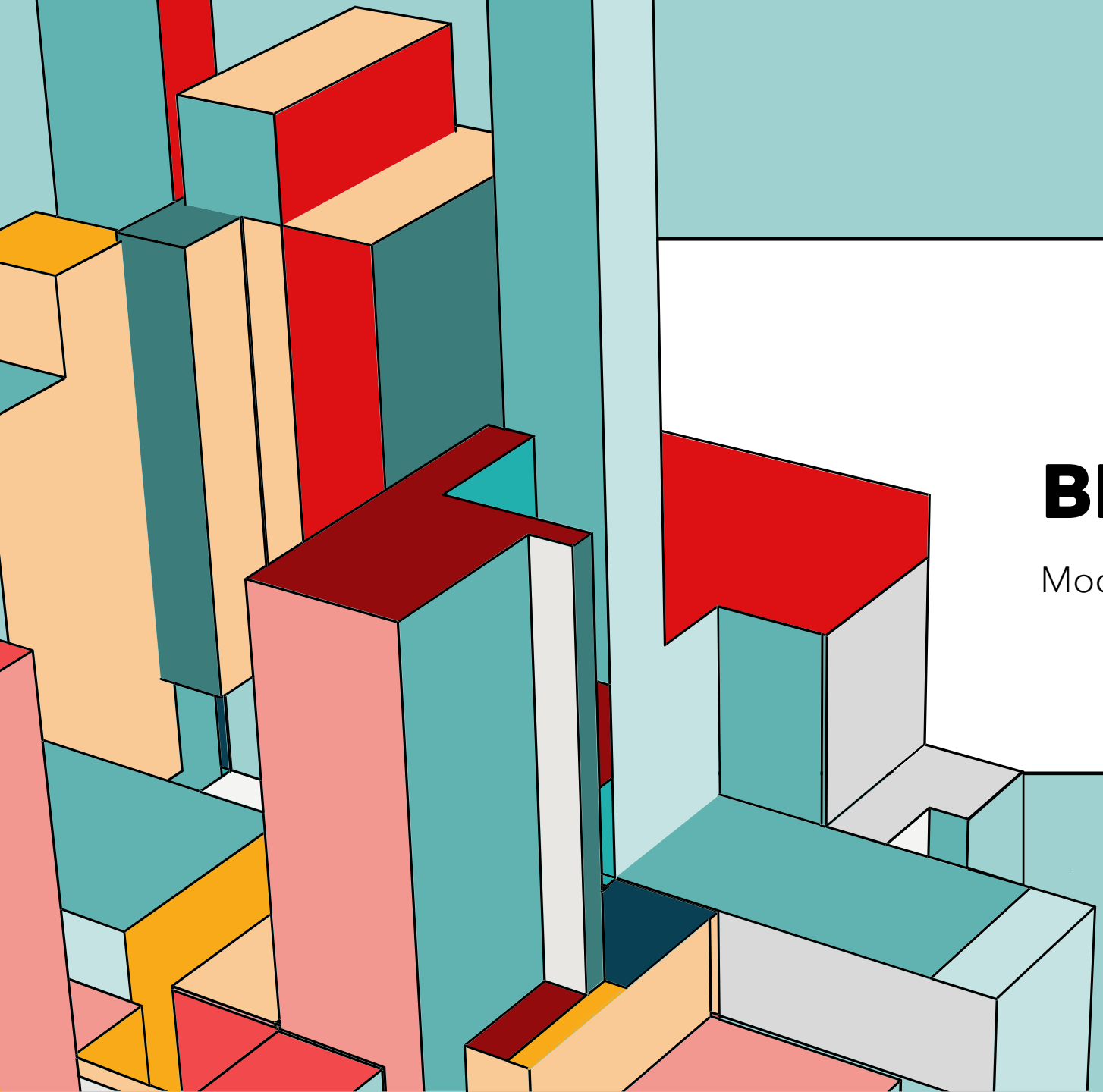


BIG MOUNTAIN

Modeling the right ticket price

Guided Capstone Presentation

Springboard DSCT Bootcamp

Pablo Ruiz Lopez

PROBLEM IDENTIFICATION

STATEMENT

What **is the best ticket price** or **the best way to reduce operation costs at BMR** so that we can see a minimum of a 20% increase in revenue by the end of the year without decreasing the quality of the service nor the 350K visitors per year; basing the ticket pricing or cost caps on market share and competitors' data.

