



**GENERAL ASSEMBLY**

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# VISUALISATIONS IN TABLEAU



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# FUNDAMENTALS OF TABLEAU

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# RECAP

**In the last lesson, we learned how to:**

1. Explore the background and basics of the Tableau interface and create a few data visualizations.
2. Connect to and prepare data to import into Tableau.
3. Navigate the Tableau interface and discussed SQL to VizQL analogs.
4. Build graphs, dashboards, and Story Points.

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# TABLEAU VISUALIZATIONS AND TEXT MANIPULATION

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**In this lesson, we will:**

1. Survey historical examples and use cases for data narratives.
2. Build a variety of visualizations in Tableau.

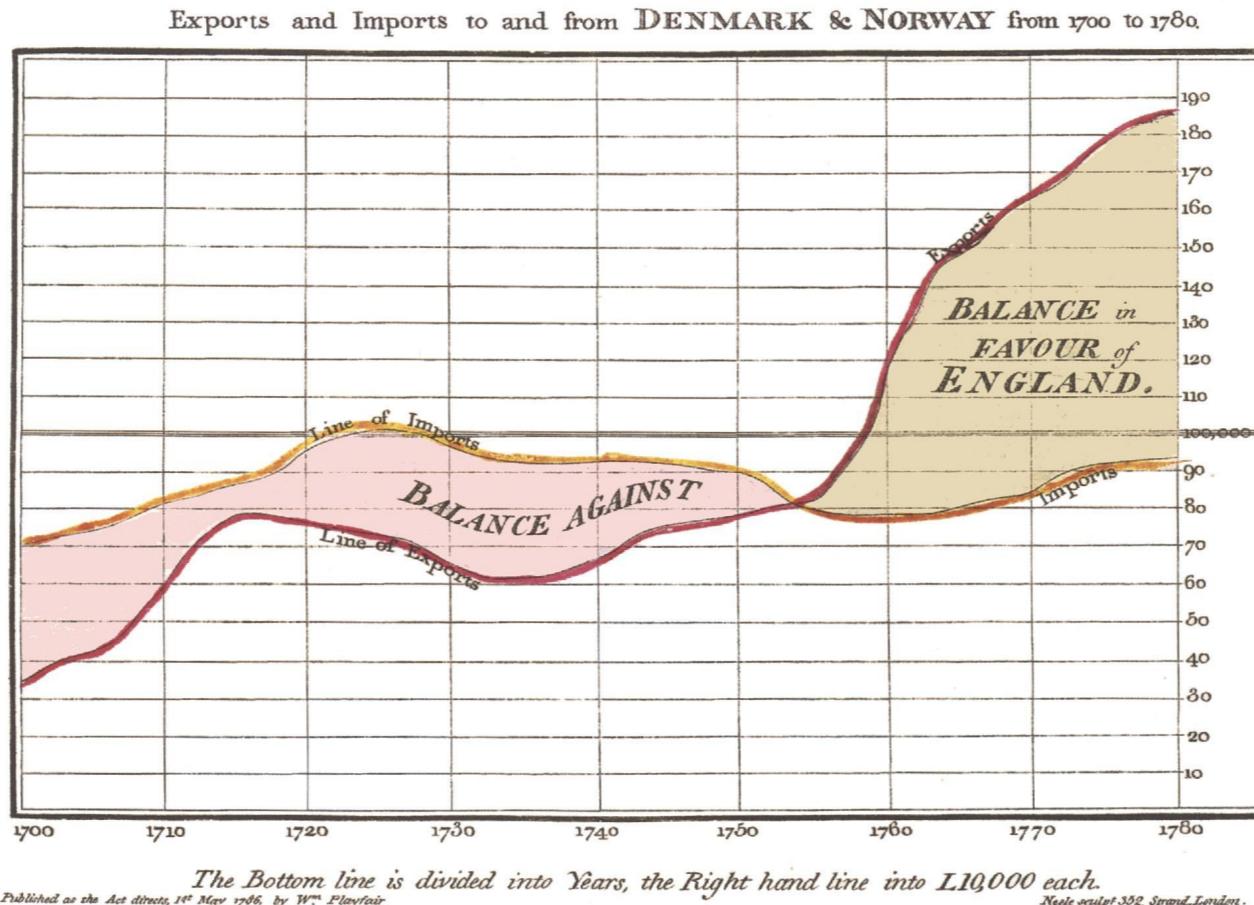
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**VISUALIZATIONS IN TABLEAU**

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# A BRIEF HISTORY OF VISUAL ANALYTICS

# VIZ HISTORY: WILLIAM PLAYFAIR (1786)



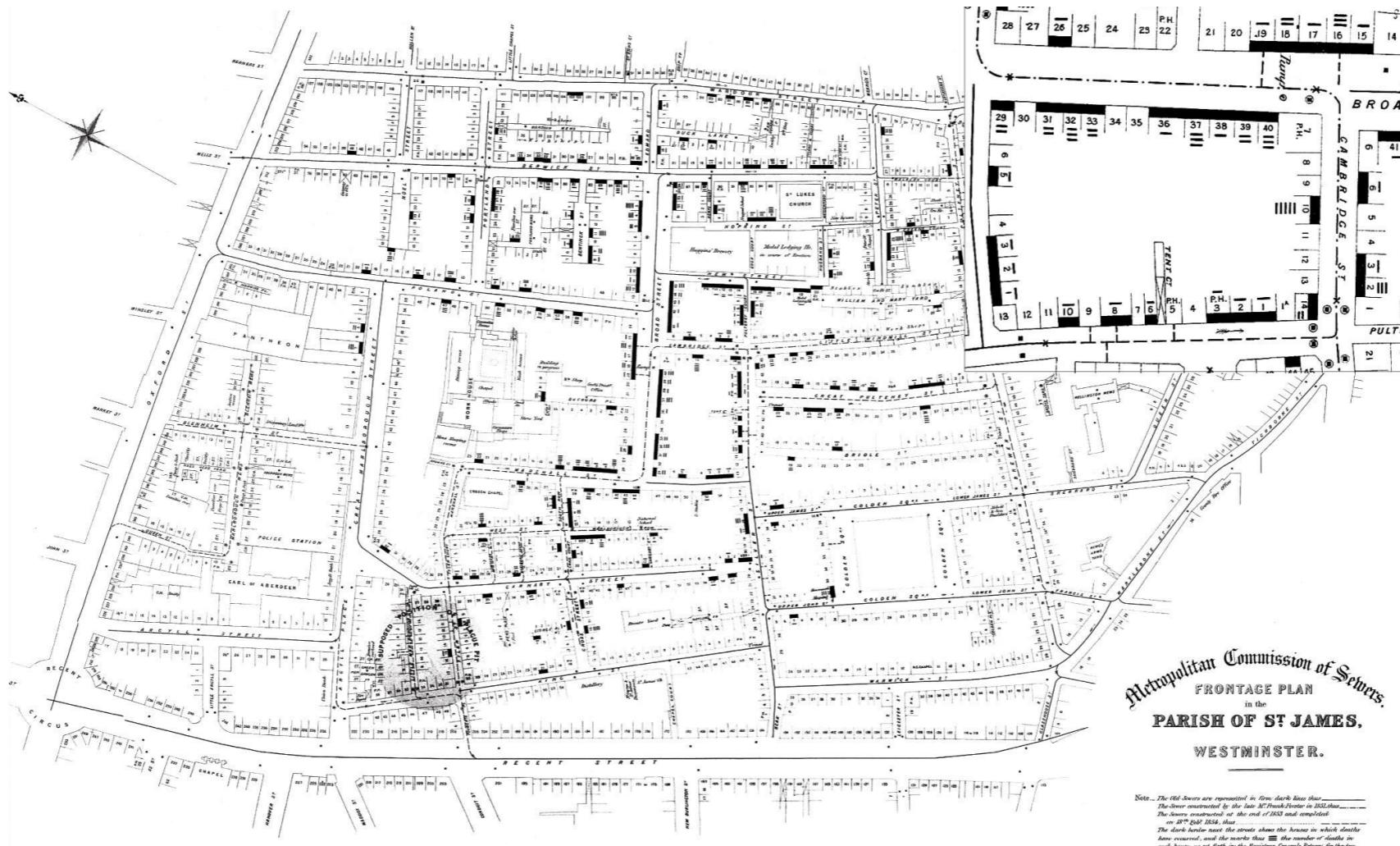
Playfair's visualization, published in the "Commercial and Political Atlas" in 1786.

