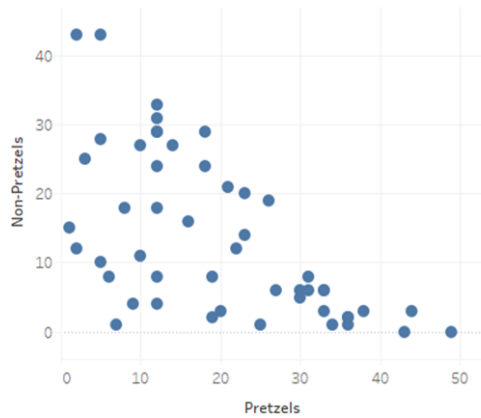
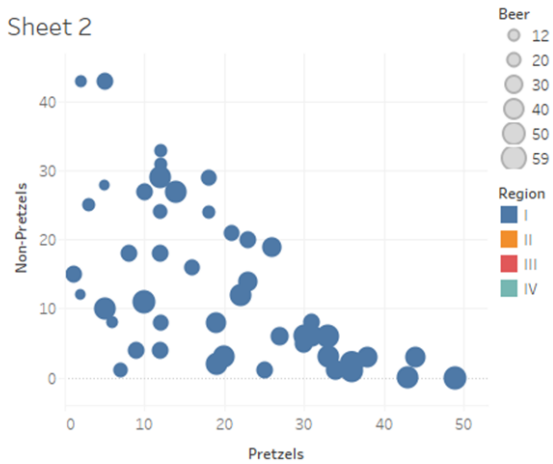


1)

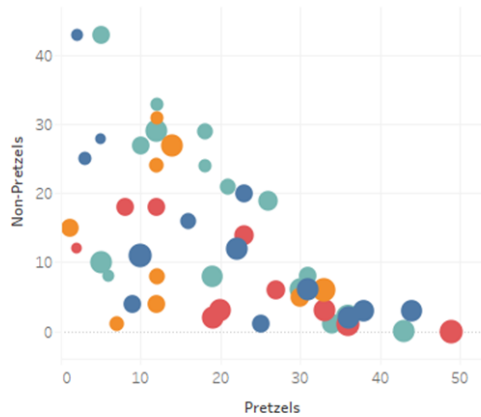
Sheet 1



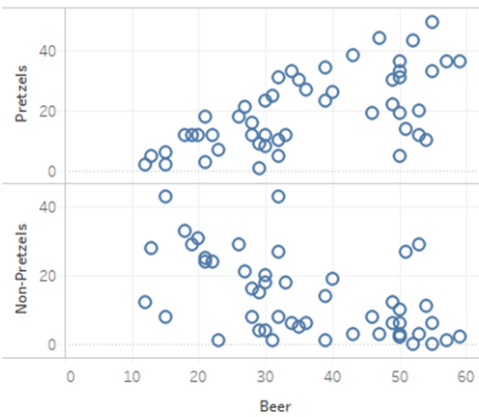
Sheet 2



Sheet 3



Sheet 4



- In my view, I believe that since the graph of Pretzels vs Non – Pretzels is falling i.e. as X increases, Y decreases. Hence, Pretzels and Non - Pretzels are negatively related.
- Speaking of the relationship between Pretzels and Beer we can say that as the number of Pretzels increases, the size of the circle increases, i.e. the number of beers increases. Hence, Pretzels and Beer are positively related.
- Moreover, we can see that when the number of Non – Pretzels is greater than Pretzels, the size of the circle seems to be small for majority of the points. Hence, non – Pretzels and Beer are negatively related.

- Additionally, the relationship between Beer and Pretzel/Non – Pretzel as in Sheet 4 seems to be positively related as the graph moves from lower left to upper right. And for non – pretzels, the curve moves down from upper left to lower right, so non – pretzels and Beer are negatively related.
- For regions I, III and IV there seems to be an apparent relationship between Non – Pretzels and Pretzels as the number of Pretzels increases the number of Non – Pretzels decreases. But for region II, there is no such apparent relationship.

2)

Sheet 2



Ny Gdp Pcap Cd Num vs. Sp Dyn Le00 Ma In Num and Sp Dyn Le00 Fe In Num. For pane Sp Dyn Le00 Ma In Num: Size shows details about Sp Pop Totl Num. The view is filtered on Ny Gdp Pcap Cd Num and Sp Dyn Le00 Fe In Num. The Ny Gdp Pcap Cd Num filter keeps non-Null values only. The Sp Dyn Le00 Fe In Num filter keeps non-Null values only.