CRITERIA FOR SUCCESS

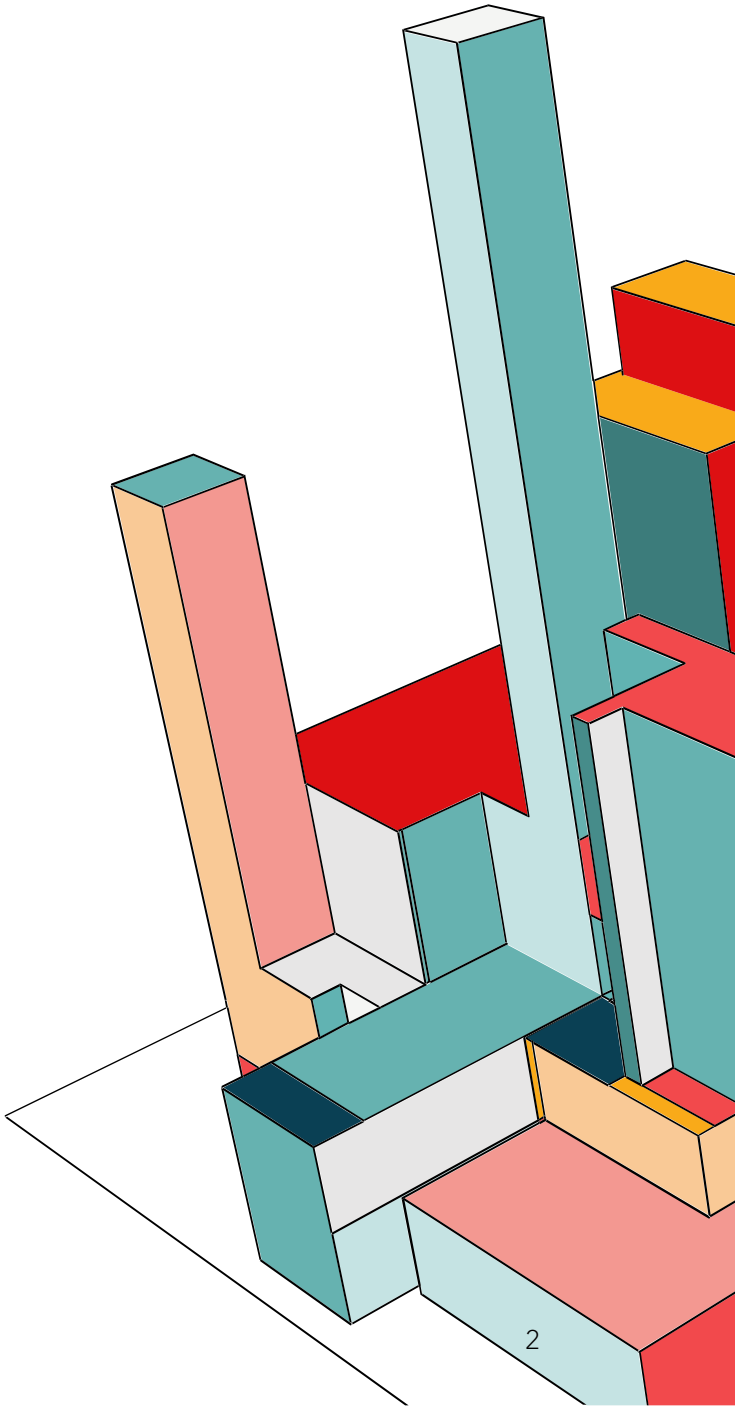
- Define a higher, well-accepted ticket price that can hold no less than 350K visitors per year.
- Determine if there are any costs to reduce and which ones.
- Increase the yearly revenue by no less than 20%
- Determine key differentiators on market share dynamics based on competitor's analysis for future and current considerations.

SCOPE OF SOLUTION SPACE

The **dataset** to be used for this initiative will be the CSV file provided by the DB management with data of the **330 other resorts in the US with almost 29 features** and **state population/territory data of public access**. The ticket pricing and cost caps applicable will be then implemented and tested on BMR Montana.

KEY DATA SOURCES

- **CSV File Provided by the DB Manager with data of 330 ski resorts** – Names, region, years in operation, amenities, lift chairs and specific equipment, services, schedules, areas and prices.
- **State Data publicly available on the web** for cross-referencing and implementation support - Population and area data from the US.