# VIZ HISTORY: JOHN SNOW (1854)

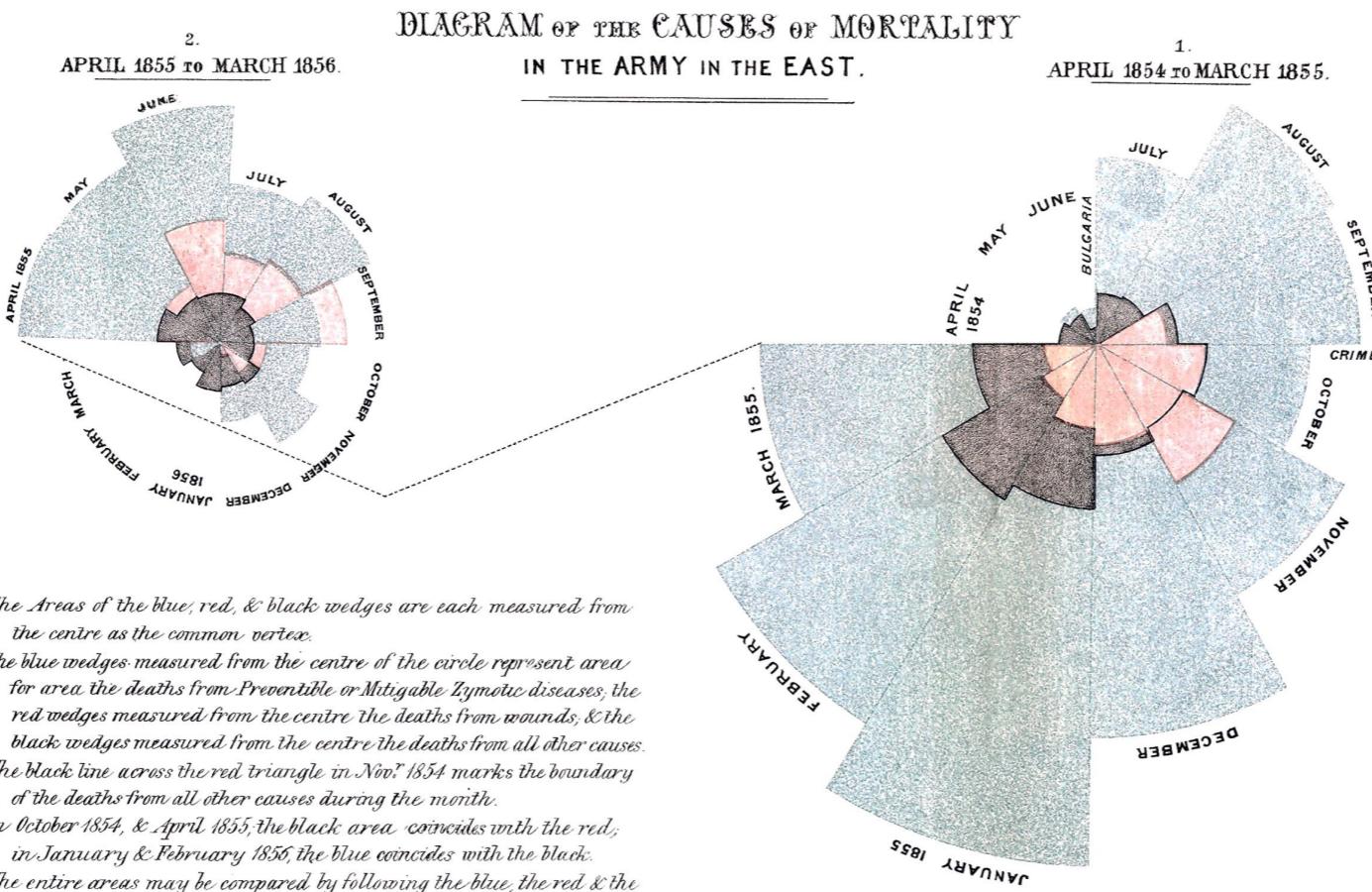


Snow's Cholera Map in London charting the distribution of 500 deaths over a 10-day period.