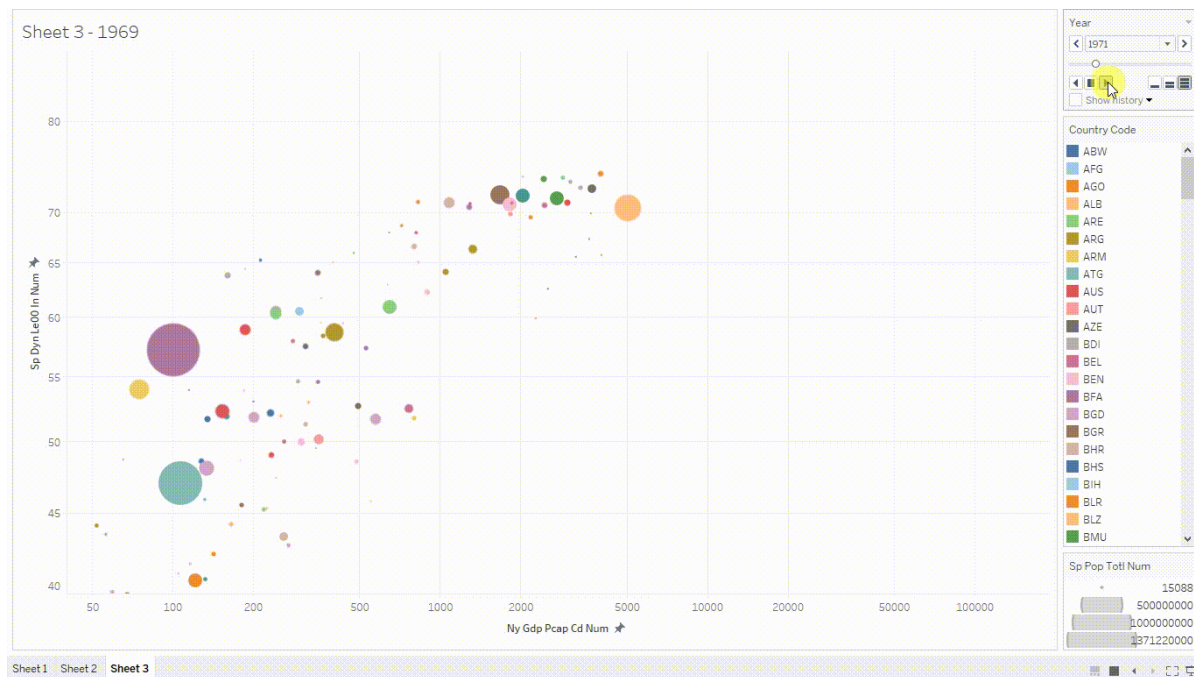
Scatter plots that shows separately the log-scale relationship between Life Expectancy for Women vs GDP per Capita and Life Expectancy for Men vs GDP per Capita. I have included a trend line (with confidence interval) in each plot.

3)



A distance network graph for all the major places in U.S. depicting the optimal routes from their respective origins.

4)

