

AVIATION DELAYS

Tim Rosado – August 2023



Tim Rosado

- Data Analyst
 - Interests: Public Policy, Business, Science, Innovation
 - Federal retiree
 - www.linkedin.com/in/timrosado
-

Discussion Outline



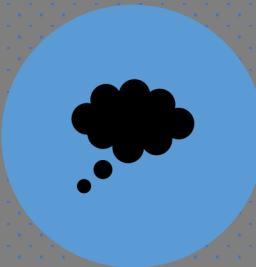
PROJECT
SUMMARY



CONCLUSIONS



TRENDS,
FORECAST



SOME THINGS
TO CONSIDER



The Project : Aviation Delays

Scope:

- Consumer perspective
 - Delays, not cancelations
 - Departure delays only
 - Bottom line data, not delay causes
-

The Data: Federal/BTS Delay Dataset

- Full BTS dataset: ~200M records 1987-2020
- Working dataset: ~2M BTS-generated sample
- My focus: a subset of the BTS sample ~500K –
10 years (2010-2020) and select airlines.

What is a Departure Delay?

- Time between scheduled departure and when an aircraft leaves a gate (i.e., the aircraft parking brake is released.)
 - Taxi time out to “wheels up” is recorded separately.
-



Overall Conclusion:

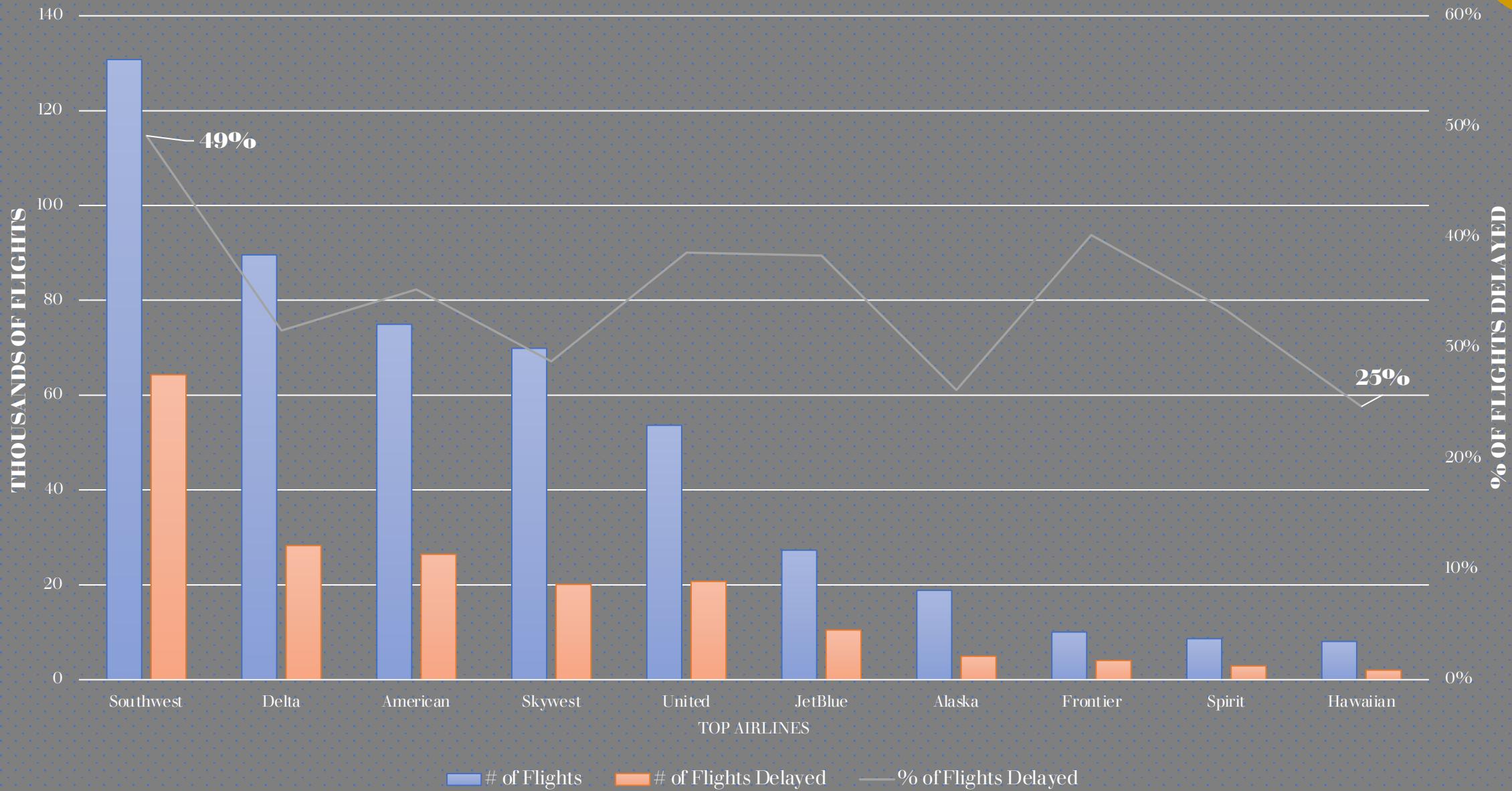
Departure delays, while sometimes annoying, perhaps impactful, ...