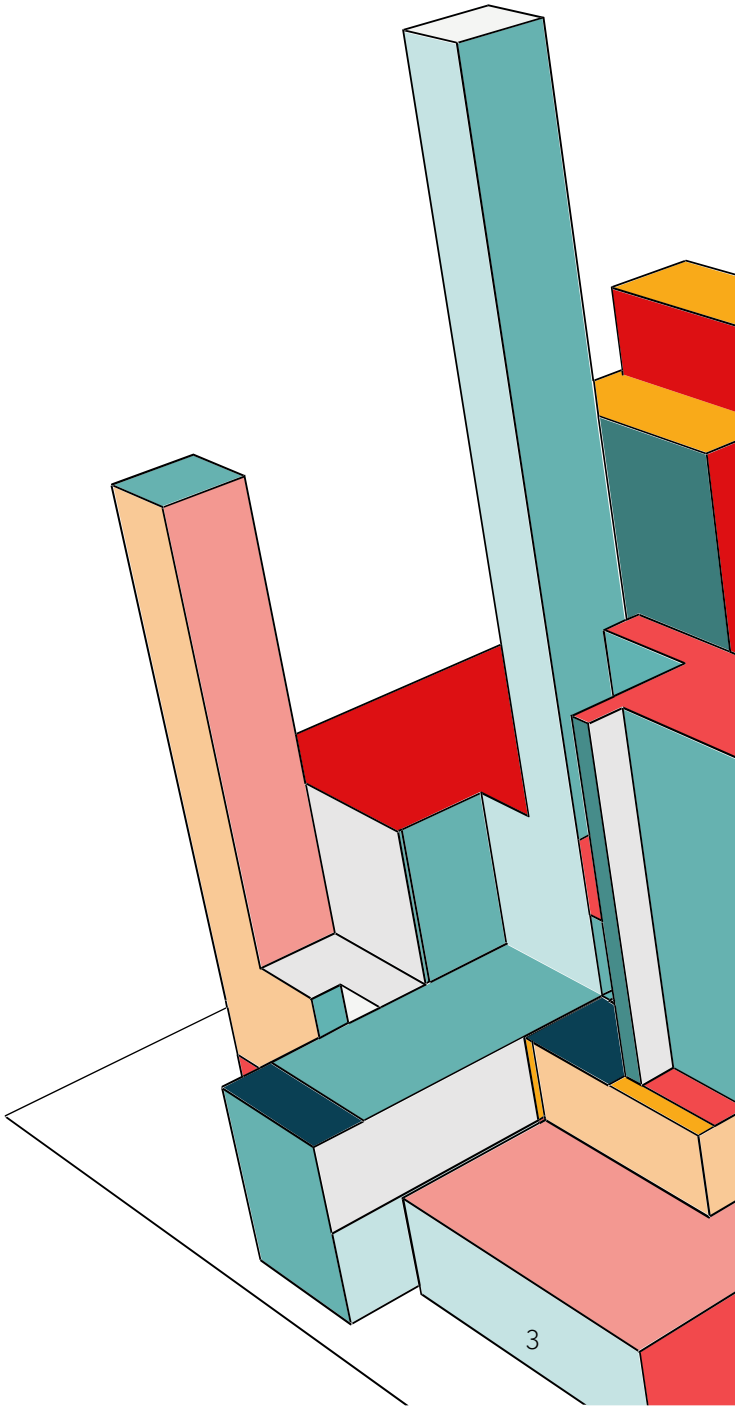
PROBLEM IDENTIFICATION

STAKEHOLDERS TO PROVIDE KEY INSIGHTS

- Director of Operations – Jimmy Blackburn
- Database Manager – Alisha Eisen
- BMR Montana Administration
- BMR Investment Strategists

CONSTRAINS WITHIN SOLUTION SPACE

- Not getting significant data from the CSV file provided to make conclusions on good pricing strategy or cost caps.
- Face customer resistance to higher ticket prices.
- Choose the wrong field to reduce costs on that could decrease quality in the services or that could bring greater maintenance or other hidden costs to the overall operation.
- Estimating a non-competitive price for the ticket.



KEY FINDINGS AND RECOMENDATIONS

How we can better price out ticket and what we need to consider

Key Resort Features to Consider for the Modeling

Vertical Drops,
Snow Making Area,
Total Number of Chairs,
Fast Quads,
Runs,
Longest Run,
Trams,
Skiable Terrain Area

