

# Tableau Data Visualization of Flights Delay Writeup

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## Introduction

This writeup is focused on the data visualization of flights delay using Tableau. For this, I took data from the [Statistical Computing](#) for an individual year, 2001. The dataset contains information on United State flight delays and performance which comes directly from RITA.

Links to Tableau Public Workbooks:

**Initial Version:**

[https://public.tableau.com/views/flight\\_story\\_v1/Story?:embed=y&:display\\_count=yes&publish=yes](https://public.tableau.com/views/flight_story_v1/Story?:embed=y&:display_count=yes&publish=yes)

**Final Version:**

[https://public.tableau.com/views/flight\\_story\\_final/Story?:embed=y&:display\\_count=yes&publish=yes](https://public.tableau.com/views/flight_story_final/Story?:embed=y&:display_count=yes&publish=yes)

## Summary

The purpose of the tableau data visualization was to analyse the performance of flights in 2001, considering the fact that 9/11 attack happened in the same year. In comparison to delayed flights, most of the flights were early and on-time. There are primarily two reasons for the flights being delayed in 2001 either it is departed late or arrived late and the overall average delays in arrival and departure of flights were overlapping i.e., if the flight departs 25 minutes late then it will arrive approximately 25 minutes late. Also, the U.S. Department of Transportation's (DOT) Bureau of Transportation Statistics (BTS) started collecting details on the causes of flight delays in 2003.

## Design

**Chart Types:** The visualization consist of pie chart to represent the proportions and dual-line or multi-line chart to show comparison between data elements, side-by-side bar to show average arrival and average departure delay comparison and map to represent the origin and destination airport coordinates.

**Visual Encoding:** Consistent coloring for charts has been used throughout the visualisation.

**Layout:** The whole project is interactive and user can change the month or carrier to view the visualisation accordingly. All the required legends are placed appropriately.

**Visualisation Changes:** The visualisation of carriers delays by day & month has been redesigned with lines (discrete) instead of lines (continuous) which gives a cleaner picture.

Re-calculated the On-Time and Delay proportions to include flights which arrive early based on the information available on Bureau of Transportation Statistics.<sup>[1]</sup>

Change the size of story to automatic.

## Feedback

1. (Friend) – The visualisation of carriers delays by day & month is cluttered too much.  
Change the visualisation to represent a cleaner version.

## Resources

[1] [https://www.transtats.bts.gov/OT\\_Delay/OT\\_DelayCause1.asp](https://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp)