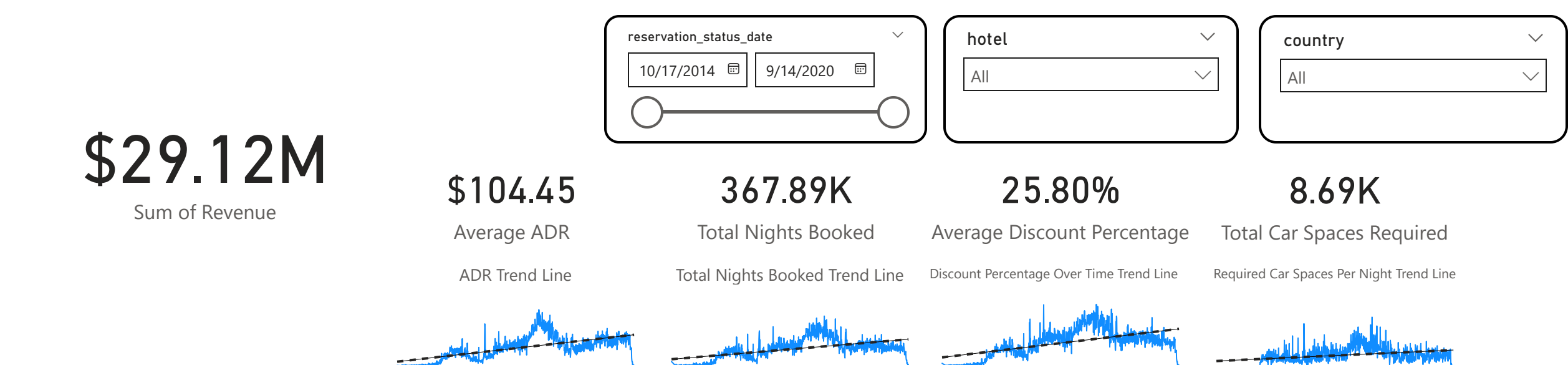


Global Hotel Data Analysis

Insights into guest behavior, seasonal trends, and parking demand across three years of hotel booking data.

Note: This project is a data analysis exercise built using a **fabricated dataset** found on kaggle.com. While the structure and metrics reflect real world hotel operations, the data itself is **synthetic and not sourced from any actual hotel**.

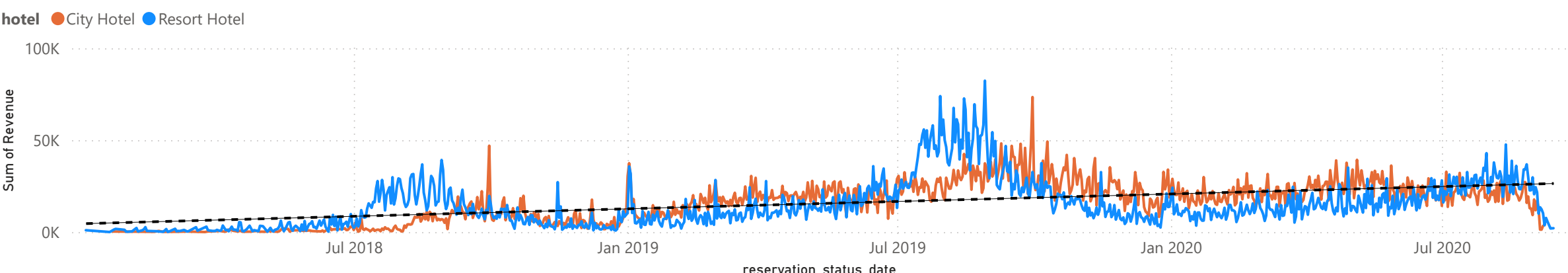
The analysis explores guest trends, seasonality, and operational metrics (e.g. parking demand) using Power BI visualizations, DAX measures, and SQL preprocessing.



Is Our Hotel Revenue Growing by Year?

- **Yes**, the total revenue has increased year over year.
- The line chart visualizes annual revenue growth. We can see that over time, **the daily revenue rate of our hotels is increasing**. This can be easily understood by the trend lines showcased in the 'Revenue by Year' line graph.

