# Strategic Analysis of Non-Airline Revenue Streams at Denver International Airport: Insights and Projections for 2022

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# Introduction

- **Overview:** Summarize non-airline revenue streams at DEN from 2012-2021
- **Objective:** Analyze trends, seasonality, and forecast revenues for 2022
- **Focus Areas:** Concession sales, parking fees, ground transportation, rental car agencies, and various passenger metrics

| | | |
|---|---|---|
| 01 | Concession Sales: | • Includes retail, food, and beverage sales from airport vendors. |
| 02 | Parking Garage Fees: | • Revenue generated from airport parking facilities. |
| 03 | Ground Transportation: | • Fees from shuttle services, ride-sharing, and taxis. |
| 04 | Rental Car Agencies: | • Rent paid by agencies based on a minimum annual guarantee (MAG). |

# Major Findings

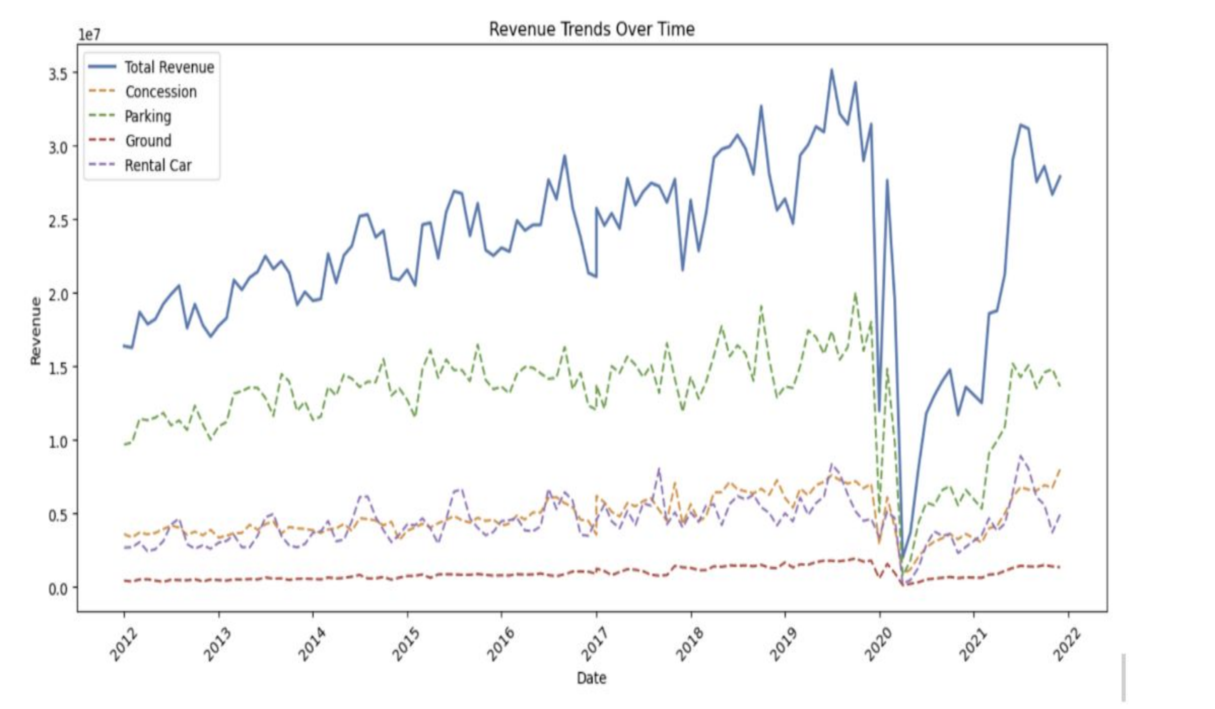
**Long-Term Revenue Trends:**

- **Consistent Growth:** Non-airline revenue increased steadily from 2012 to 2018, demonstrating strong market demand. However, there was a significant decline in 2020 due to the COVID-19 pandemic, highlighting vulnerability to external shocks.

