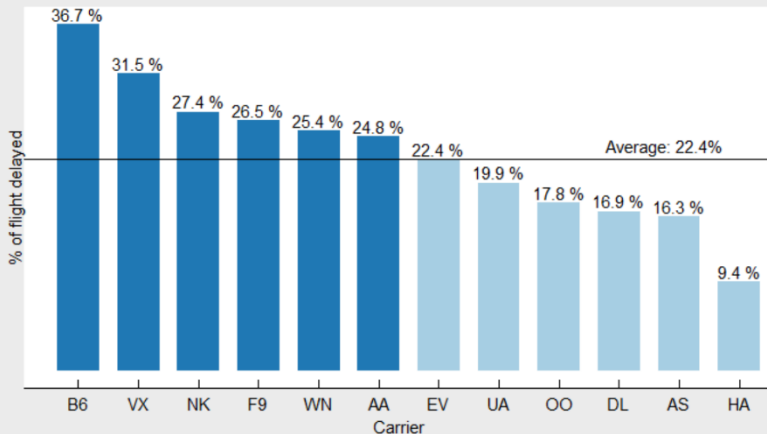


# Which airline's flights delayed the most and why?

The dataset provides information about airlines on-time performance, flight delays and cancellations of airline and airport. Here, we wanted to find out which airline's flights delayed the most recently and the main causes for their performance by breaking down delay types (only use the most updated data in 2017). After answering the following three questions, we got the answer: **JetBlue (B6)'s flights delayed the most recently, and the delay of previous flight was the main "driver" of performance downtrend.**

Percent of flight delayed in June 2017 by carrier

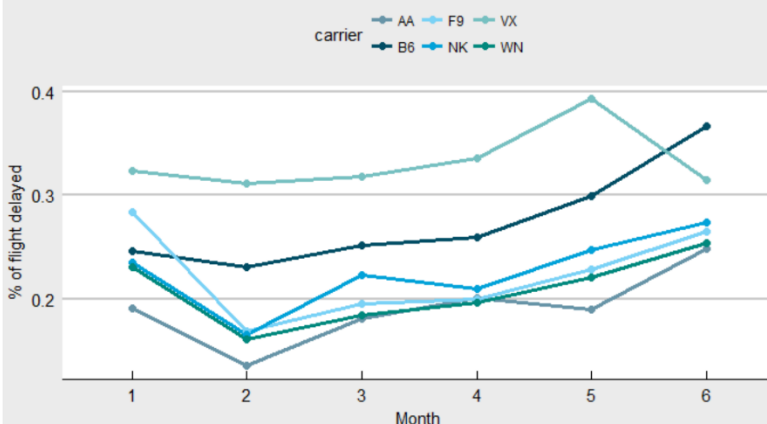


## Which air carrier has the largest percent of delay in June 2017?

Average percent of delay was 22.4% in June 2017, and there were six carriers' performance worse than this average level: JetBlue (B6), Virgin America (VX), Spirit (NK), Frontier (F9), Southwest (WN), and American Airlines (AA). Are they always had such bad performance before? Let's see history in the past six months.

Monthly trends in 2017

Percent of flight delayed in 2017 by carrier- Monthly comparison



## What's the trend of carriers' monthly performance in 2017?

Generally, percent of delay increased from February to June, except Southwest (WN), who's percent dropped recently. For example, JetBlue (B6)'s percent of delay increased from 23% in February to 36.7% in June. Why did their flights delay more and more? Next, let's break down the delay types to find the underlying reasons for this trend.

Delay causes breakdown

Causes of delay in 2017 by month (top6 carriers)



## Which causes result in increased percent of delay in 2017?

Now, we combined data of the top6 "worst" carriers (mentioned above) with the highest percent of delay, and calculated different delay types' percentage of total arrived flights. From the stacked bar graph, it was clearly that there were three causes increased most from February to June: *late\_aircraft* (previous flight using the same aircraft was late) increased 5.4%, *carrier* increased 2.7%, and *nas* (national air system) increased 1.7%. So, delay resulted from previous flight was the main driver for worse on-time performance.