# VIZ HISTORY: JOHN SNOW (1854)

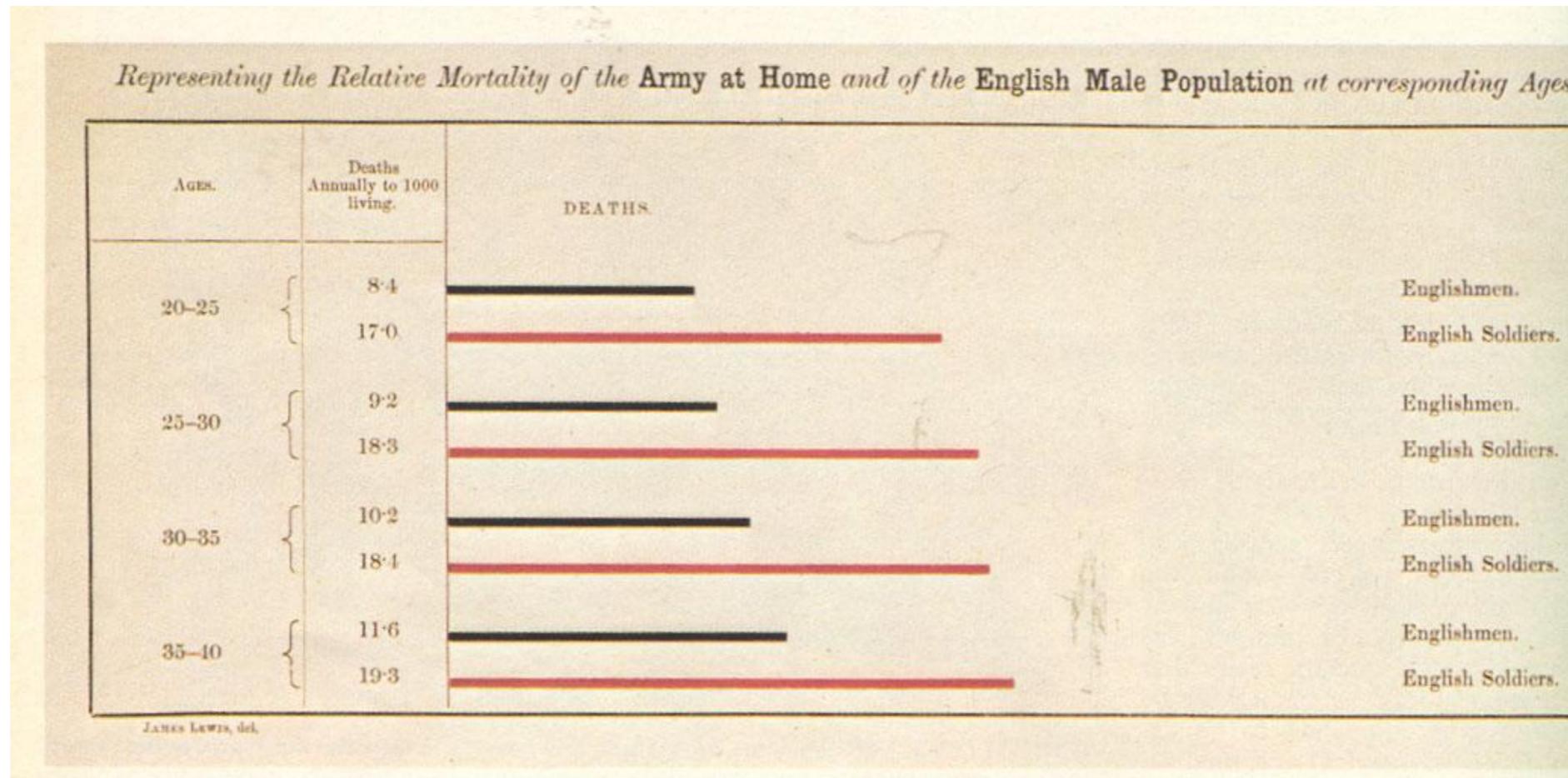


# VIZ HISTORY: FLORENCE NIGHTINGALE (1858)



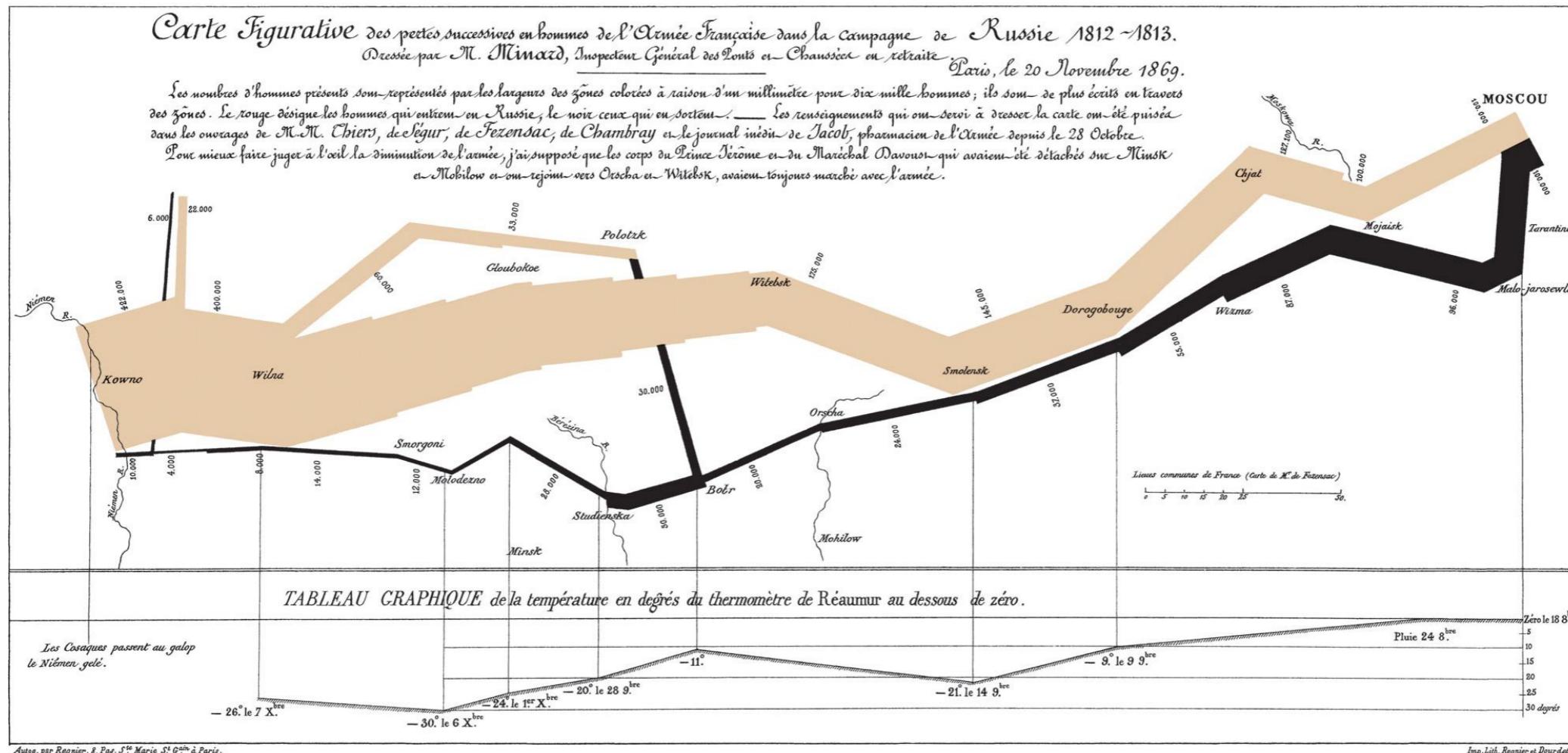
Nightingale's "Coxcomb" visualization of the causes of death during the Crimean War (1854–56).

# VIZ HISTORY: FLORENCE NIGHTINGALE (1858)



Nightingale's bar chart visualization of relative mortality presented to Parliament.

# VIZ HISTORY: CHARLES MINARD (1869)



Minard's visualization of Napoleon's disastrous march into Russia between 1812 and 1813.

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**VISUALIZATIONS IN TABLEAU**

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# GUIDED PRACTICE: VISUALIZATION TYPES

# VISUALIZATION TYPES

In this guided practice, we'll work together to build a variety of visualizations in Tableau.

Tableau will help us with its “Show Me” feature, which suggests various chart types based on the selected dimensions and measures.

**Pro Tip:** There are many more chart types than those listed in the “Show Me” menu, which is only a starting point for basic charts and graphs.



# GUIDED PRACTICE: VISUALIZATION TYPES

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ACTIVITY

1. Open the Tableau workbook with the loaded Divvy data set (or download '[Fundamentals Packaged Workbook.twbx](#)' from Appli.ed)
2. Follow the next slides to answer questions from the Divvy Bikes data set.
3. For each visualization we build, first consider which dimensions and measures are needed, along with their placement.

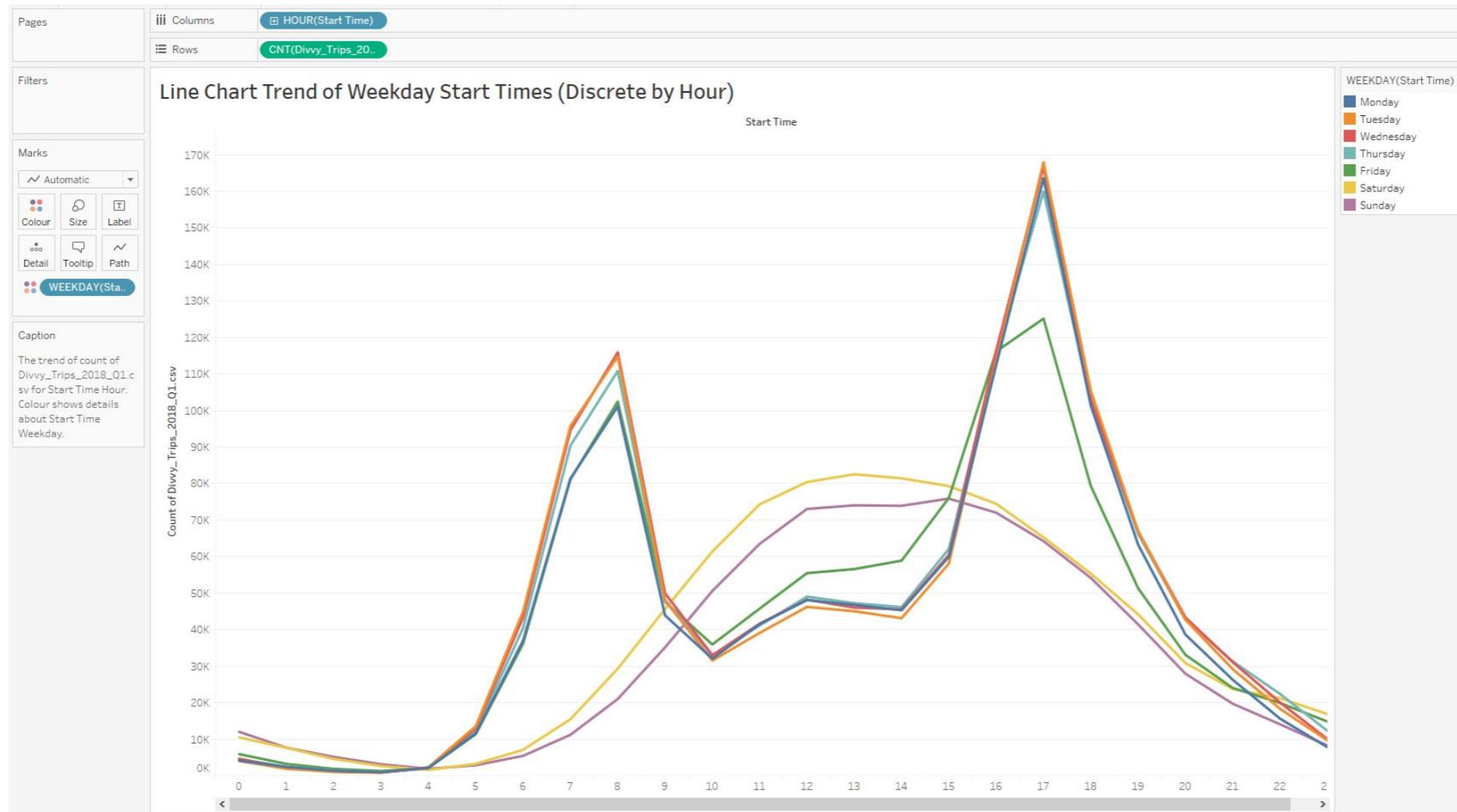
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# GUIDED PRACTICE: VISUALIZATION TYPES