...are maybe not that bad.

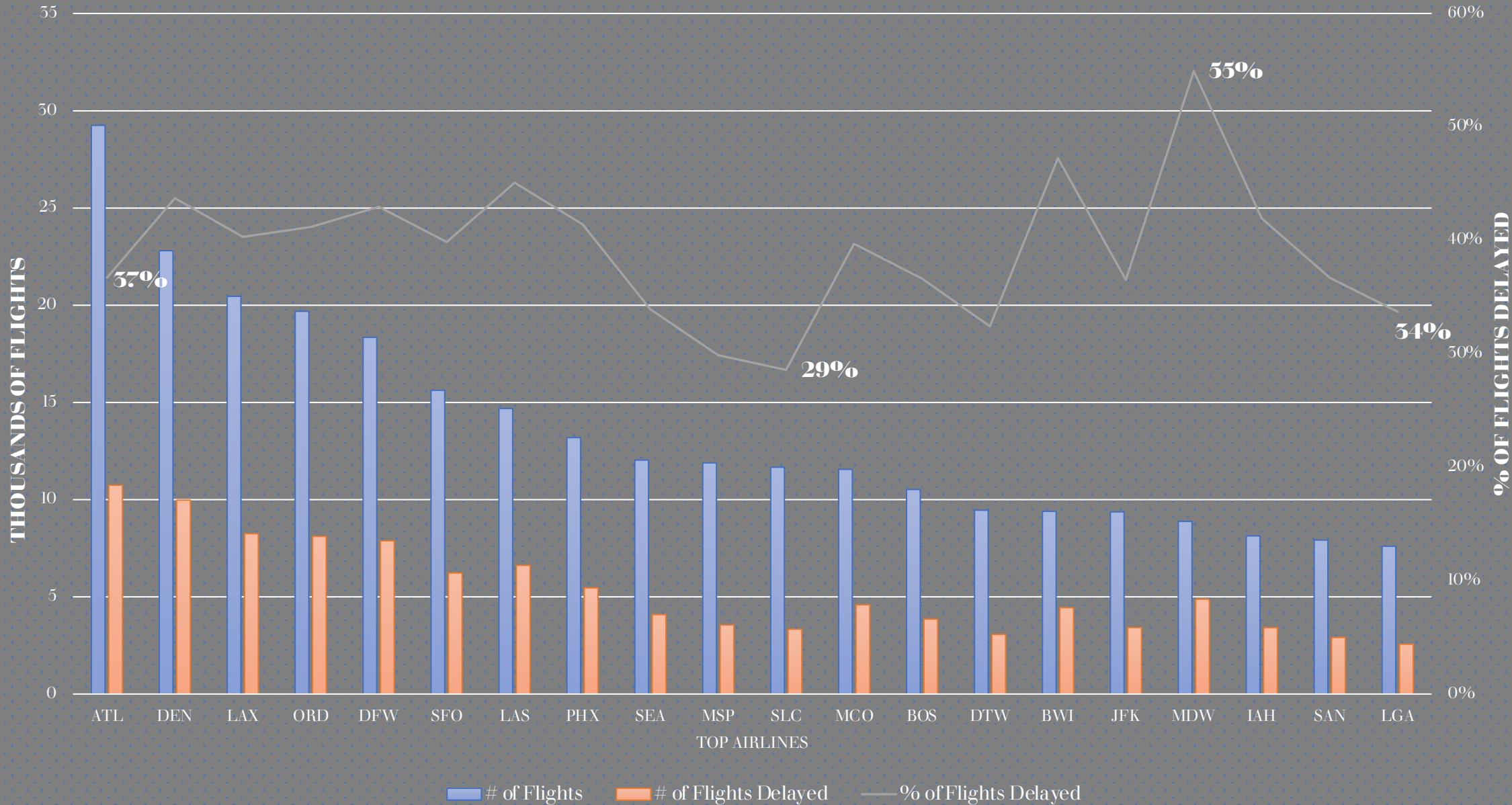




Percentage of Flights Delayed - Airlines



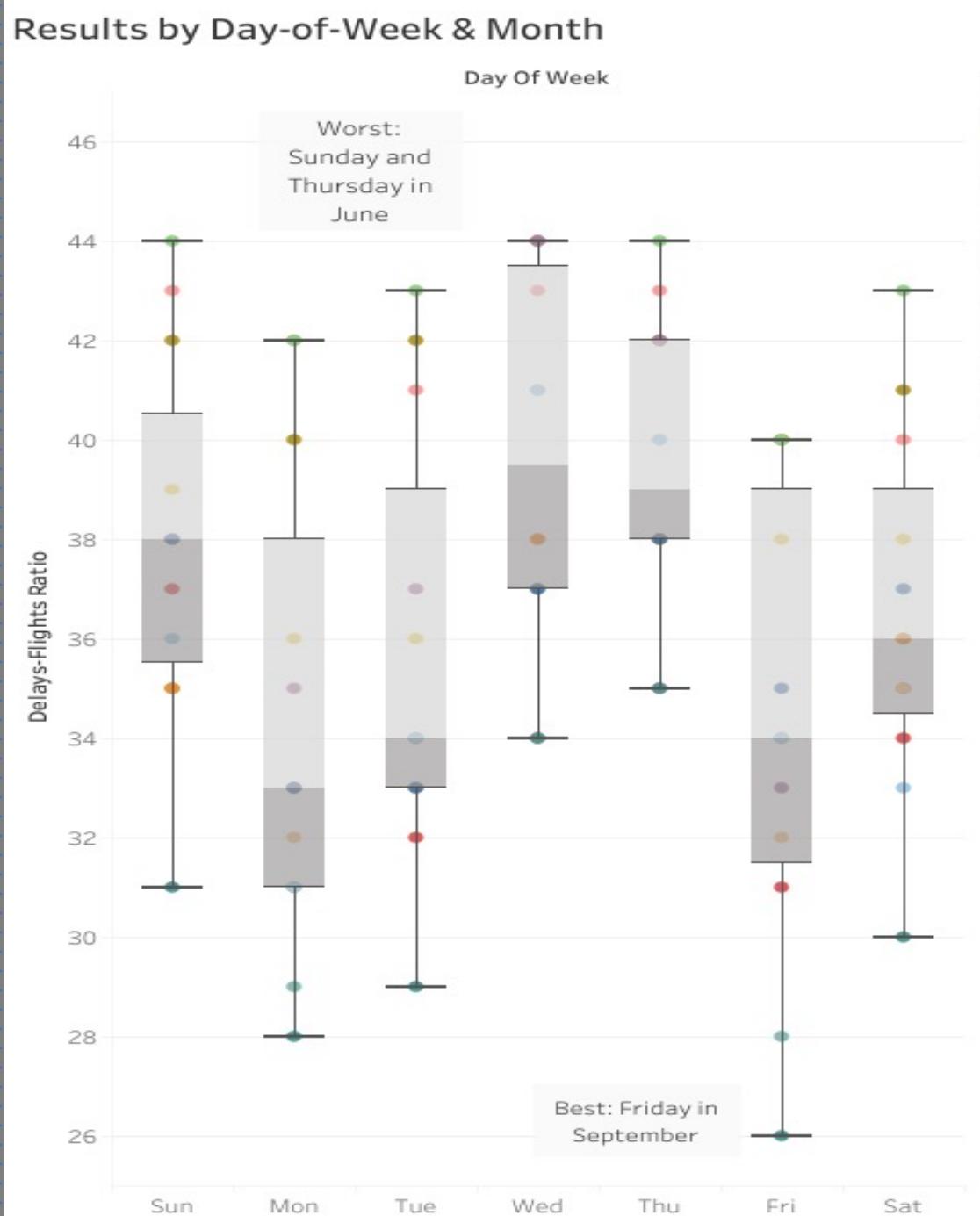
Percentage of Flights Delayed - Airports



Chances of encountering a delay:

avoid Sundays & Thursdays in June, Wednesdays in May...