**Seasonal Variations:**

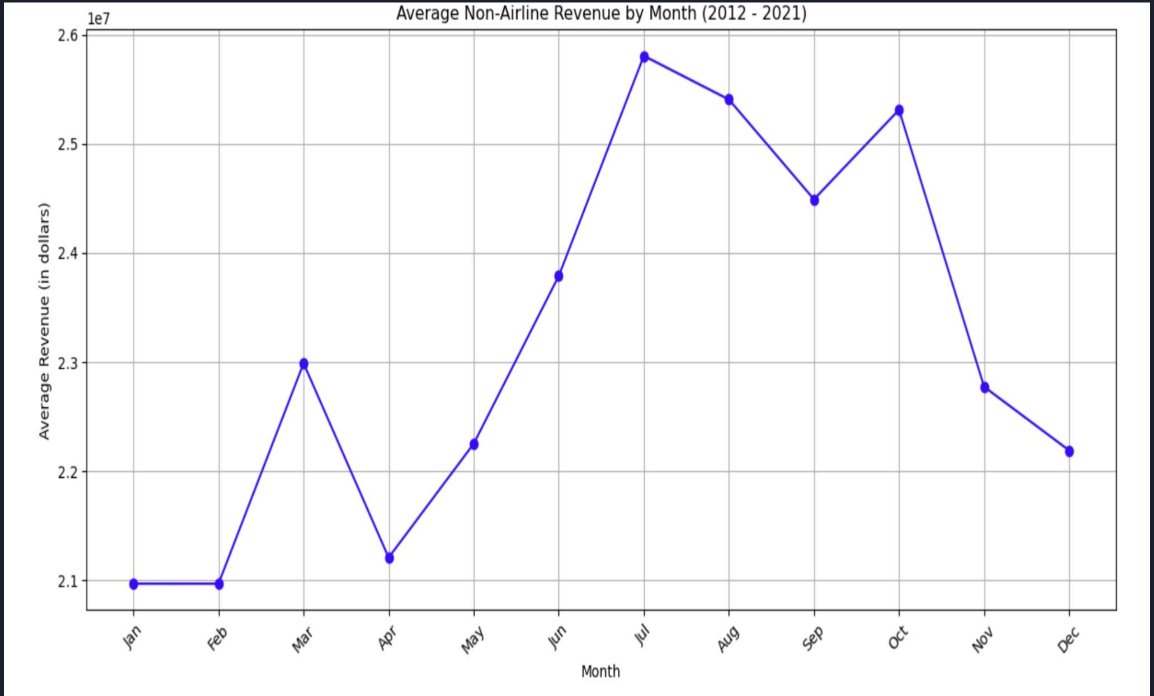
- **High Revenue Seasons:** Peak revenues during summer and holiday seasons, indicating that travel patterns directly influence spending.
- **Low Revenue Periods:** Notable declines in winter months (December to February), suggesting a need for targeted marketing strategies.