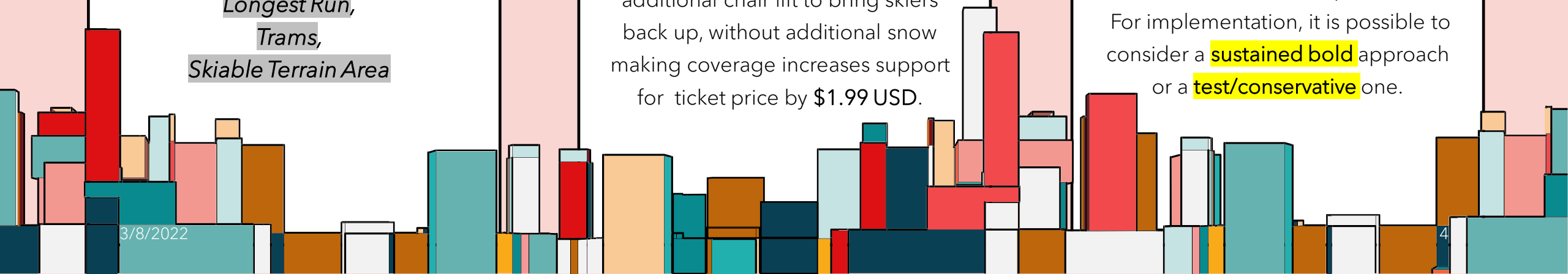
Ticket Price & Best BI Scenario

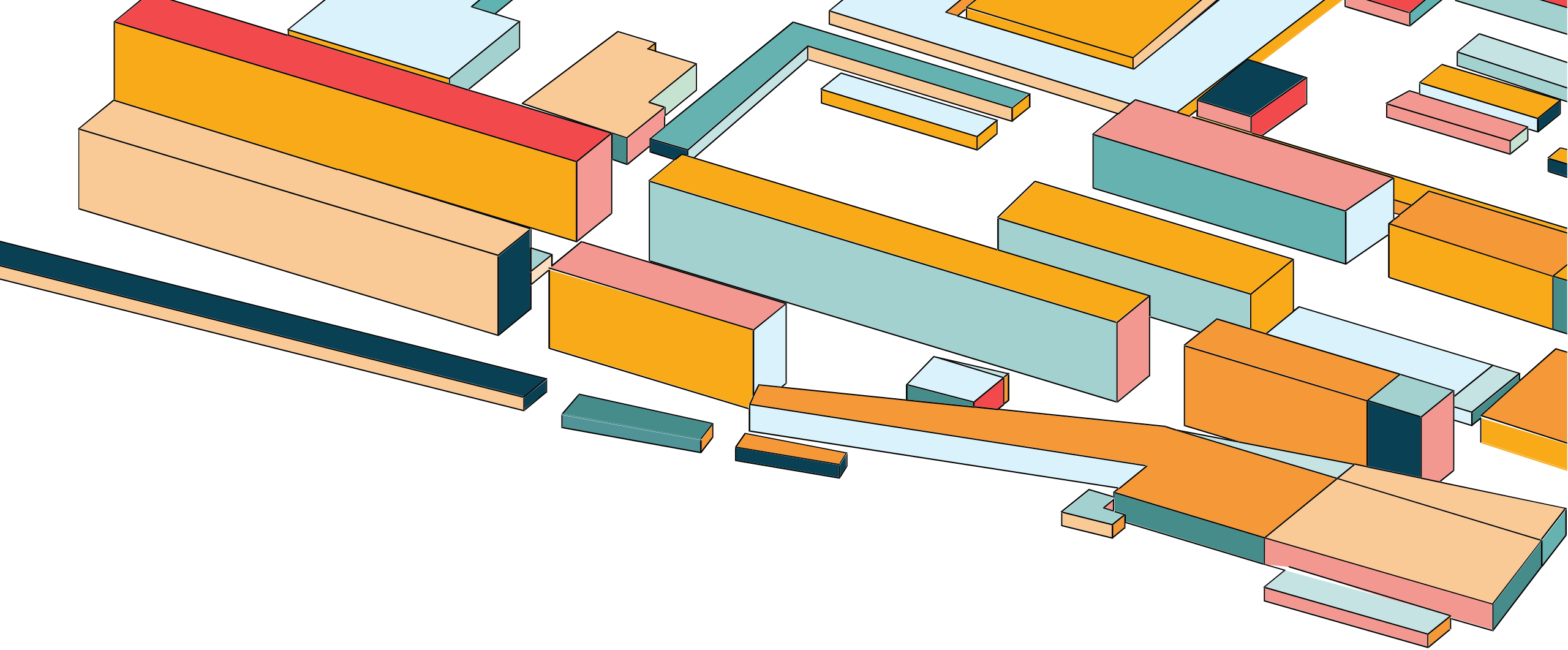
ACTUAL Ticket Price: $81.00
MODELED Ticket Price: $95.87

Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage increases support for ticket price by $1.99 USD.

Recommendations and Considerations

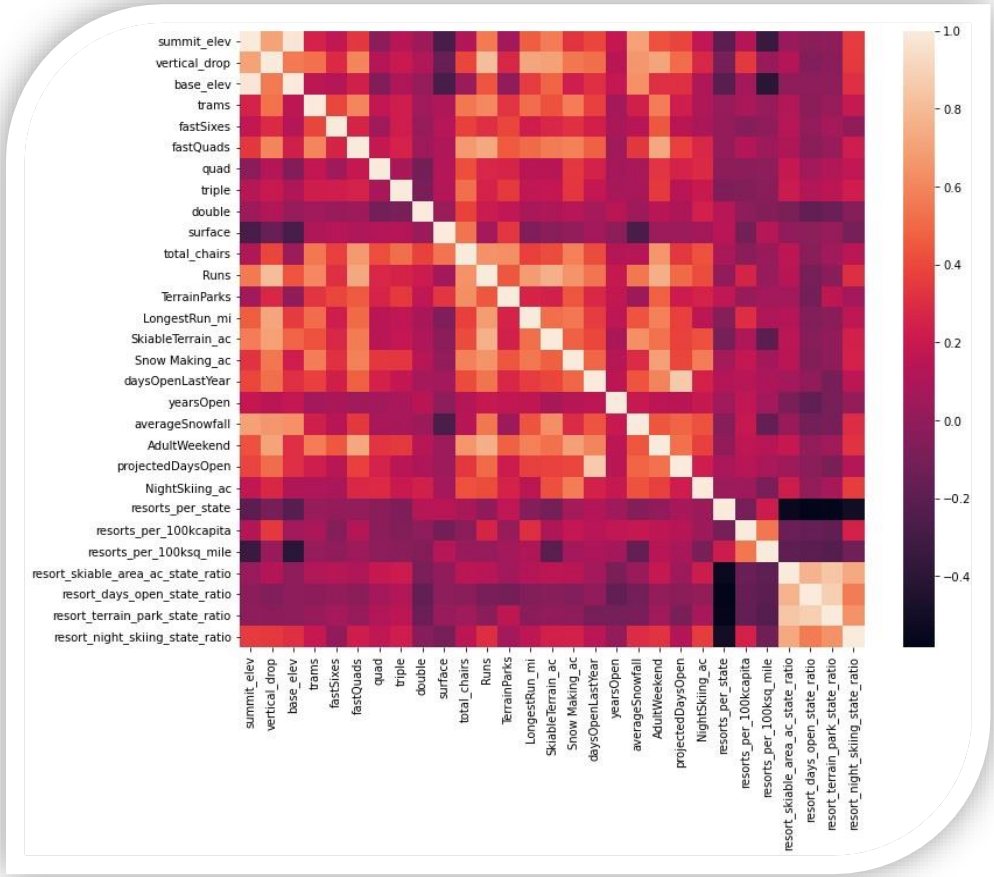
It is feasible to increase the ticket price by almost a 18% more considering that the market is accurate. In that sense, have sufficient evidence that support that BMR can increase its ticket price.
For implementation, it is possible to consider a sustained bold approach or a test/conservative one.



