Predicting Holiday Flight Delays

KRYSTIAN DENNIS

Agenda

Background

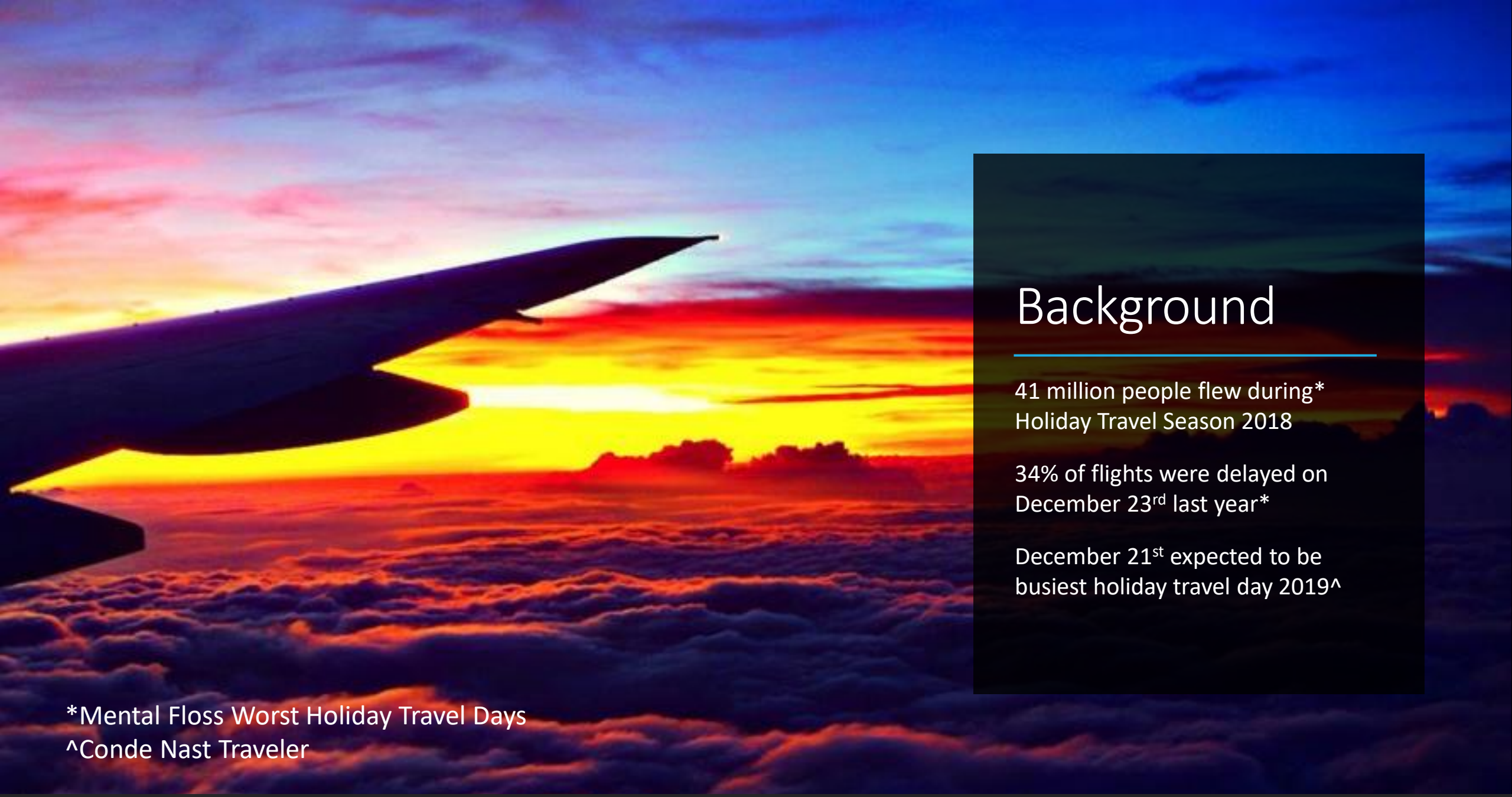
Objective

Data

Predicting Flight Delays

Findings

Future Work



Background

41 million people flew during* Holiday Travel Season 2018

34% of flights were delayed on December 23rd last year*