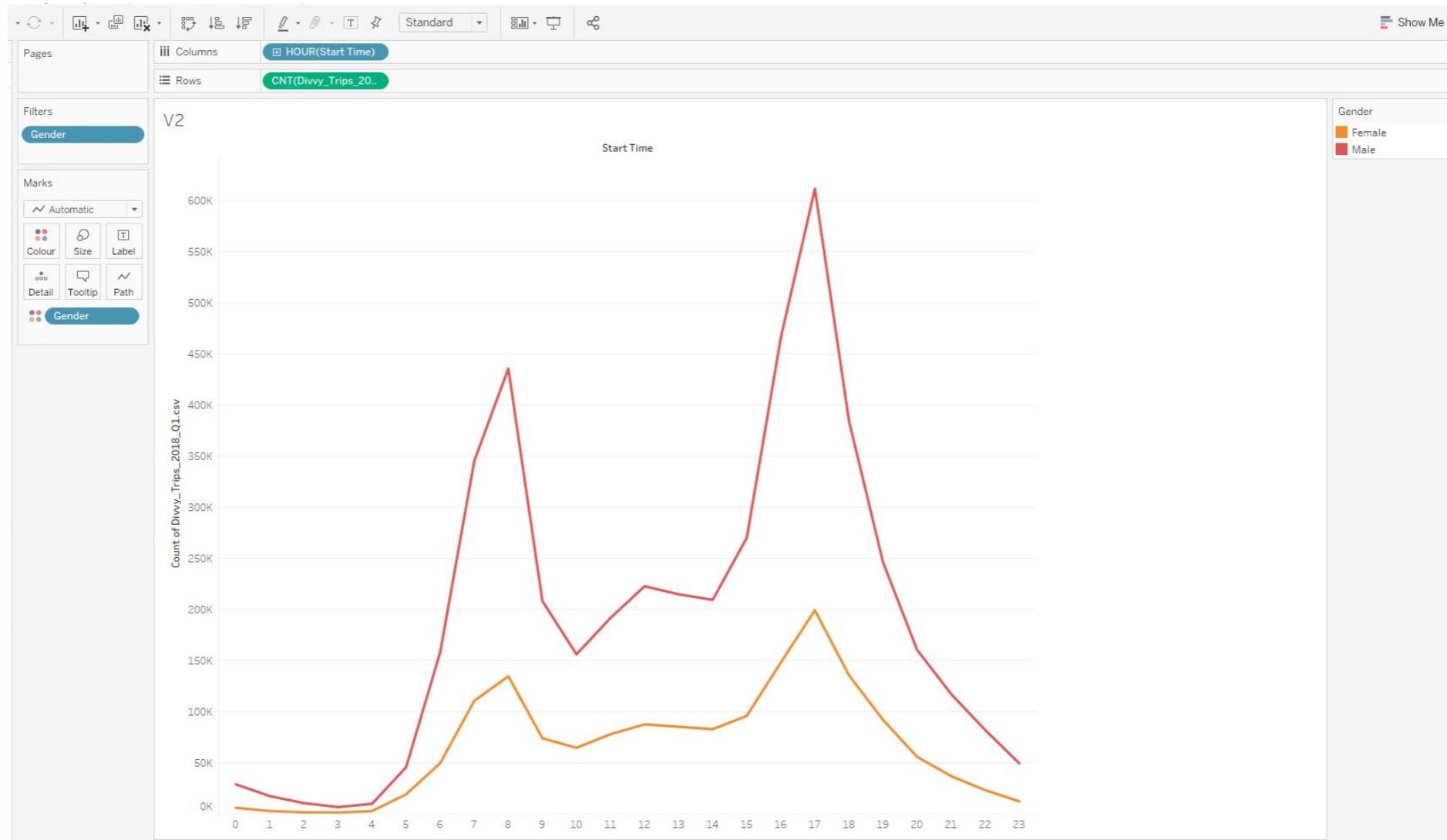
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1. **Line Chart** Trend of Weekday Start Times (Discrete by Hour)
2. Starttime by Gender by Quarter (using "Small Multiples" viz)
3. **Heatmap** Viz of Weekday Start Times (Discrete by Hour)
4. **Tree Map** Viz of Usertype by Quarter, Grouped by Gender
5. **Dual Axes Area** Viz Comparing Avg Trip Duration to Number of Users Overall
6. **Scatter Plot** of Monthly Avg Trip Duration with Trend Lines
7. **Word Cloud** Viz of Divvy Station Locations with over 20k Users
8. **Stack Ranking** of Most Popular Departure Stations
9. Small Multiples Viz of Popularity by Location
10. **Text Heat Map (Highlight Table)** of User Start Times During the Year

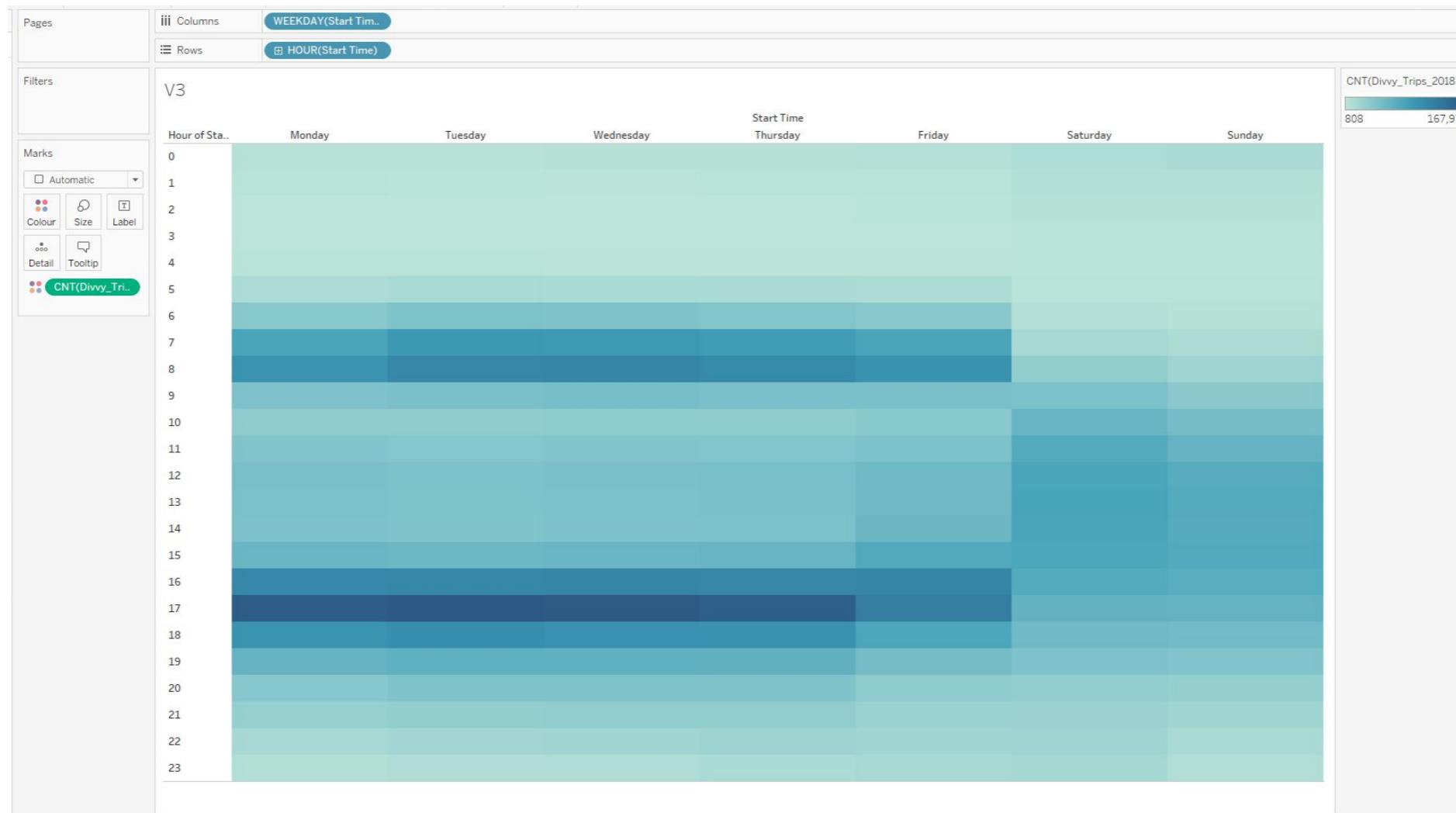
# Line Chart Trend of Weekday Start Times (Discrete by Hour)



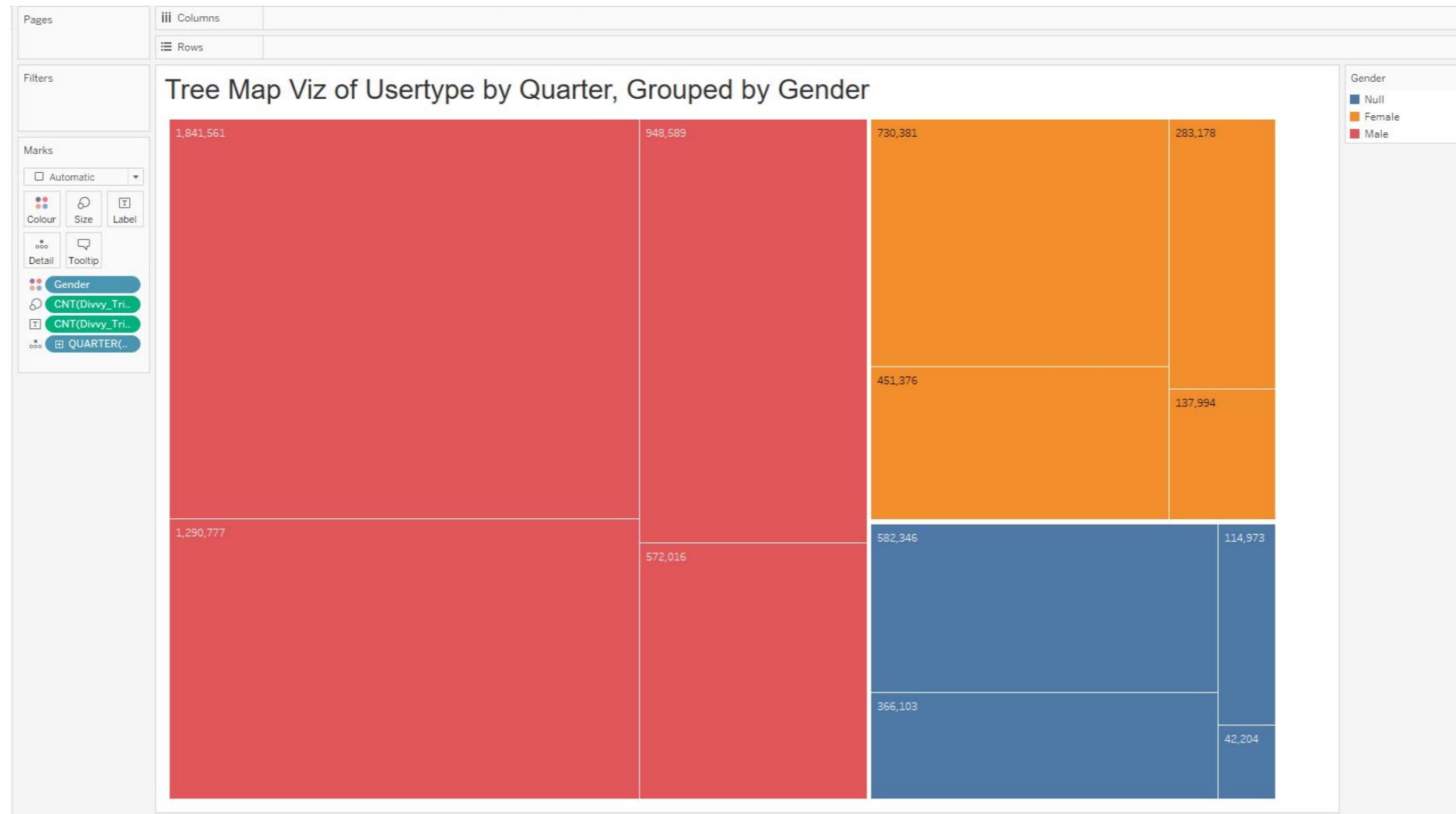
# Starttime by Gender by Quarter (using "Small Multiples" viz)



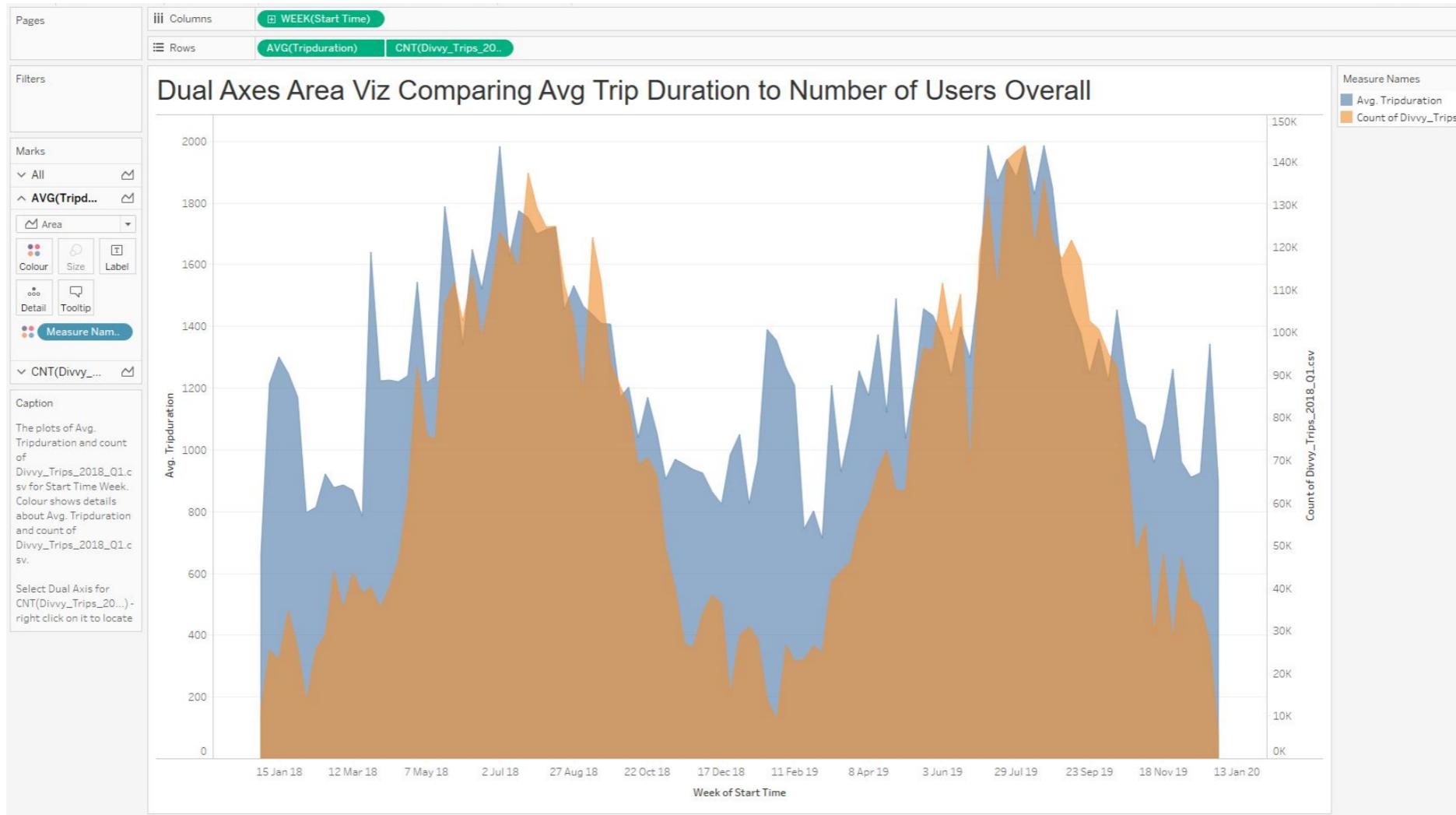
# Heatmap Viz of Weekday Start Times (Discrete by Hour)



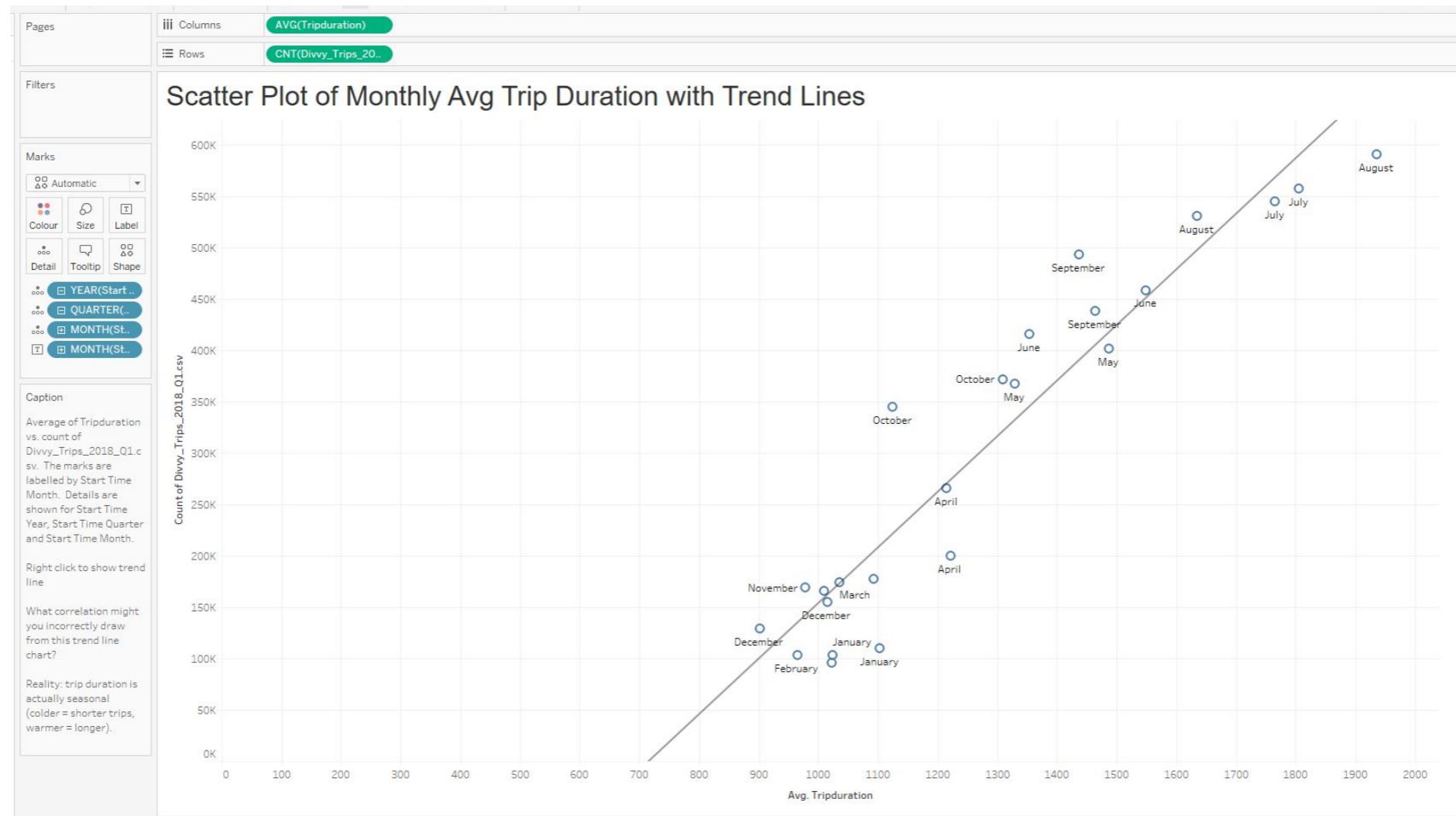
# Tree Map Viz of Usertype by Quarter, Grouped by Gender