...and consider traveling Mondays & Fridays in September.



Average Delay by Month

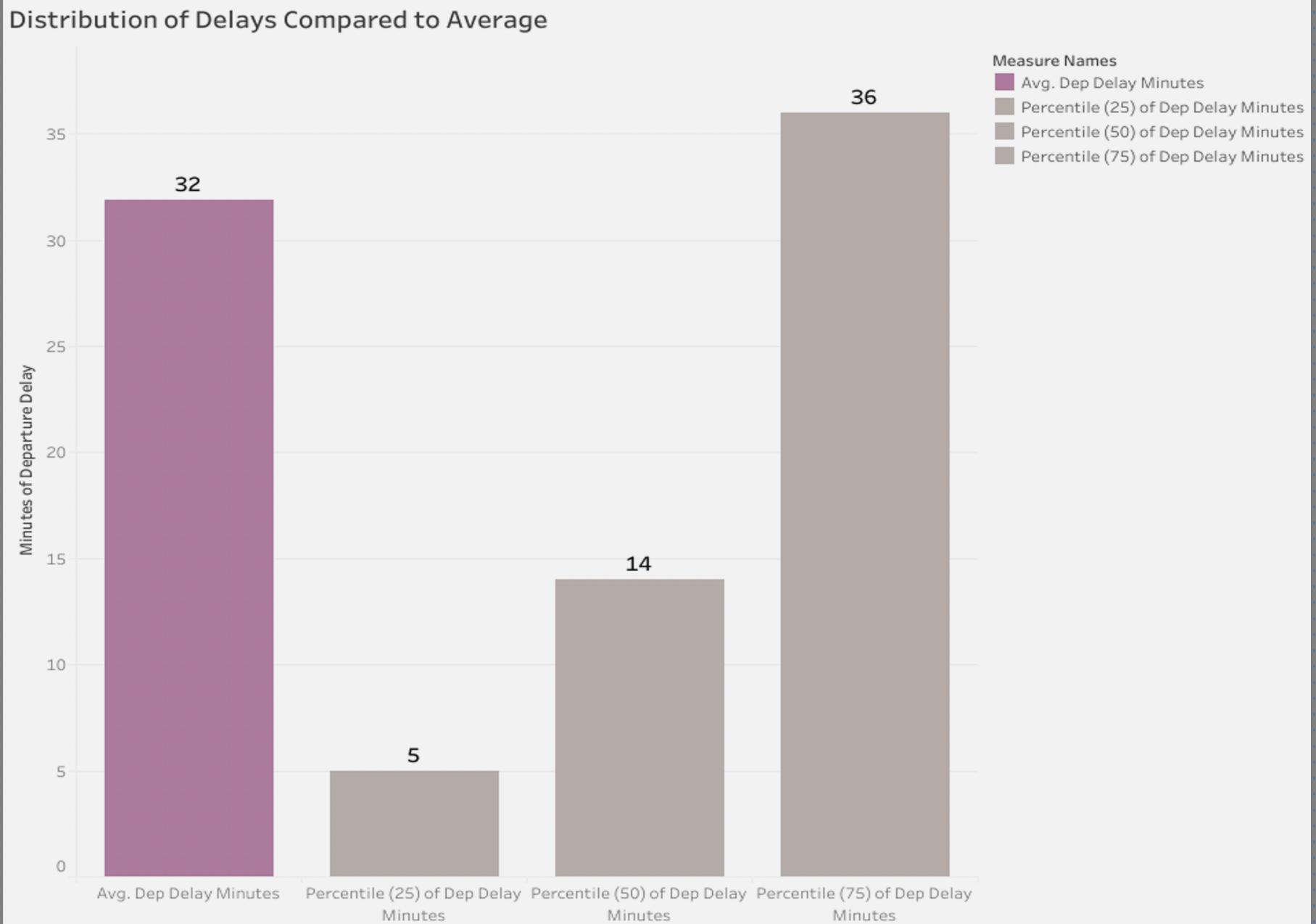