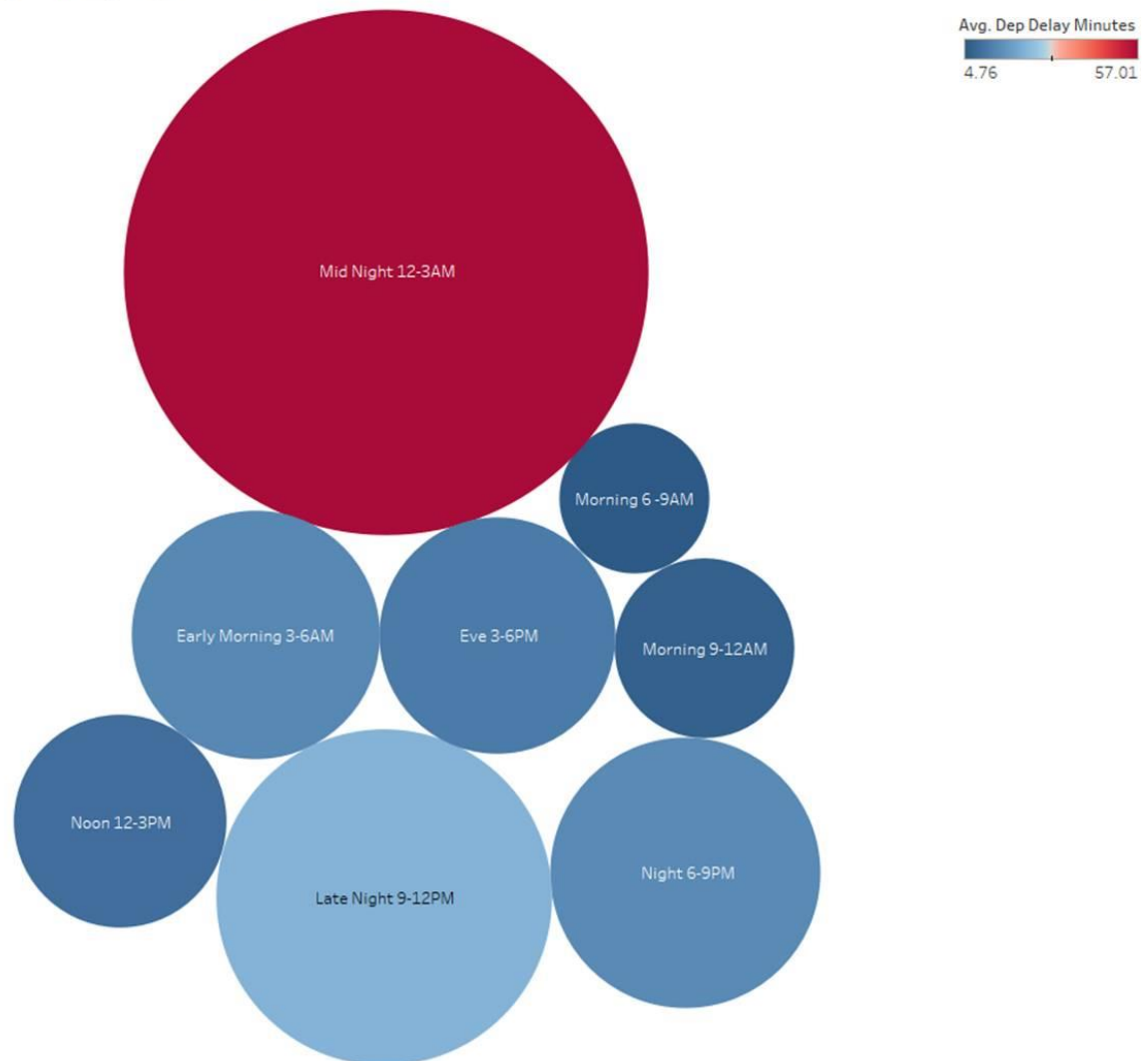


On this worksheet a plot of Life Expectancy against GDP per Capita is generated. Each axis is changed to logarithm scale. Year is set as the Page variable. The size of each country is set as circle by Population. The circles in the plot are colored by Country Code. The Page panel is set to Loop Playback. The playback loop is set to Show History of all data points with both Marks and Trail for the last 3 periods.