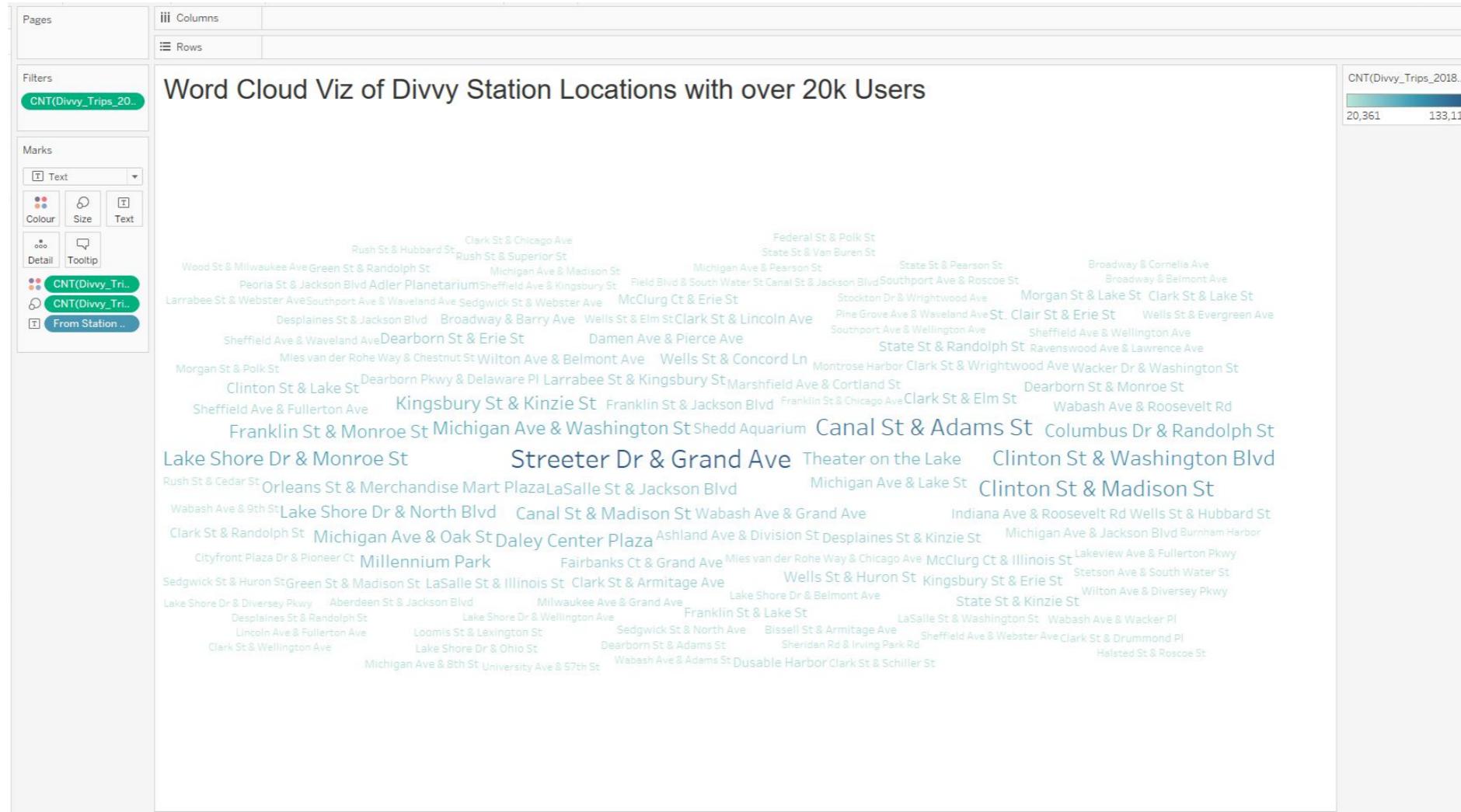
# Dual Axes Area Viz Comparing Avg Trip Duration to Number of Users Overall



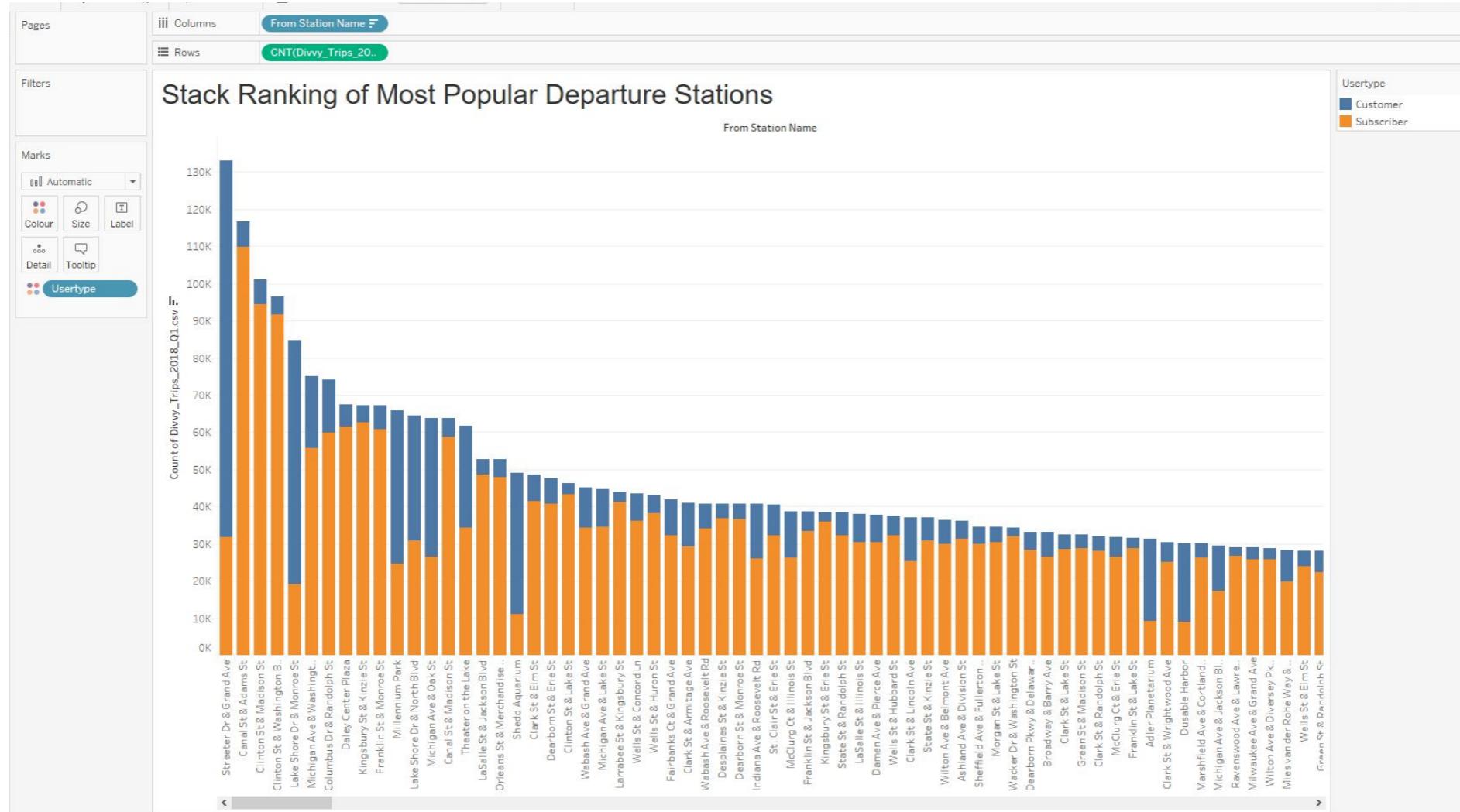
# Scatter Plot of Monthly Avg Trip Duration with Trend Lines