Revenue by Year

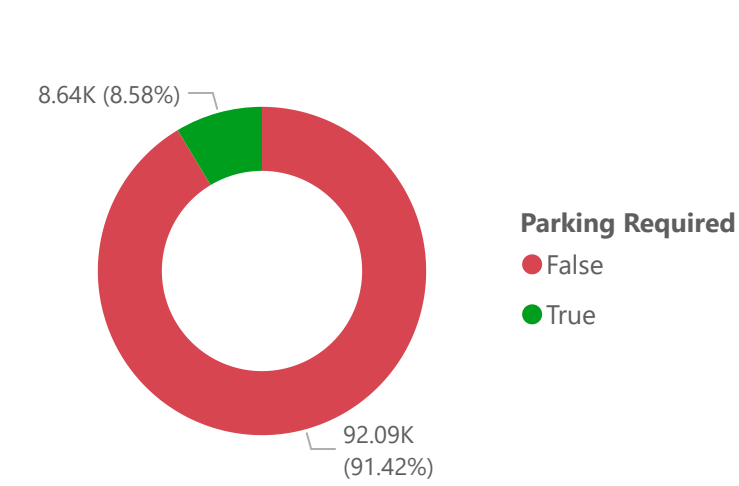


Parking Demand

- In regards to parking demand, we can see that for each year, the percentage of bookings that required parking was **only between 2%-2.5%**.
- In the same vein, regardless of how many nights a guest may stay, we can see that **for each booking there is a 5.8% chance that the booking will require at least one parking spot** for the whole booking.

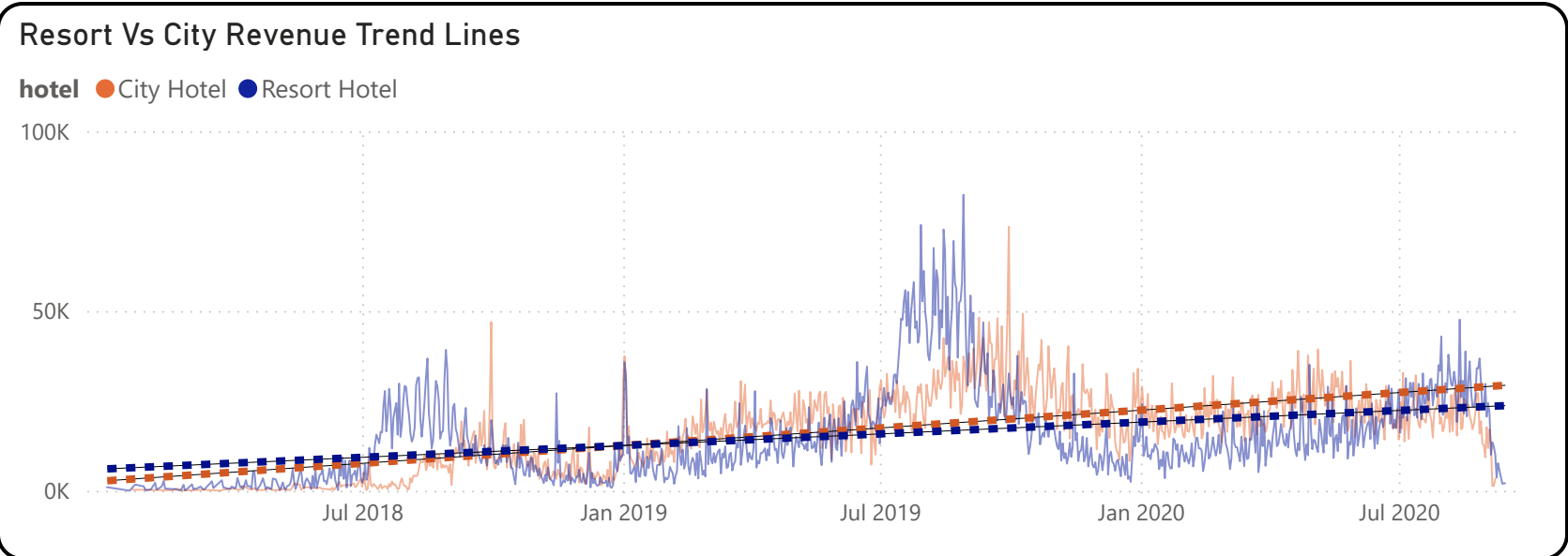
Percentage of Users Using Parking Facilities					
Year	# of Total Required Parking Spaces	# of Bookings Requiring Parking	Total Nights Booked	% of Bookings Requiring Parking	
2018	1,283.00	1279	51,586.00	2.48%	
2019	5,161.00	5144	206,833.00	2.49%	
2020	2,248.00	2217	109,472.00	2.03%	
Total	8,692.00	8640	367,891.00	2.35%	

Percentage of Bookings that Required Parking Spaces (Booking Based Percentage)

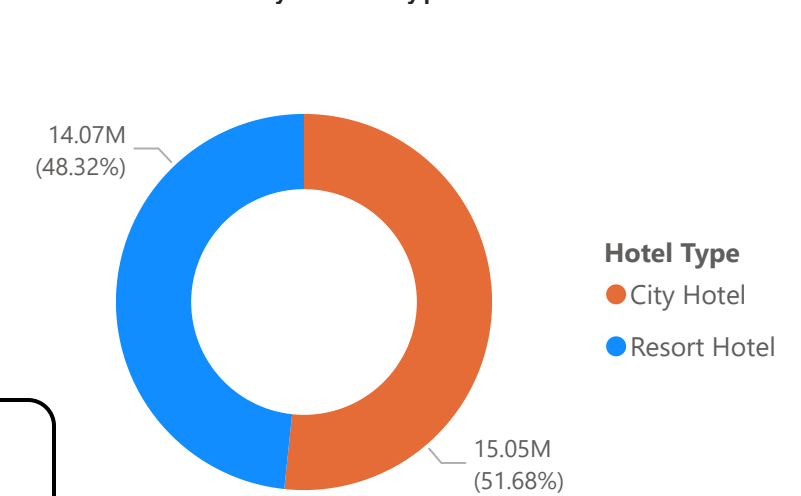


Resort Hotels vs City Hotels

- By checking the lead time for each booking, we can find out that **bookings for resort hotels may have longer average lead times than city hotels**.
- We can also notice that there seems to be a **difference in amount of growth** when it comes to City Hotels vs Resort Hotels, with **City Hotels having a much more notable growth**. As seen on the graph below showcasing trend lines. Note that City Hotels are in orange instead of light blue for the sake of clarity.



