Flights Data Visualization using Tableau

Link to Tableau Workbook:
1st Draft: https://public.tableau.com/profile/brian.shin6397#!/vizhome/Udacity_33/Story1
Final Draft: https://public.tableau.com/profile/brian.shin6397#!/vizhome/Udacity2_8/Story2

Summary:

RITA publishes datasets containing information on US flight delays and performance. I have downloaded the data for the period between April 2010 and April 2018. The visualizations in the story answer the following questions:

1. Is there a yearly trend in the number of delays or the duration of delays?
2. What are the most common types of delays?
3. How do the delays differ between different Airlines and Airports?

Design:

1. Is there a yearly trend in the number of delays or the duration of delays?
    a. I created 2 line plots to compare the trends in the average number of delays and average delay durations throughout the year.
    b. Added filters for different years and carriers/airports for viewer to compare.
2. What are the most common types of delays?
    a. Used simple bar plots to make it easy to compare side by side.
    b. Colors were added to communicate the total number of delays.
    c. Carrier names were changed to the initials to make it easier to view.
3. How do the delays differ between different Airlines and Airports?
    a. Used treemaps to make it easy to view and compare each airport/airline at once.
    b. Based on the feedback I got, treemaps seemed to be much easier to digest than having several bar plots.

Feedback:

- It will be easier to comprehend if the 2 line plots were in the same graph with a dual axis.
- Change the Carrier names to initials instead of the full names. It looks messy.
- Treemaps would be better than 2 bar plots side by side for the Delay Duration plots.
- Add total delays as a color to communicate the info in the treemaps.
- Use dropdown (multiple values) for the filters to minimize filter sizes in the story.

Resources:

- Tableau tutorial videos
- http://aspmhelp.faa.gov/index.php/Types_of_Delay#Carrier_Delay