## 5. Performance Analysis of United Airlines

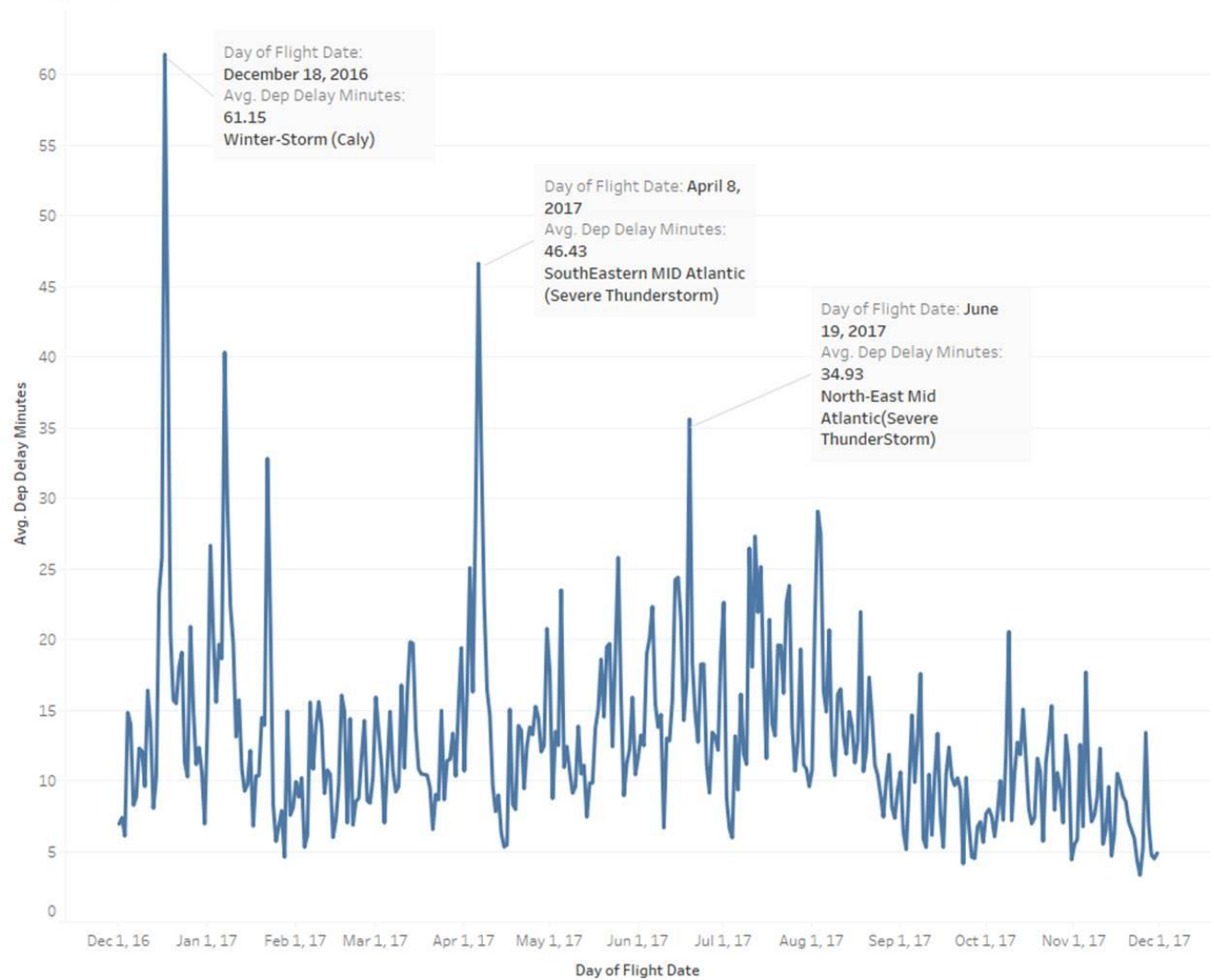
- Visually plotted United Airlines On-time performance and generated visual cues and network graphs to understand the airlines.
- Compared it with its closest competitor in the US and provided a business proposal to utilize its resources most effectively.
- Insights
  - Arrival/ Departure delay went hand in hand i.e. if a flight was delayed on arrival by 'X' minutes then the effect was propagated at departure i.e. the flight seemed to be delayed at destination by 'X' minutes.
  - Reduction of no. of flights on weekends, Labor-day weekend, Thanksgiving weekend, etc.
  - Delay in December → Winter Storm (Caly), Early April → Mid-Atlantic severe thunderstorm or Mid-June → North-Eastern Mid Atlantic Thunderstorm.
  - Additionally, delay was at its peak during the late nights and mid nights because of less staff.