December 21st expected to be busiest holiday travel day 2019^

*Mental Floss Worst Holiday Travel Days
^Conde Nast Traveler

Objective

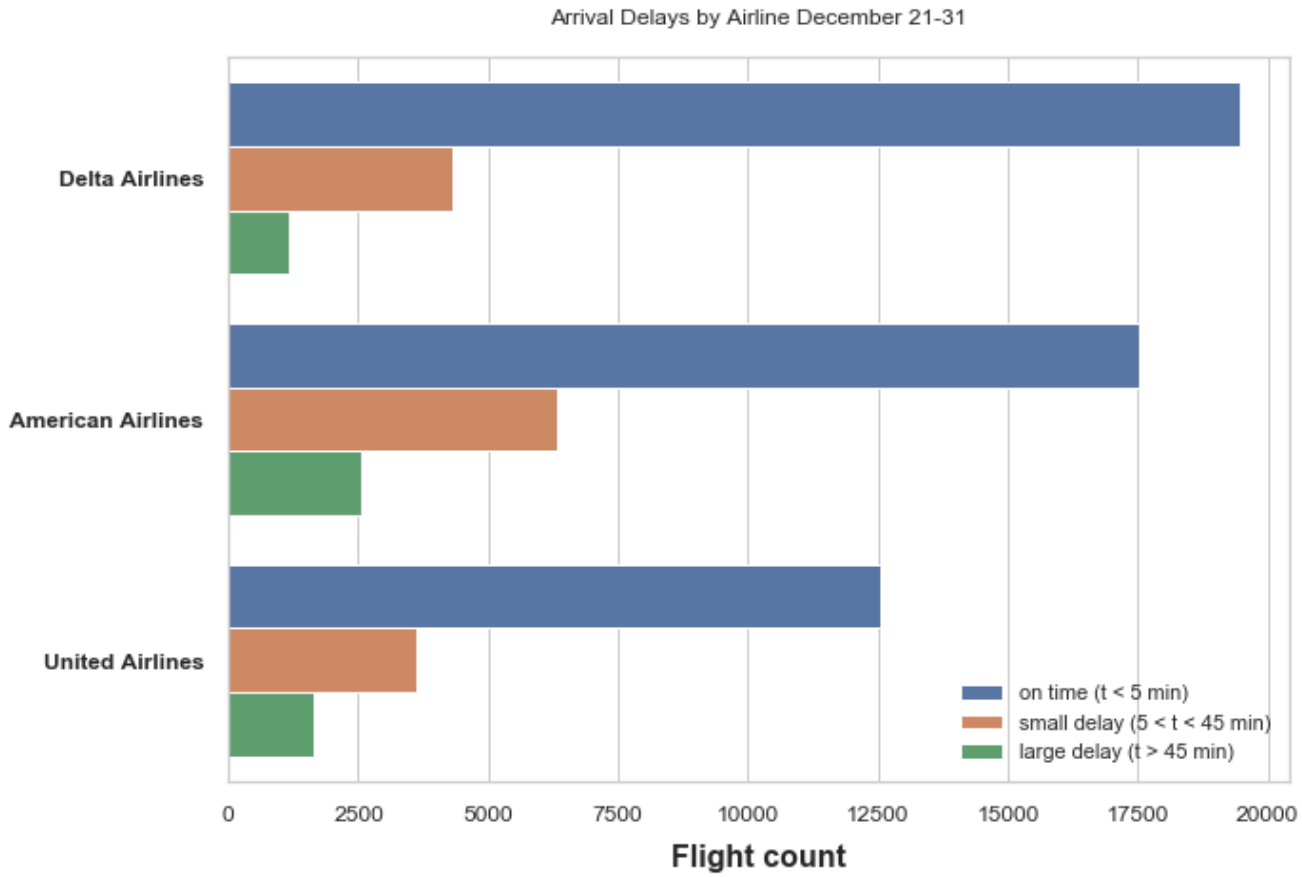
PREDICT WHETHER A FLIGHT WILL BE DELAYED DURING THE HOLIDAY TRAVEL SEASON.