# Revenue Trends over Time



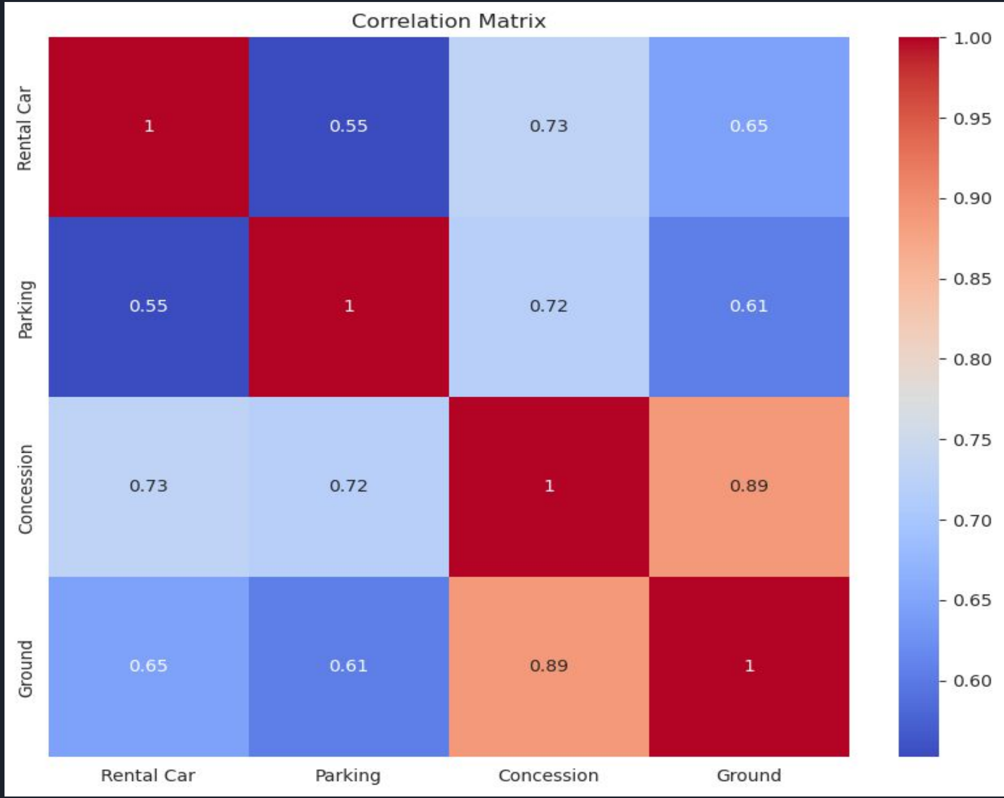

The data shows both a long-term trend (2012-2018) of increasing non-airline revenue and a disruption in 2020, likely due to external factors (pandemic). This suggests that we need to account for external shocks like the COVID-19 pandemic when forecasting future revenues. The overall trend prior to the pandemic is upward, so this could indicate that revenues may continue to recover after the pandemic and return to their previous upward trajectory

# Average Non-Airline Revenue by Month(2012-2021)



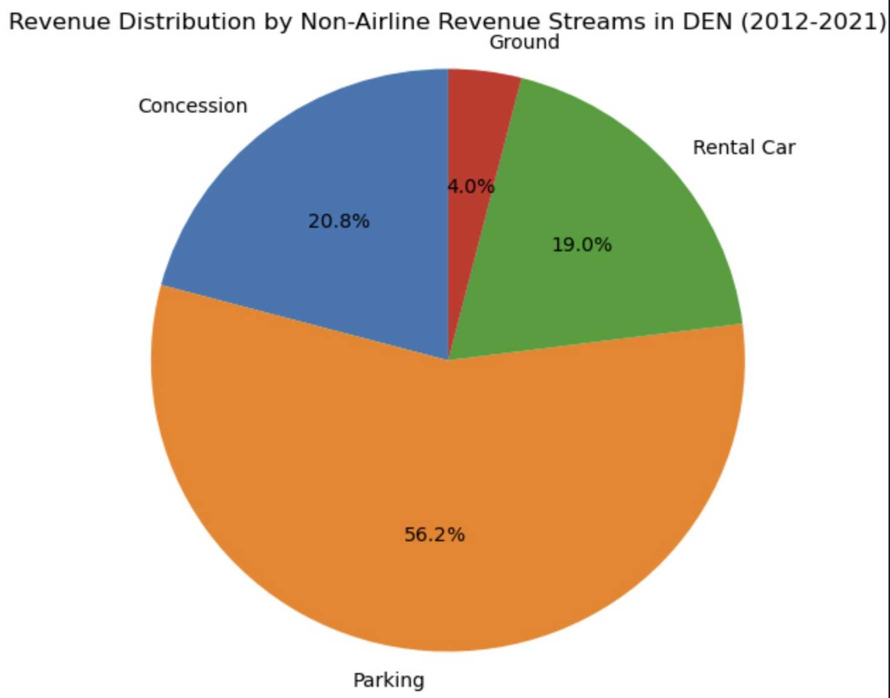

There are clear seasonal patterns in non-airline revenues, with peak periods during the summer months and slight increases during the holiday season (late fall). The winter months (December, February) generally see lower revenues.