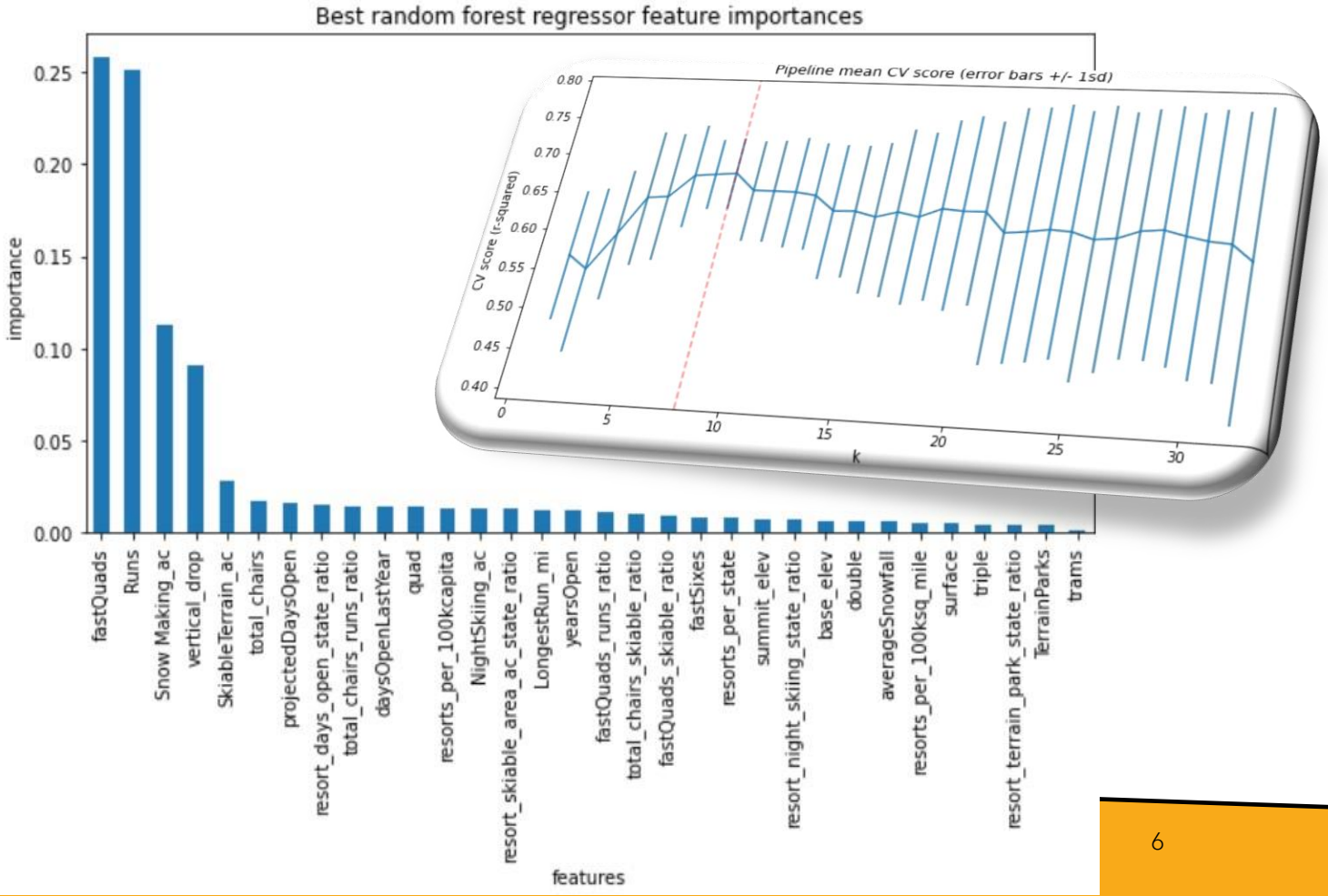


MODELING RESULTS AND ANALYSIS

MOST IMPORTANT FEATURES

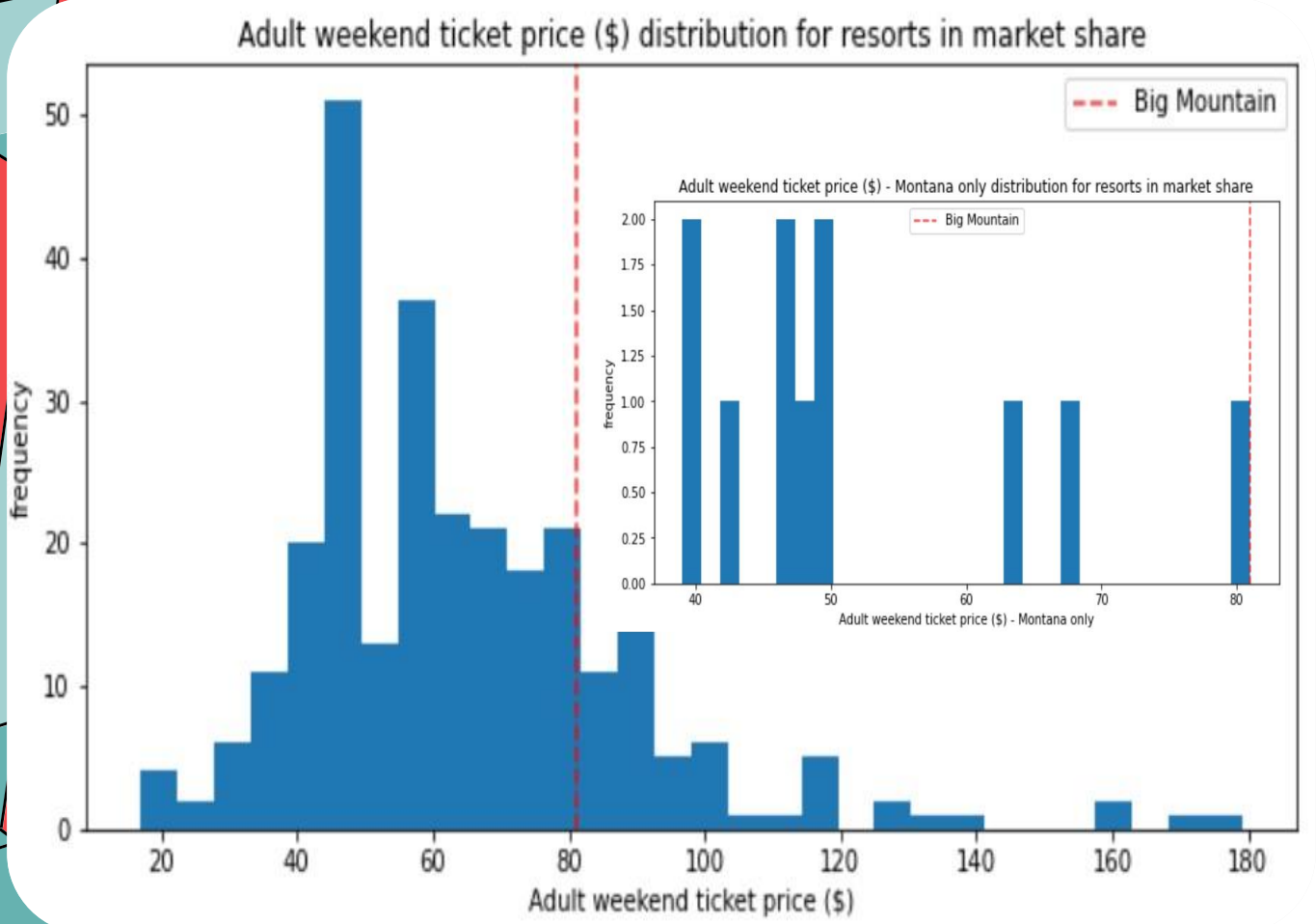


Afterwards, an Estimated Importance Score of the features in the previous step was computed and a further sub-selection of 8 features with the highest-less variable Cross-Validation Scores was made for the modelling.



The most important features to consider were determined by running a correlation matrix with the feature of interest as *Weekend Ticket Price*. The ones that were more correlated were the ones selected as a first step.

ACTUAL TICKET PRICE ANALYSIS



BMR ticket price lies above the mean of the distribution of all resort ticket prices in the US (but not in Montana only…)

Given the uniqueness that BMR shows in some of its features, we can justify why BMR could land more to the right of this distribution like other resorts in the market.

Since BMR seems to be charging that much less that what's predicted suggests our resort might be undercharging. But if ours is mispricing itself, are others? It's reasonable to expect that some resorts will be "overpriced" and some "underpriced." Or if resorts are pretty good at pricing strategies, it could be that our model is simply lacking some key data?

Data to consider for future work:

- Operation costs in BMR
- Operation costs in other resorts (if possible)
- Customer surveys for sentiment analysis or to determine which feature they value the most
- Visitors per resort
- Enough data to consider Weekday Ticket

ANALYSIS OF FEATURE UNIQUENESS

VERTICAL DROP (2400 feet)

BMR is **doing well** for Vertical Drop, but there are still quite a few resorts with a greater drop.