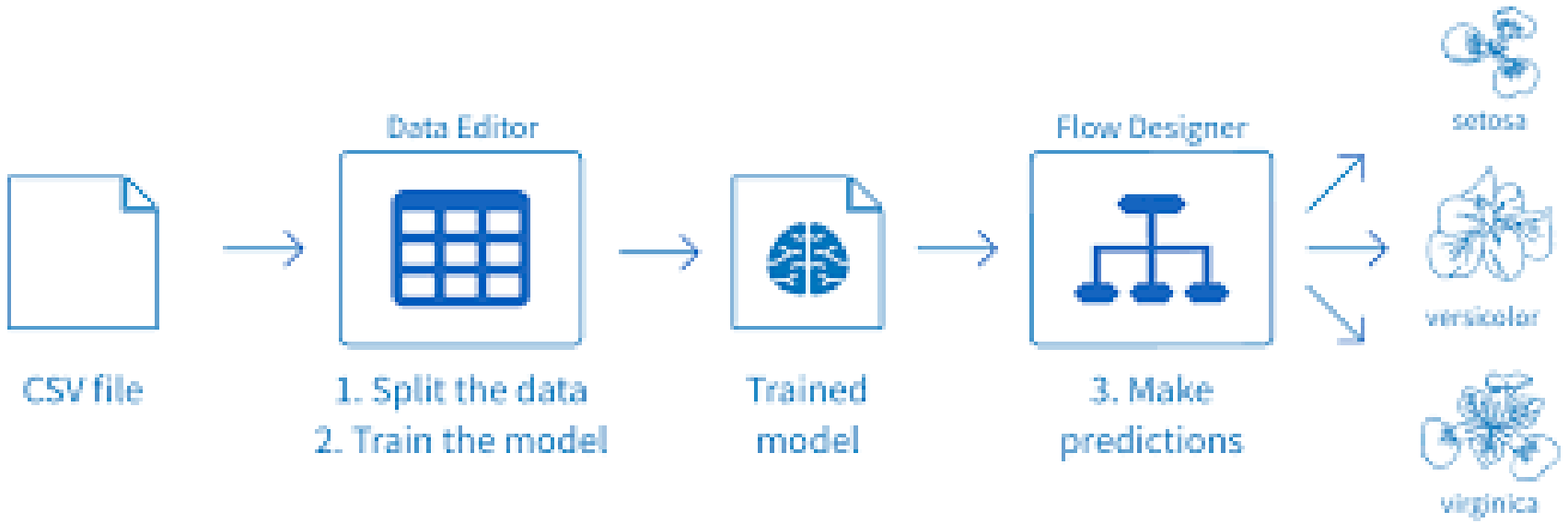
Data

Kaggle Dataset	7 million records of domestic flight delay statistics for 2018 Gathered from Bureau of Transportation Statistics
Top 3 Domestic Airlines*	Delta Airlines United Airlines American Airlines
Holiday Travel Season	December 21-31

*ranked by the International Air Transport Association revenue passenger-kilometers