# Correlation Matrix- Non Airline Revenue



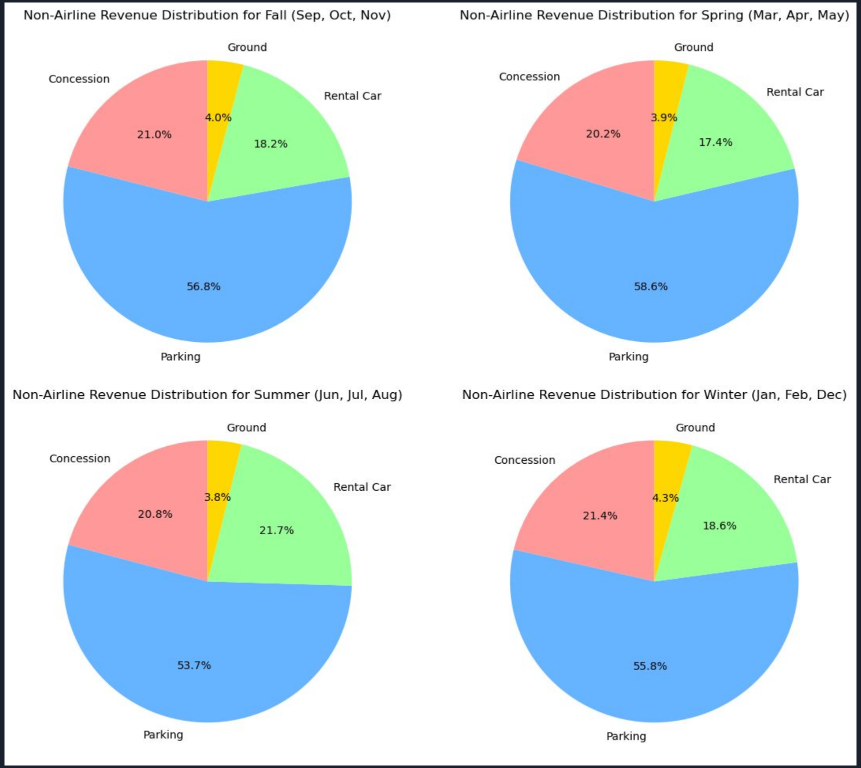

The correlation matrix among non-airline revenue streams at Denver International Airport reveals strong interrelationships, particularly between concession sales and ground transportation revenues, which have an approximate correlation of 89%. This indicates that increases in concession sales are likely to accompany higher ground transportation revenues. Additionally, metrics related to passenger flow, such as enplaned and deplaned passengers, also showed significant correlations with total non-airline revenue, highlighting the interconnected nature of these revenue streams.