Average Delays by Day-of-Week

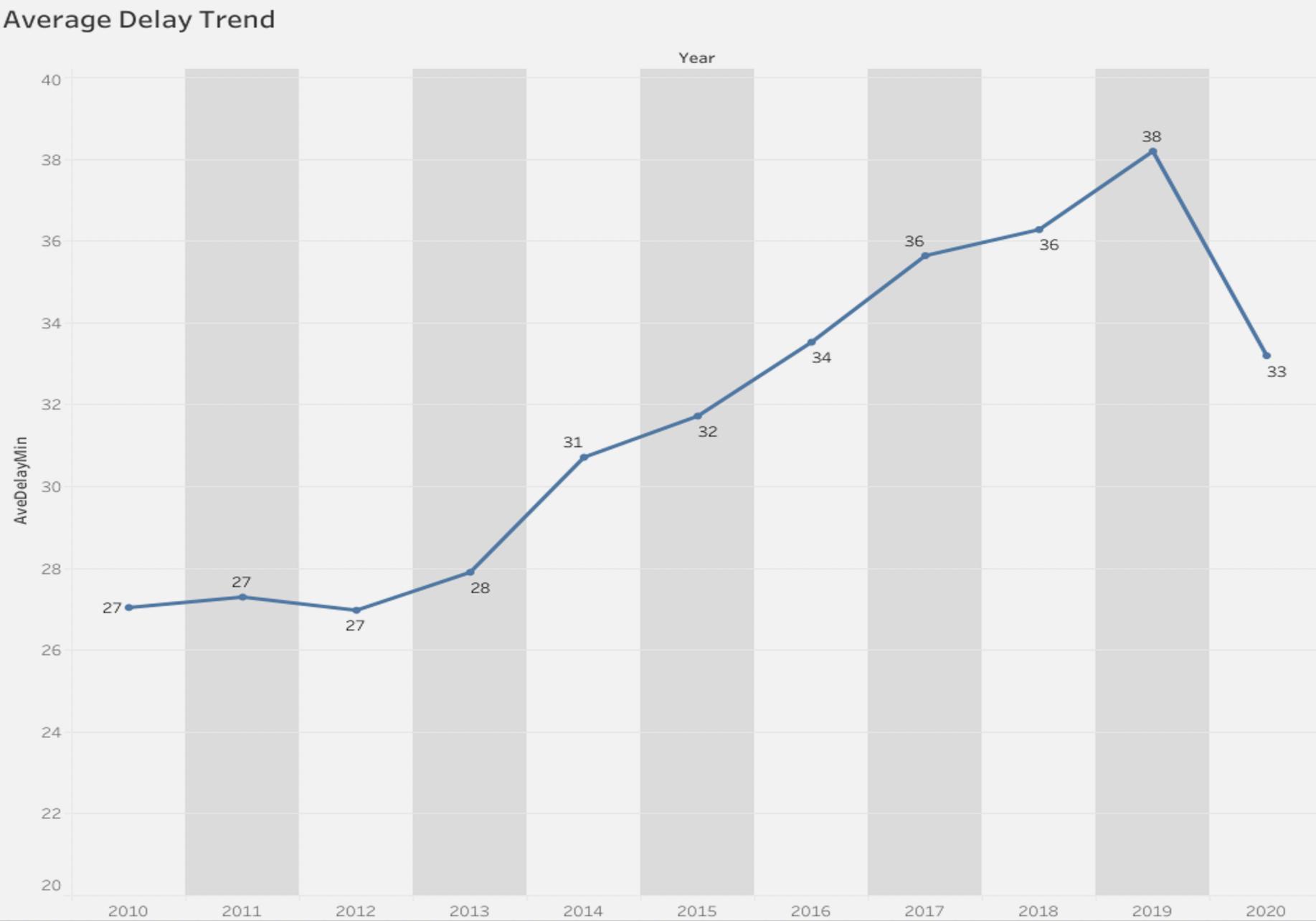


Not a wide distribution of the average delay value by month and day of week.