## Avg Delay in Range of 3 Hours



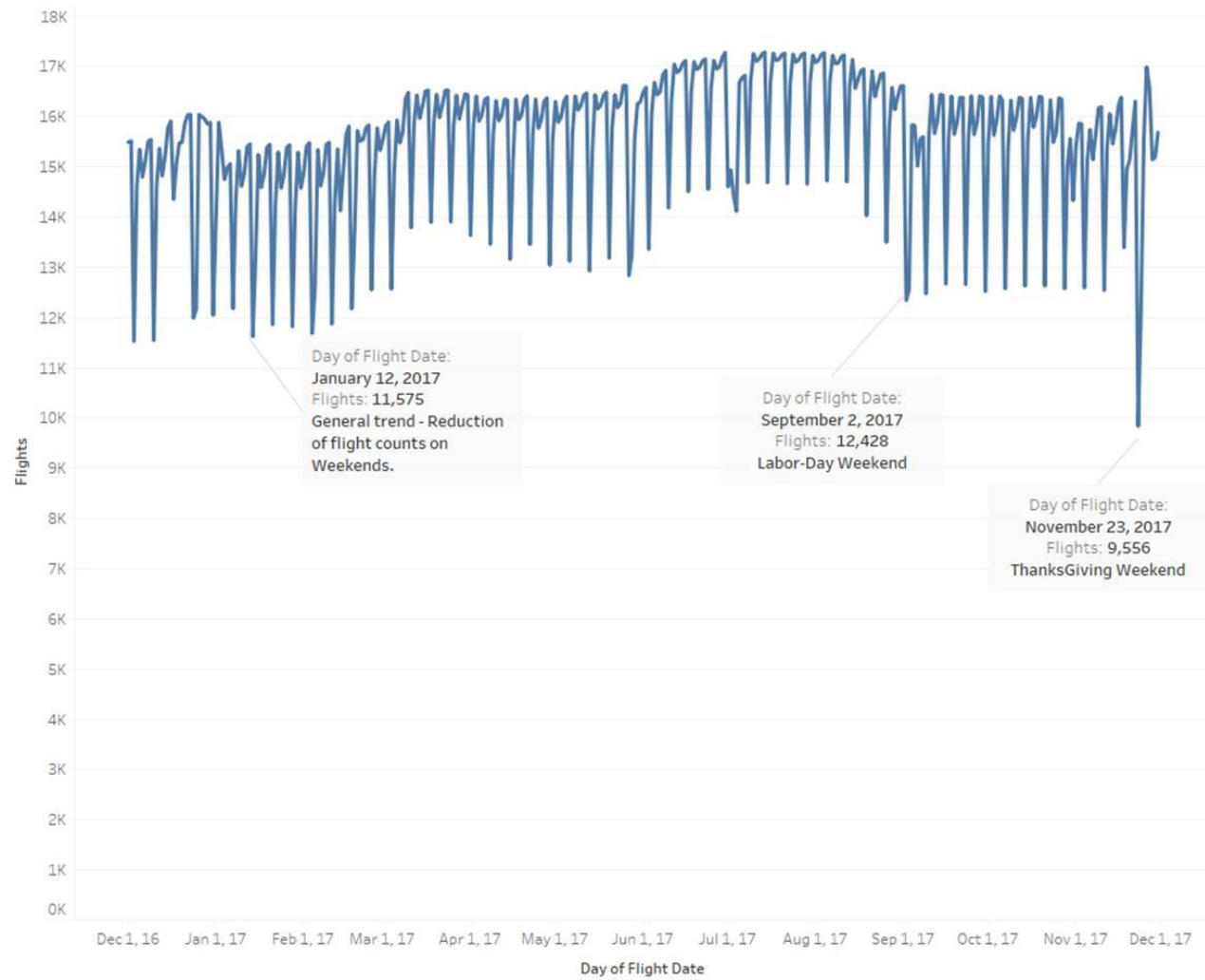
Avg Delay in Range of 3 hours. Color shows average of Dep Delay Minutes. Size shows average of Arr Delay Minutes. The marks are labeled by Avg Delay in Range of 3 hours. The data is filtered on Unique Carrier, which keeps United. The view is filtered on Avg Delay in Range of 3 hours, which excludes Null.

## Delay Variations



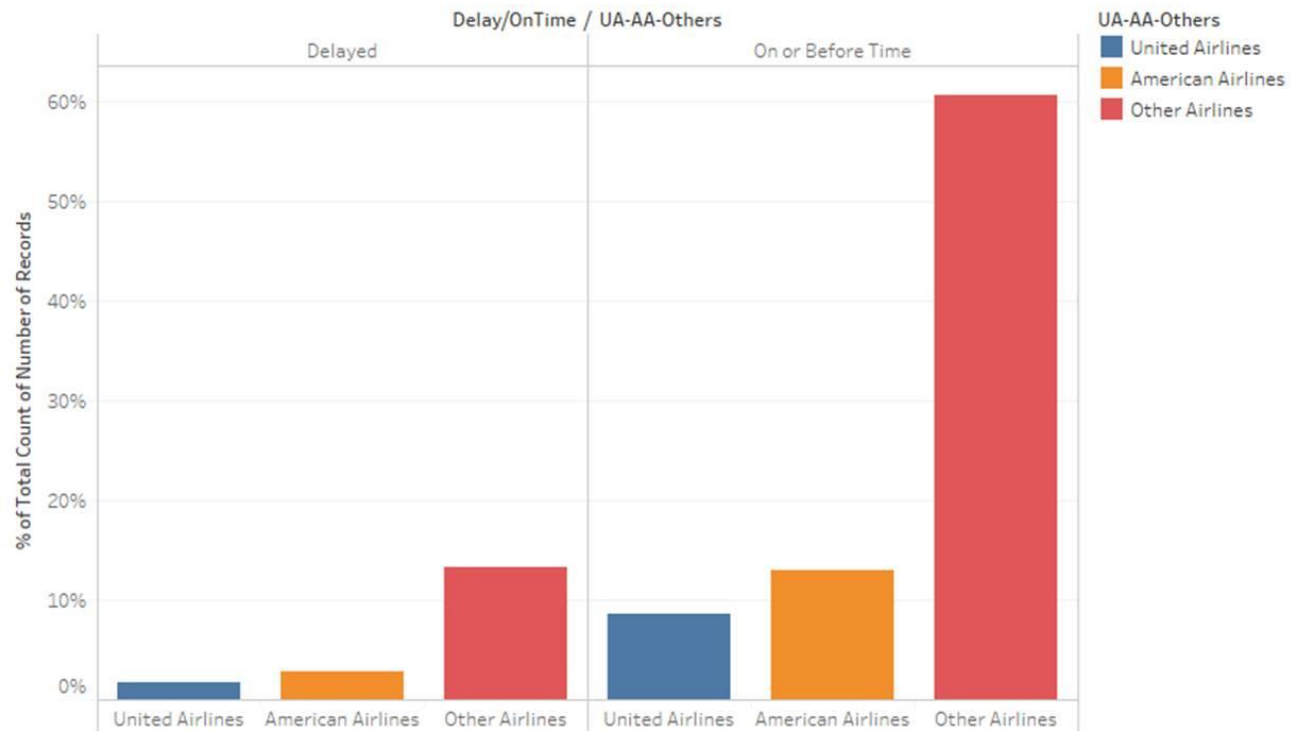
The trend of average of Dep Delay Minutes for Flight Date Day.

## Flight Variations

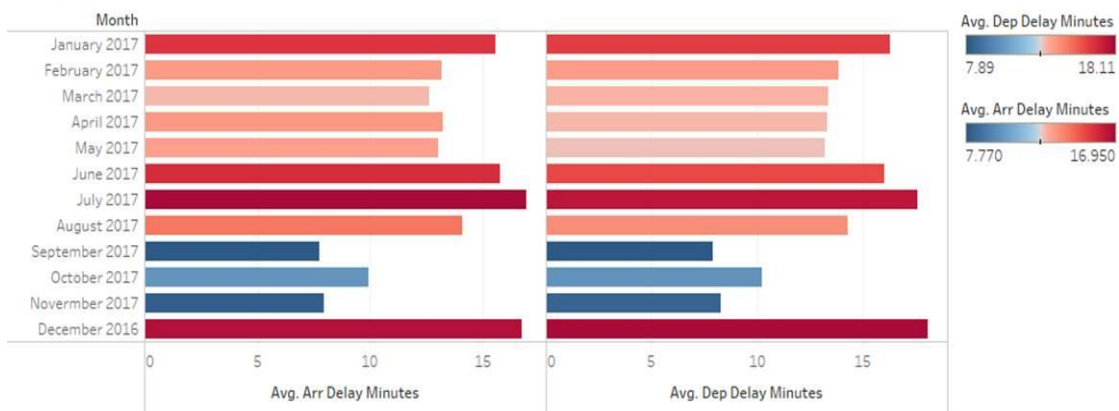


The trend of sum of Flights for Flight Date Day.

## Arrival-Delay Comparison



## Delay Months for UA



Average of Arr Delay Minutes and average of Dep Delay Minutes for each Month. For pane Average of Arr Delay Minutes: Color shows average of Arr Delay Minutes. For pane Average of Dep Delay Minutes: Color shows average of Dep Delay Minutes. The data is filtered on Unique Carrier, which keeps United.