SNOW MAKING AREA (600 acres)

BMR is **very high up the league**, with only a couple of them ranging on the same area and some other greater than that.

TOTAL NUMBER OF CHAIR (14)

BMR has **amongst the highest number** of total Chairs, resorts with more chairs appear to be outliers.

SKIABLE TERRAIN (3000 acres)

BMR is **amongst the resorts with the largest amount** of skiable terrain.

FAST QUADS (3)

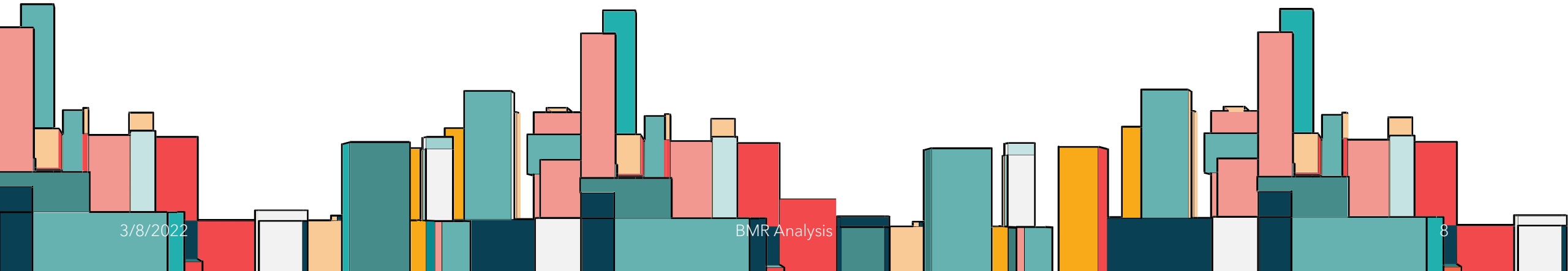
Which puts it **high up that league table**. There are some others with values much higher, but those are rare.

LONGEST RUNS (around 3.3 miles)

BMR has one of the longest ones. Although it is just over half the length of the longest, the longer ones are rare.

RUNS (around 110)

BMR **compares well** in this regard, there are some resorts with more, but not too many



BI SCENARIO SELECTION

All **four scenarios were tested** and modeled with different inputs to estimate the impact on modeled ticket price and revenue based on the changes proposed in each one of them.

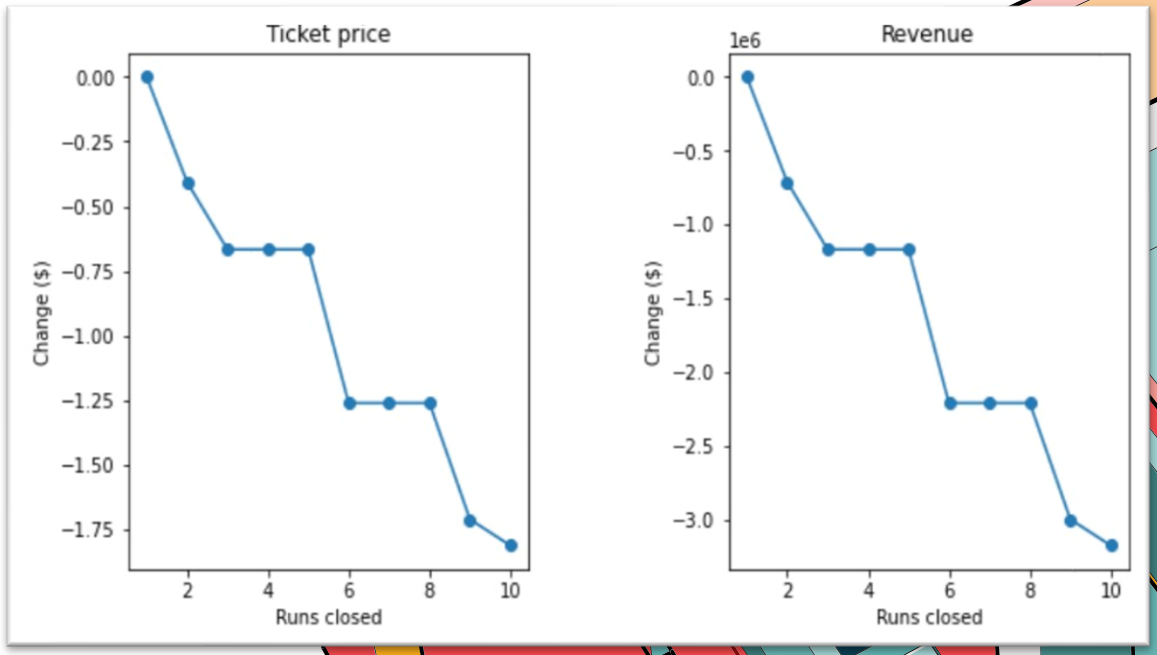
Scenario 2 would be the most feasible option.