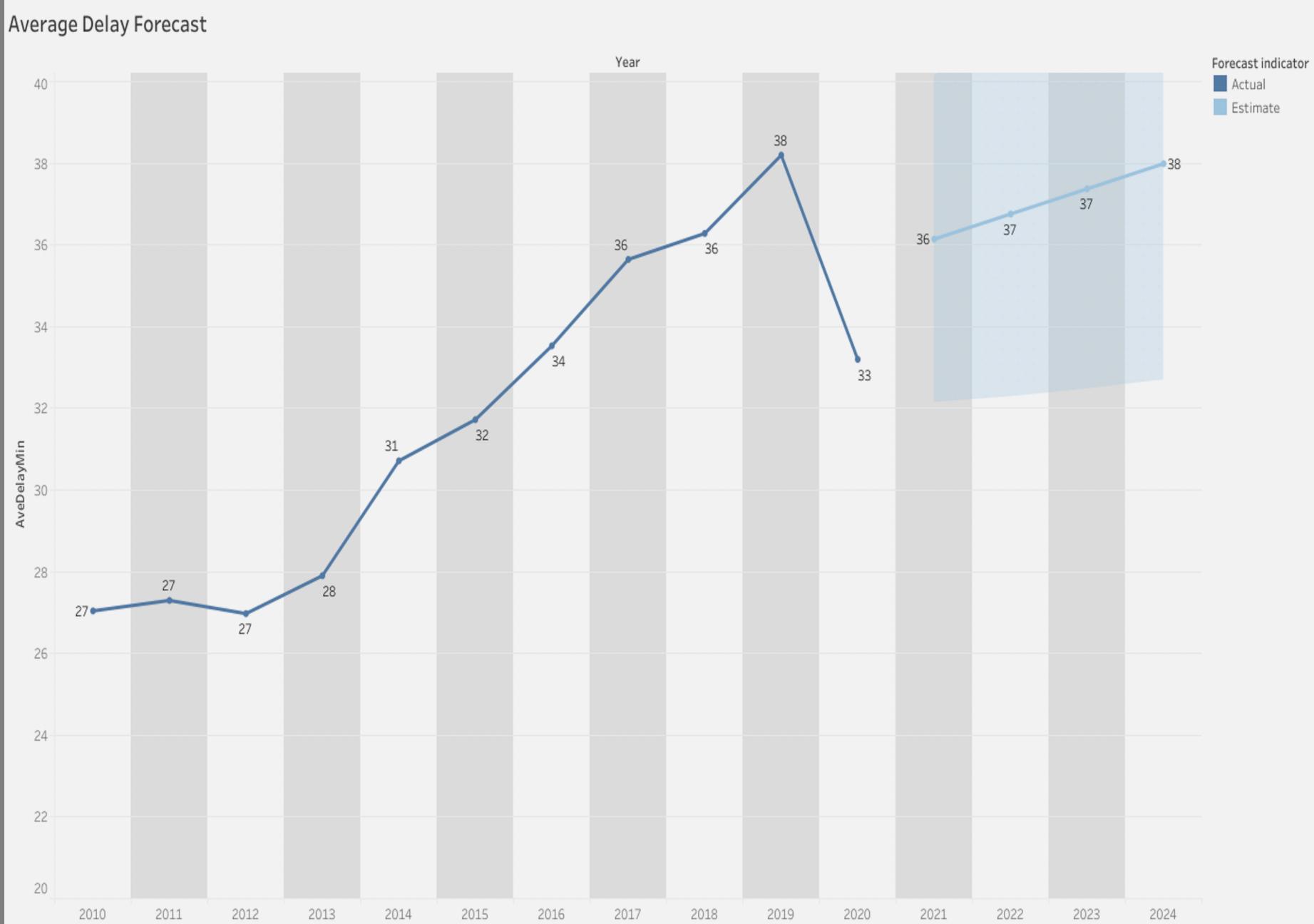
Distribution of per-flight measured values (i.e., delay minutes) approaches and exceeds the average within the third quartile.



Average
departure
delays rose,
but only by
about 11
minutes by
2019.

