



# Airports & Flights: An Exploratory Data Analysis



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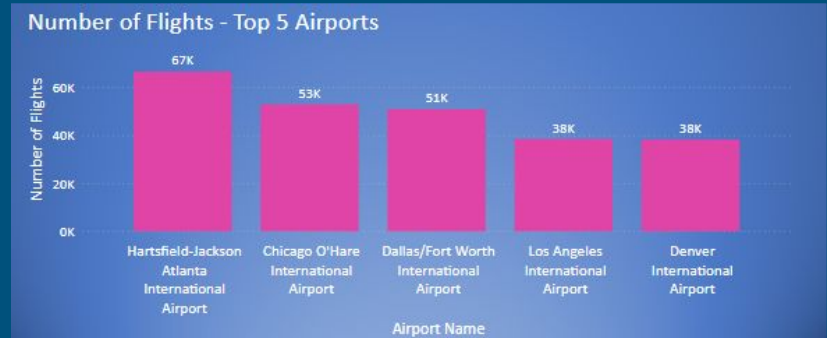
# Dataset

- Includes records for more than 5,000,000 commercial US airline flights in 2015
- Each record represents a single flight, including:
  - airline name
  - flight number
  - origin/destination airport
  - flight distance
  - scheduled/actual departure
  - arrival times
- For this project, a subset of the dataset containing more than 1,000,000 was used
- The dataset was first imported into SQL Server and then connected to Microsoft Power BI for analysis



# Airport Statistics

- Hartsfield-Jackson Atlanta International Airport had the **highest traffic** with a total of 67,000 flights
- LaGuardia Airport had the **highest average Taxi-Out time (AXOT)** with an average of 27.6 minutes
- Miami International Airport had the **highest average Taxi-In time (AXIT)** with an average of 8.1 minutes

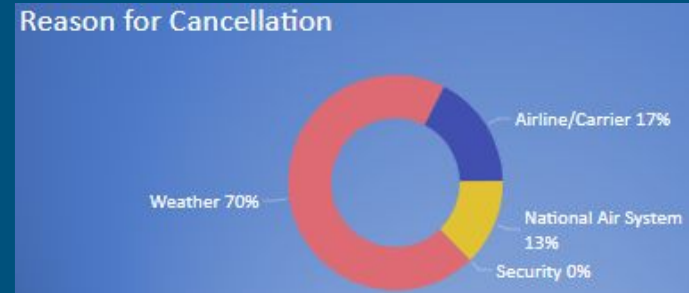
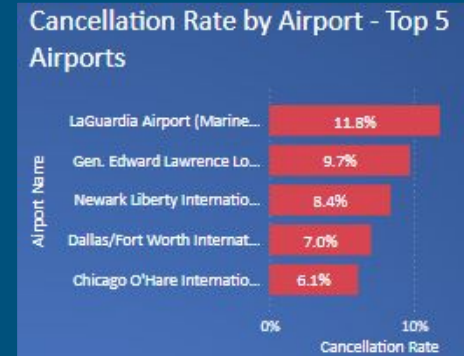


\* Results only for airports with a total number of flights > 10,000



# Flight Cancellations

- 3.9% of flights were **cancelled**
- LaGuardia Airport had the **highest cancellation rate** with a percentage of 11.8%
- Most common **reason for cancellation** was Weather with 70% followed by Airline/Carrier, and National Air System with 17% and 13% respectively



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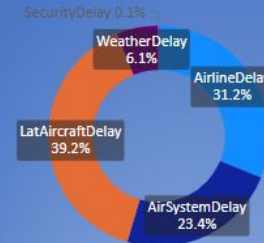


# Departure Delays

- **Average delay time** for a flight was 11.3 minutes
- Chicago O'Hare International Airport had the **highest average departure delay time** with an average of 20.2 minutes
- Most common **reason for departure delay** was the late arrival of the aircraft at the departing airport (LatAircraftDelay) with 39.2%

Origin Airport Name	Average Departure Delay (min)	Total Departure Delay Hours
Chicago O'Hare International Airport	20.2	16,804
John F. Kennedy International Airport (New York International Airport)	19.0	5,598
LaGuardia Airport (Marine Air Terminal)	18.7	5,926
Denver	15.3	9,569
<b>Total</b>	<b>12.1</b>	<b>135,916</b>

Reason for Delay

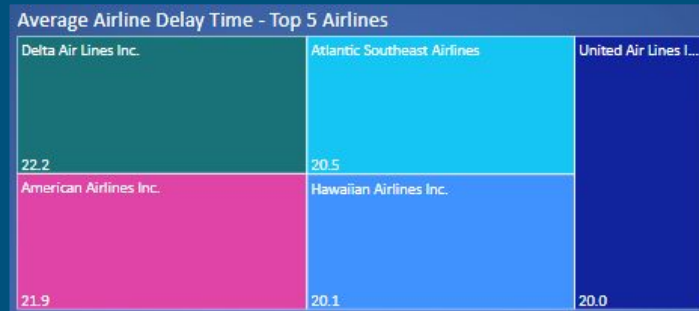


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# Airline Delays & Statistics

- Delta Airlines had the **highest number of flights** with a total of 147,000 flights
- Average airline delay time** was 18.2 minutes
- Delta Air Lines had the **highest average airline delay time** with an average of 22.2 minutes





# Air Time & Distance Statistics

- **Average air time** of a flight was 113 minutes
- **Average distance** of a flight was 803 miles
- Virgin America had the **highest average air time** with an average of 185 minutes and the **highest average distance** with an average of 1429 miles