Considerations:

$0.88 USD will be used to cover the new lift chair, so it leaves us with **$1.11 USD** supported increase.

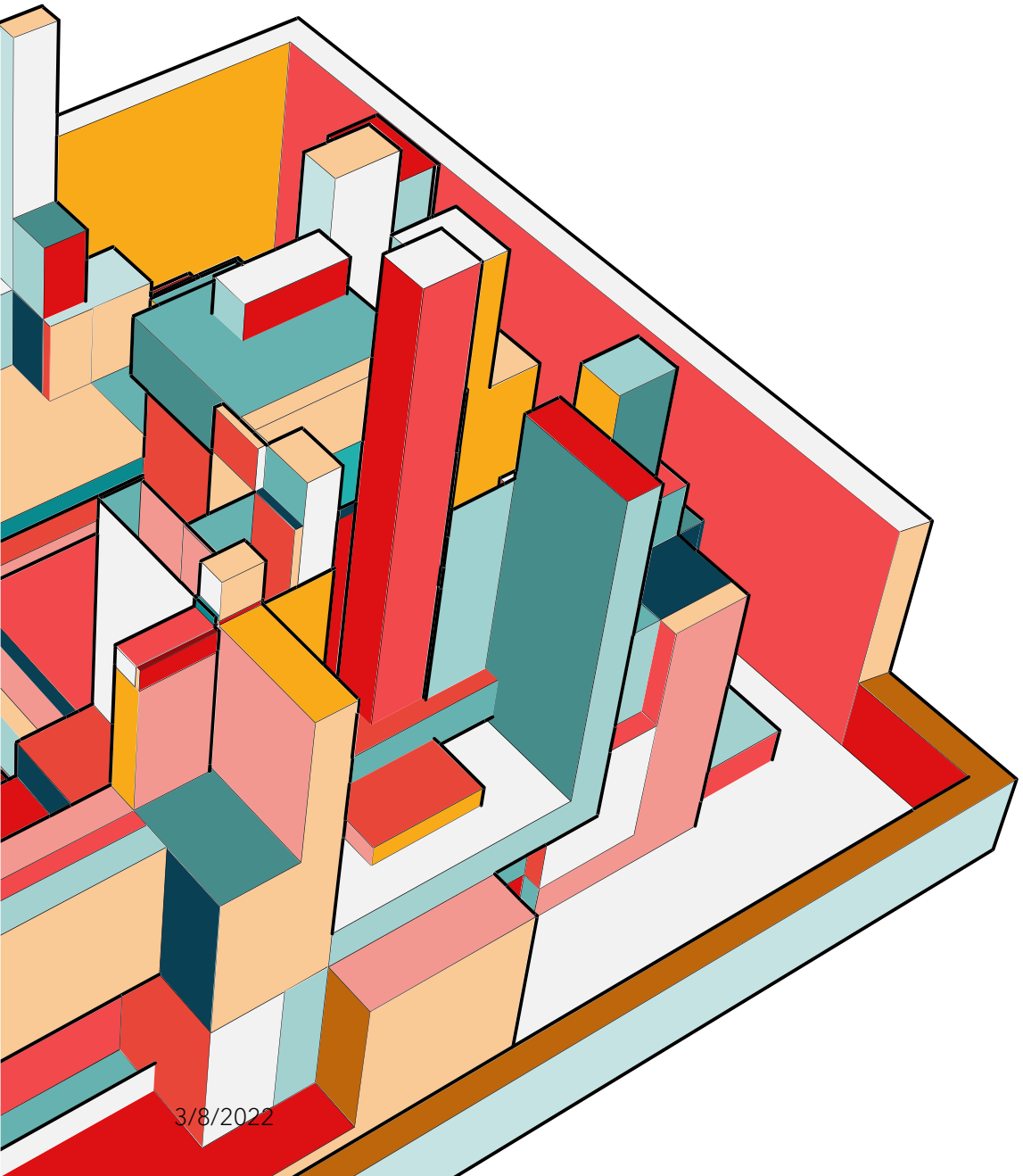
If the second new chair will be as expensive as the first extra one, this will lead us to only **$0.23** supported increase in ticket price

EXAMPLE OF ANALYSIS ON SCENARIO 1



Scenario 1

- One run makes no difference.
- 2 and 3 successively reduces support for ticket price and so revenue.
- 3 runs is the same as closing 4 or 5
- 6 or more leads to a large drop.



SUMMARY

(TWO OPTIONS FOR IMPLEMENTATION)

Option A:

Taken into consideration the assumptions in our model and accepting that error margin, we would recommend putting the ticket price in $95.00 USD (surpassing $96.00 USD is not recommended given the analysis on Scenario 2). For further and better insights, an additional analysis on customer resistance and the second new chair costs it will be worthy to consider.

Option B:

If we only were to consider covering the costs of the new chair and leaving some margin for the second new chair required at Scenario 2, we would recommend putting the ticket price in $87.00 USD as a safe move.

THANK YOU

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