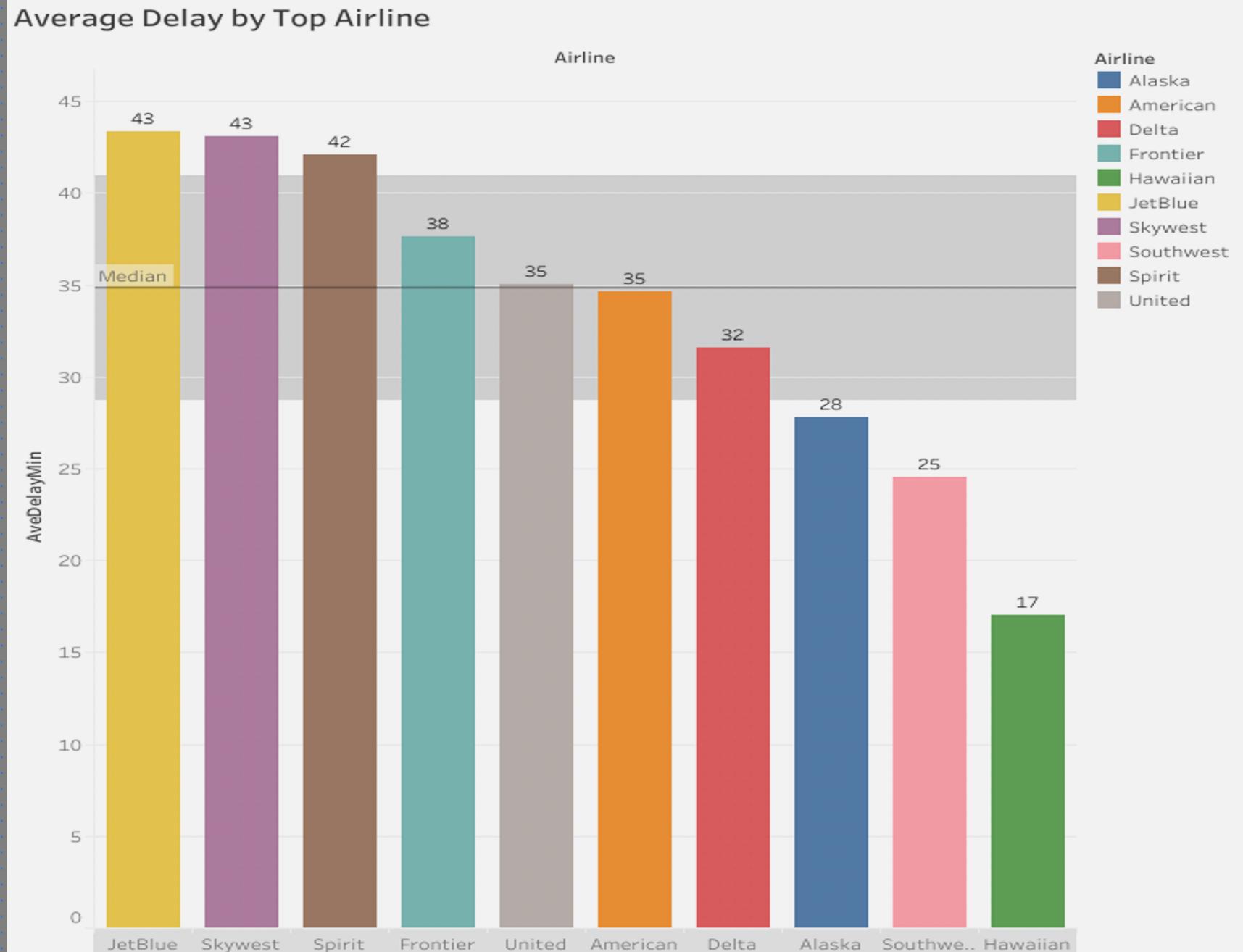


Forecast data
brings the
departure
delay
projection
back to the
2019 level by
2024.