Arrival Delays During Holiday Travel Season 2018





Predicting Flight Delay

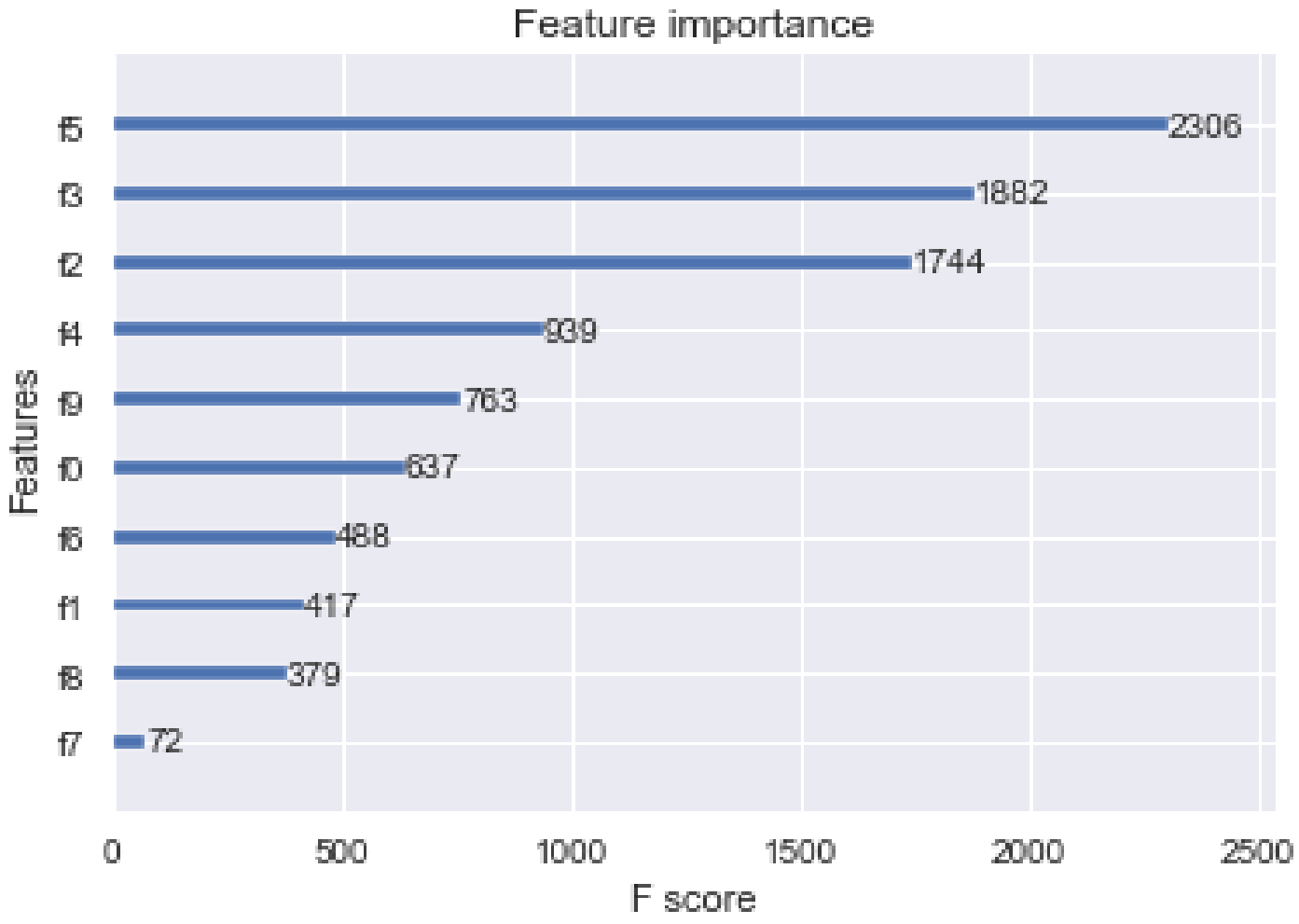
Classification Model

- Predict whether a flight will be delayed
- 93.7% accuracy

Findings

Top 5 Most Important Features

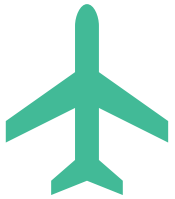
- Distance
- Destination
- Origin
- Departure Delay
- Arrival Time