# Revenue Distribution of Each Non-Airline Stream from 2012 to 2021



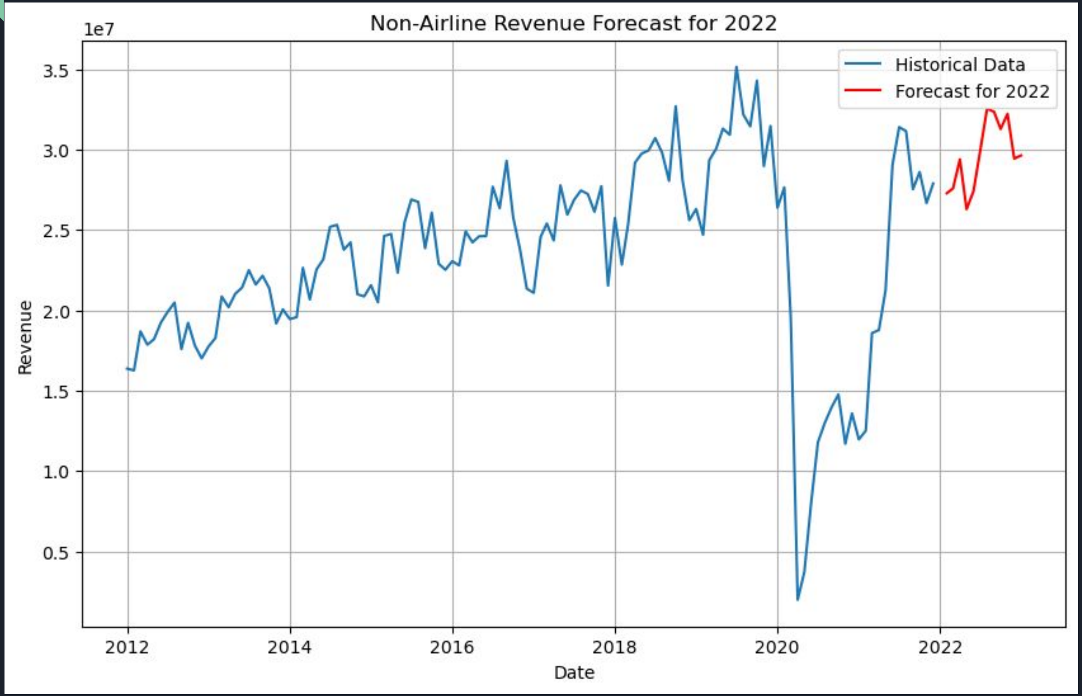

This pie chart depicts the distribution of total revenue by each stream, showing that parking is the largest contributor, accounting for 56.2% of the total non-airline revenue, followed by concessions (20.9%), rental cars (19%), and ground transportation (4%).

# Revenue Distribution of Each Non-Airline Stream by Season from 2012 to 2021




This series of pie charts breaks down the revenue streams by season. The  overall distribution remains consistent, parking contributing the most to the revenue.

# Non-Airline Revenue Forecast for 2022




The line plot presents the monthly revenue predictions for 2022 based on the forecasting model. The forecast anticipates steady growth, aligning with the pre-pandemic trend, though with ongoing recovery from the 2020 disruption.

# Predicted Monthly Total Non- Airline Revenues for 2022

| 2022 Predicted Total Revenue | | | |
|---|---|---|---|
| January | $27,280,204.27 | July | $32,536,429.30 |
| February | $27,581,460.56 | August | $32,352,658.18 |
| March | $29,390,759.74 | September | $31,279,644.42 |
| April | $26,290,939.64 | October | $32,219,835.22 |
| May | $27,405,078.11 | November | $29,437,146.07 |
| June | $29,905,464.97 | December | $29,631,471.61 |

Revenues are forecasted to peak during summer (June–August) and the holiday season (November–December), reflecting high travel periods. The lowest revenues are predicted in January and February, consistent with off-peak seasons. Overall, the forecast suggests a steady recovery from the pandemic, with continued growth throughout the year.

# Recommendations for Actions

**Optimize Revenue Streams:** Focus on enhancing concession offerings and diversifying retail options to attract more travelers, especially during peak travel seasons.

**Targeted Marketing Strategies:** Implement marketing campaigns during identified low-revenue months to boost engagement and spending, particularly in winter months.

**Address Multicollinearity:** Refine the predictive models by addressing the multicollinearity issues among passenger metrics (enplaned, deplaned, originating) to improve reliability and accuracy in forecasting.

**Leverage Passenger Insights:** Utilize insights from passenger traffic metrics to inform strategies for parking and concession services, ensuring alignment with traveler behavior and preferences.

# Thank You!