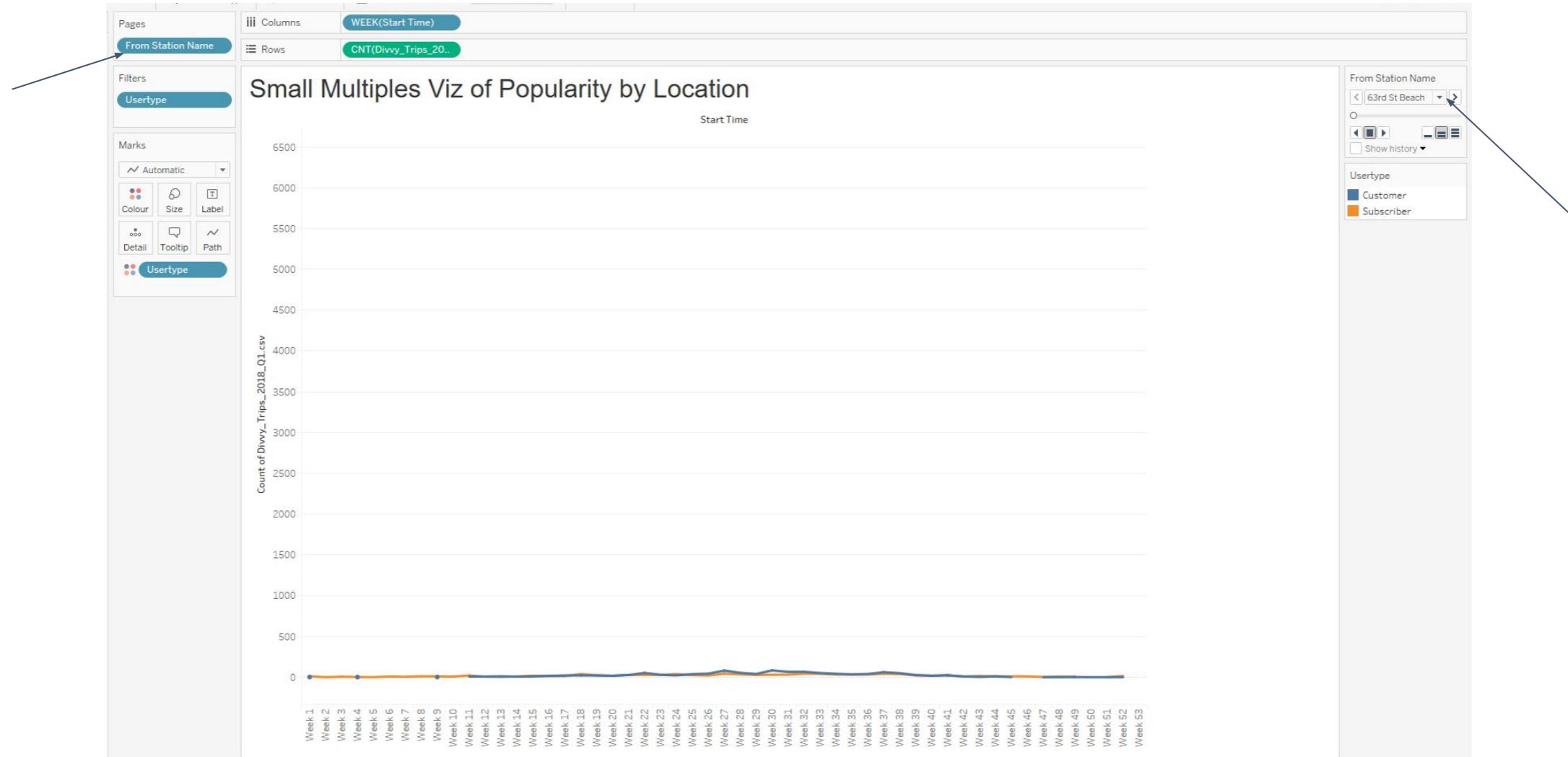
# Word Cloud Viz of Divvy Station Locations with over 20k Users



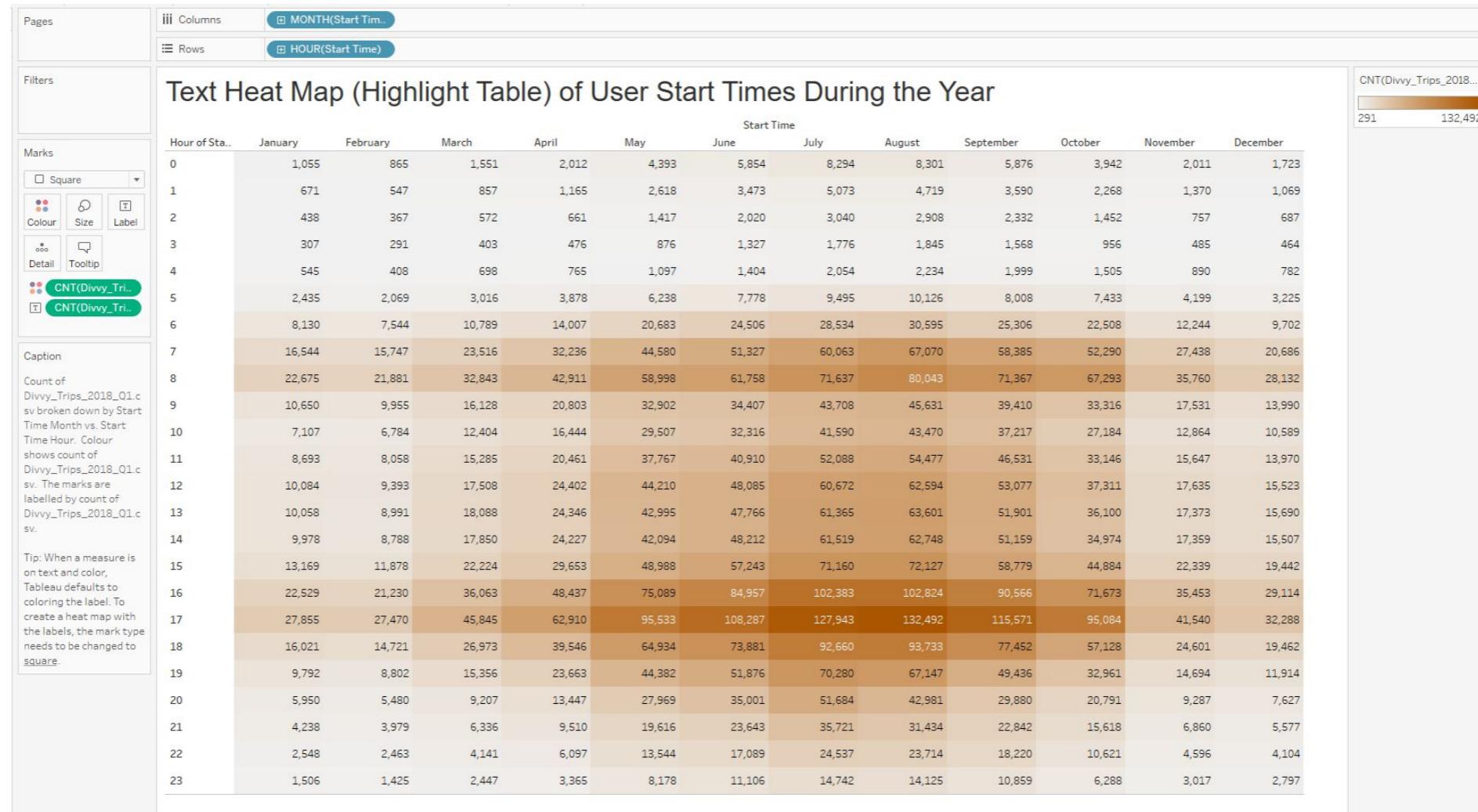
# Stack Ranking of Most Popular Departure Stations