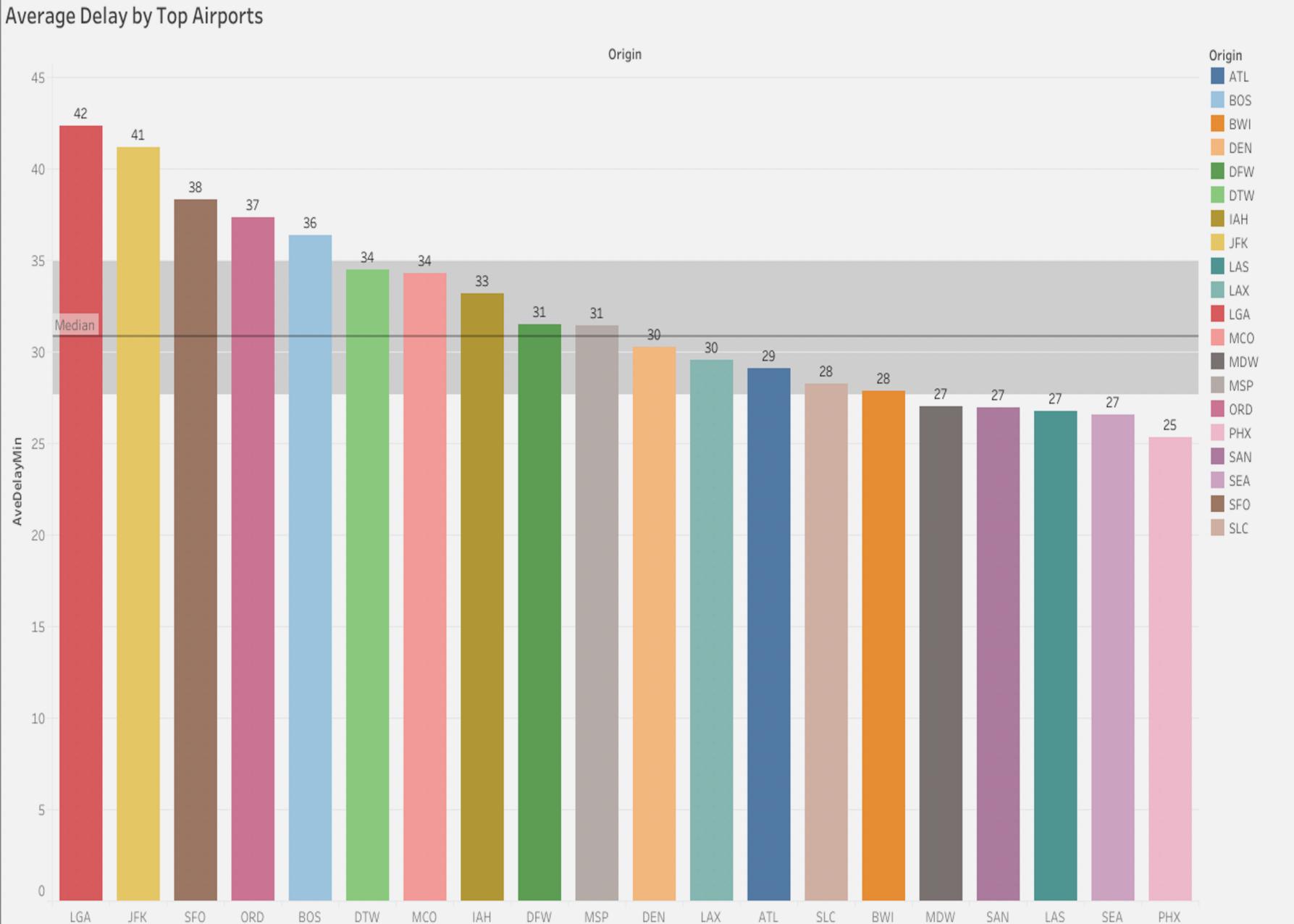
Per airline and airport view is perhaps more meaningful than system-wide context.

Six airlines slightly exceed the 32-minute average, but not by a lot.



Eight top airports slightly exceed the average.

The worst are both on Long Island near New York City.





Some things to Consider

- The worst departure delays, when they occur, can approach 45 minutes with the worst airlines and airports. Does that matter?
 - Major airports have become destinations, more comfortable, better food, etc.
 - Personal/work technology enables you to do anything virtually anywhere. A dramatic change even from just 10 yrs. ago.
-

Some things to Consider

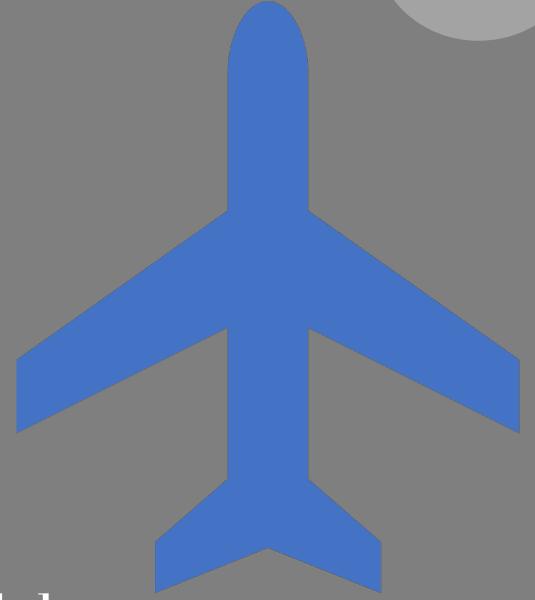
- If time convenience as a consumer is a priority, then try and avoid problem airports and airlines.
 - If a delay occurs, it is more likely not to be at least a half hour system-wide.
 - This has been the case for the last decade. Is it likely that consumers are used to this kind of delay?
-



Final Points

- Consumers make decisions to help minimize departure delays.

Data suggests the choices are limited.



- Public policy: perhaps focus on other aspects of aviation delays
 - tarmac delays, security delays, cancellations.

Departure delays are probably less impactful than other aviation travel disruptions.