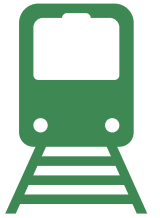
Future Work

Determine which days are best for holiday travel

Study how time of departure impacts delays



Find which airports are best for avoiding delays

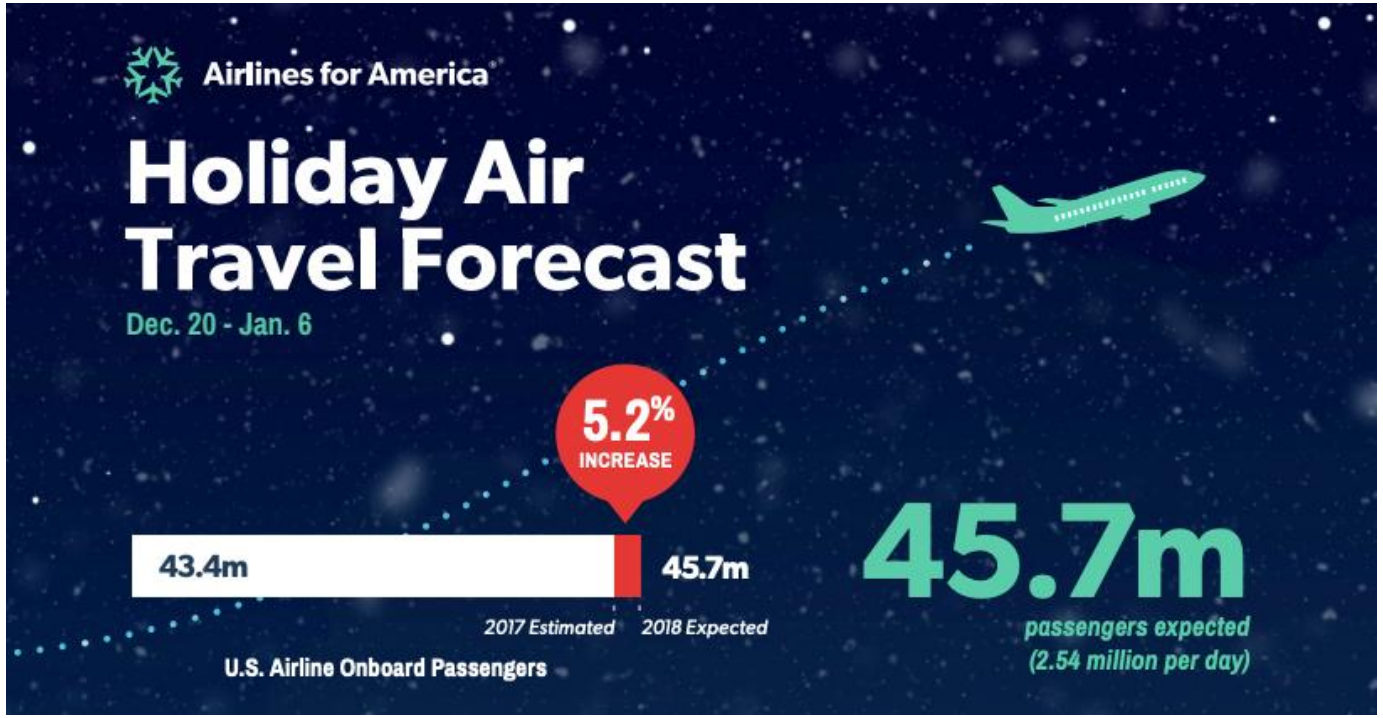


See how distance impacts delays

Thank
you

Appendix

A4A Holiday Air Forecast 2018



Mental Floss Worst Holiday Travel Days

Conde Nast Traveler

These Are the Busiest Days for Holiday Travel This Year

https://www.cntraveler.com/story/these-are-the-busiest-days-for-holiday-travel-this-year?utm_source=nl&utm_brand=cnt&utm_mailing=CNT_Daily_PM_110519&utm_campaign=aud-dev&utm_medium=email&bxid=5bda451f3f92a40f7d4f609d&cndid=10799541&hasha=ab1a9602f106357125fad9b3d8b1ffe6&hashb=1609645c4a77e5036c1e6a36d81510b0cd033314&hashc=0c75784d8536eb549117cfdf19ffa9aa9b961a504c0e1c277ccf0be095c40788&esrc=ETL_BATCH&utm_term=CNT_Daily