Sum of Revenue by Hotel Type



Average Days Booked In Advance for City Hotels

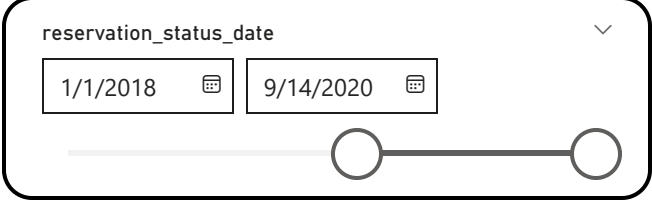
74.36

Average Days Booked In Advance for Resort Hotels

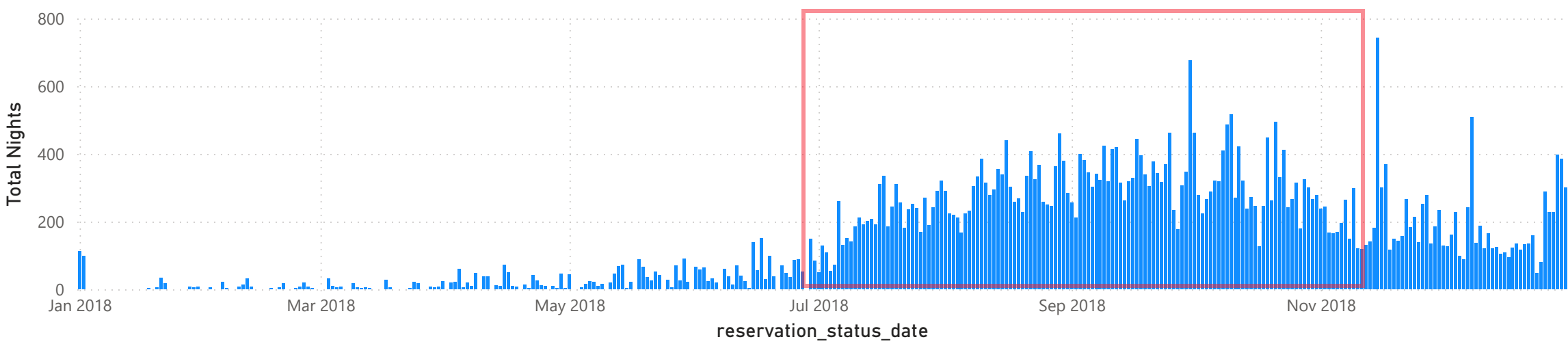
80.96

Monthly Booking Frequency

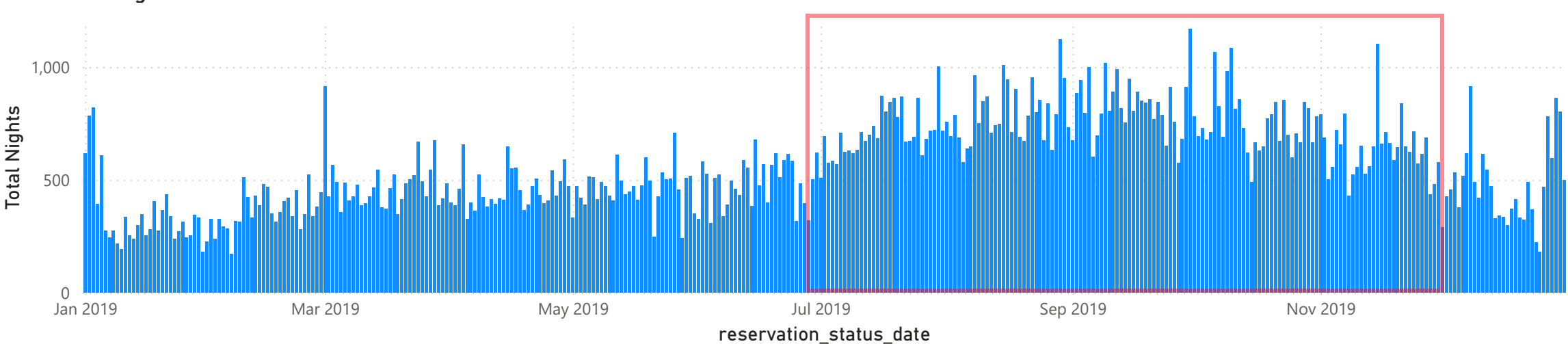
- By using the total nights spent at our hotels along with when that reservation was booked for, we can see that **usually there are much more bookings from July to November** (highlighted in red). It should also be noted that the **data for 2020 is still incomplete**.



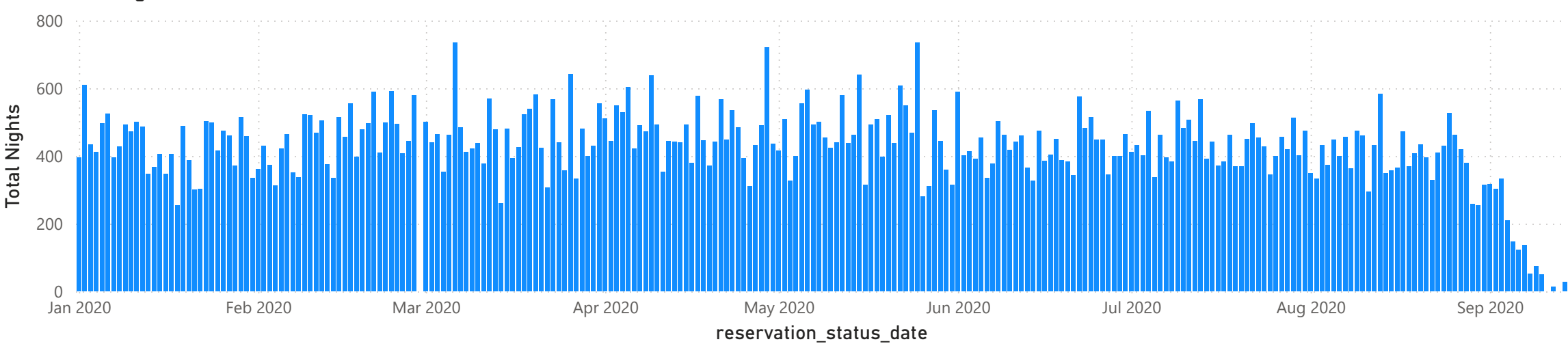
2018 Total Nights



2019 Total Nights

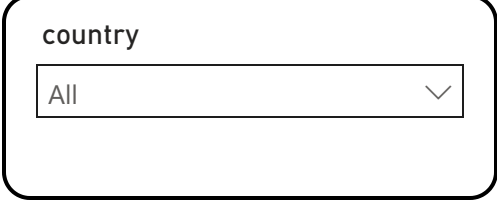


2020 Total Nights



Cancellations

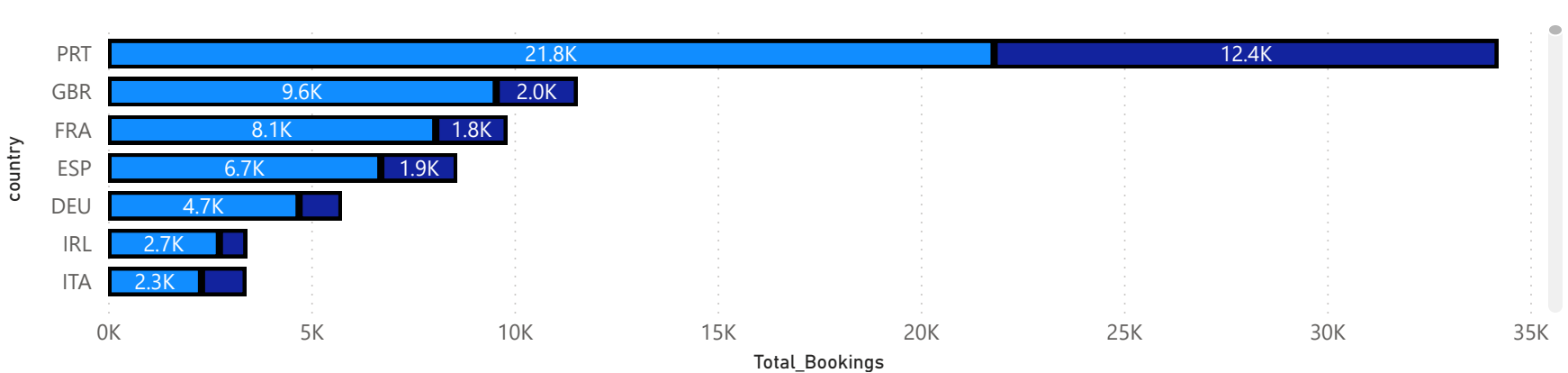
- Bookings made with children or babies as guests seem to have a significant increase in cancellations. However, bookings with children only accounted for ~10% of all bookings.
- The country with the most cancellations is Portugal. It would be worth looking into why this may be the case. Perhaps it could be an issue with payment methods, communication or travel restrictions?
- Portugal also happens to be the country with the highest number of bookings total. However, it's cancellation rate is 36.26%, which is about ~10% higher than the average.



Canceled Bookings Per Country

Is Canceled

FalseTrue



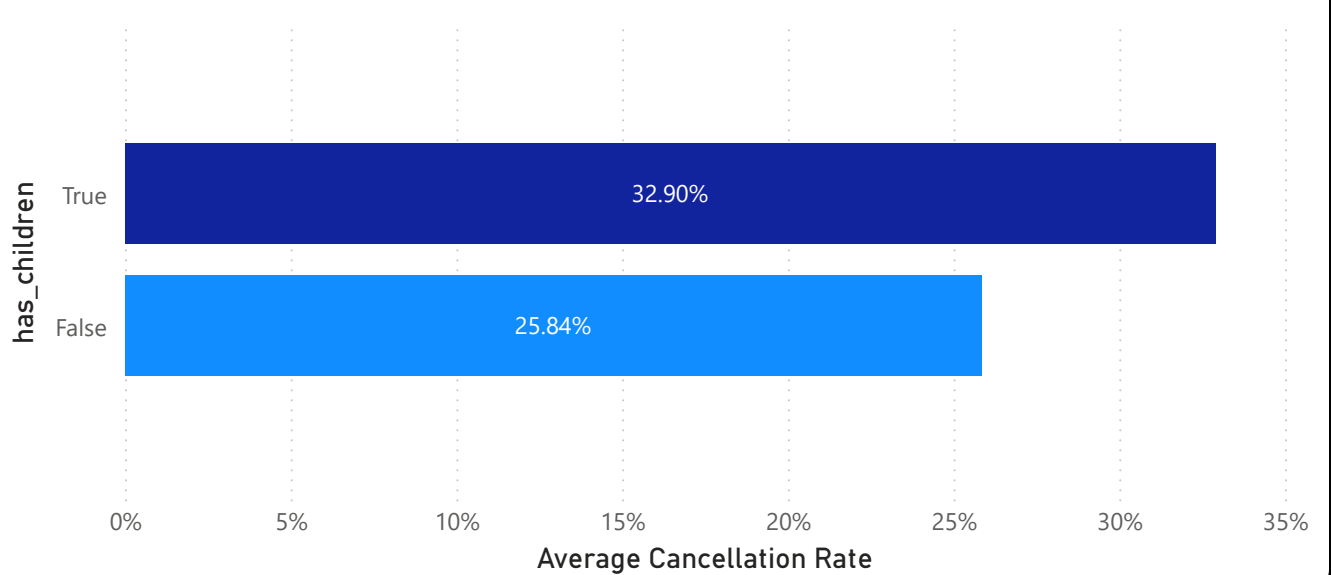
26.56%

Average Cancellation Rate

Average Cancellation Rate Children Vs No Children

has_children

TrueFalse



Total Bookings Children VS No Children