# Small Multiples Viz of Popularity by Location



# Text Heat Map (Highlight Table) of User Start Times During the Year



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**VISUALIZATION AND TEXT MANIPULATION IN TABLEAU**

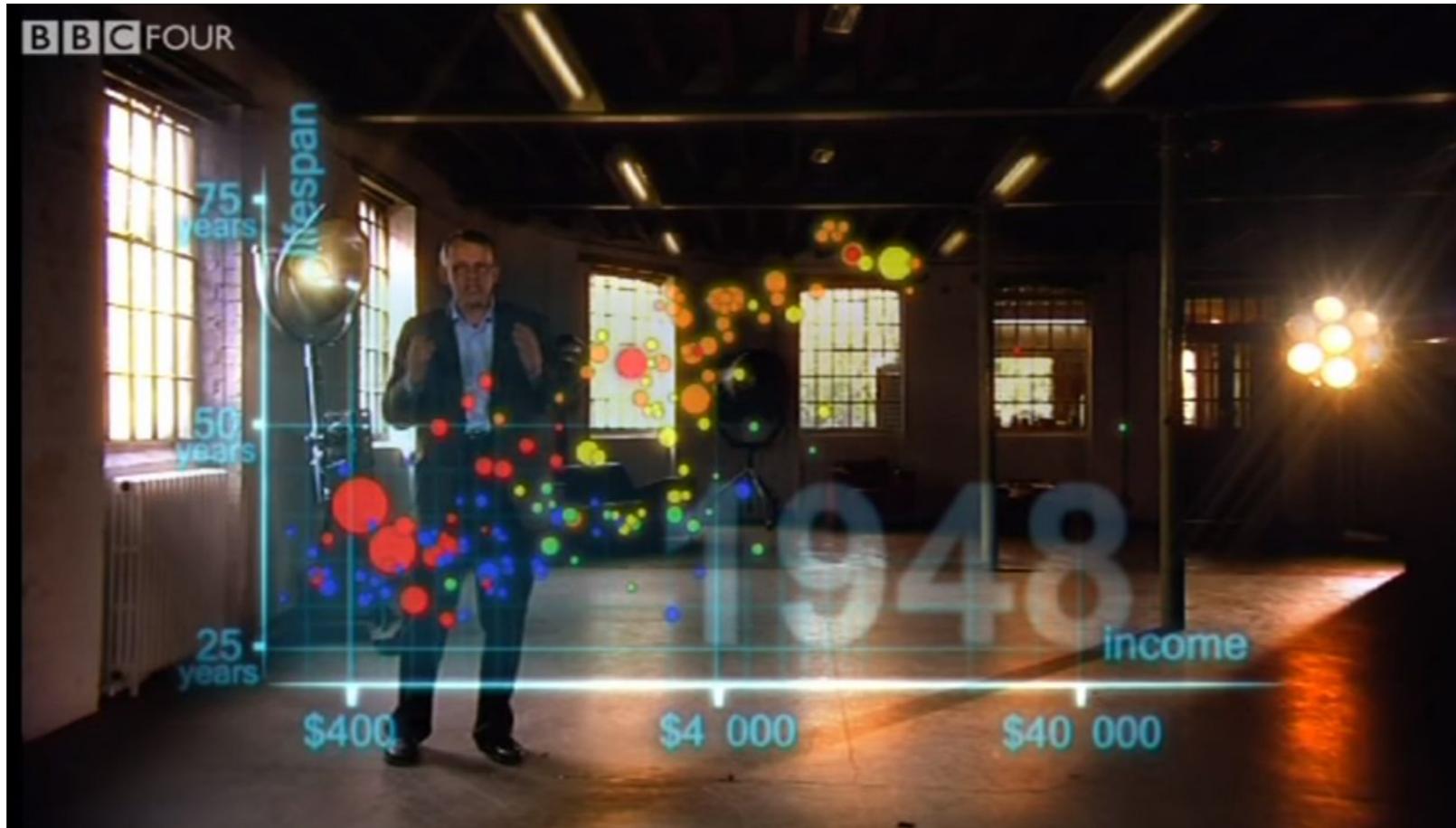
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# TABLEAU PRESENTATIONS

# DATA NARRATIVES: TELLING THE STORY WITH DATA

Click on the  
video to start.  
Runtime 4:47

**Gapminder:** Hans Rosling's "200 Countries, 200 Years" – The Joy of Stats



# DATA NARRATIVES: REFRESHER

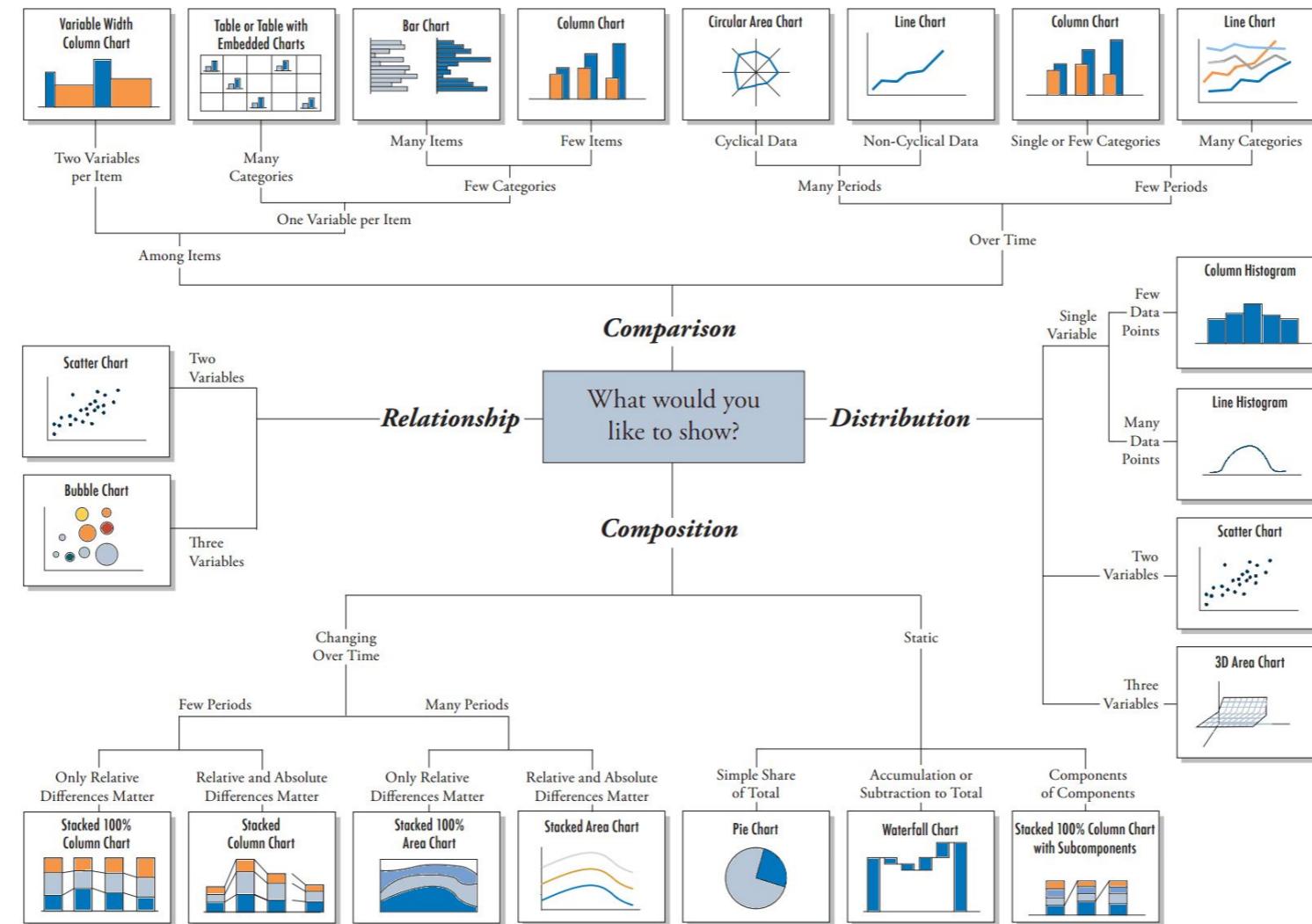
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In Unit 1, we reviewed a number of presentation strategies:

- a. Prepare your presentation using narrative strategies.
- b. Make the problem and the data the focus of your story.
- c. Identify and answer the key concerns of your stakeholders.
- d. Select your visualizations and colors with clear purpose.

For more tips on structuring memorable presentations, check out our [presentation strategy guide](#).

# DATA NARRATIVES: VISUALIZATION TYPES



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**VISUALIZATIONS IN TABLEAU**

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# CONCLUSION

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# **REVIEW: VISUALIZATION IN TABLEAU**

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# **RECAP**

In today's lesson, we learned how to:

1. View and create a number of different visual chart types.

# VISUALIZATION IN TABLEAU

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# Q&A

# VISUALIZATION AND TEXT MANIPULATION IN TABLEAU

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## RESOURCES

- Top Five Visualizations of All Time (Tableau – Cotgreave):  
<https://www.tableau.com/about/blog/2012/11/top-5-visualizations-all-time-19810>
- Best Practices for Telling Great Data Stories (Tableau):  
[http://onlinehelp.tableau.com/current/pro/desktop/en-us/story\\_best\\_practices.html](http://onlinehelp.tableau.com/current/pro/desktop/en-us/story_best_practices.html)

# ADDITIONAL RESOURCE: VISUALIZATION TYPES



The image shows a Tableau software interface with various chart types displayed. On the left, there's a treemap visualization. In the center, there are several line graphs of different colors (red, orange, blue) showing trends over time or across categories. At the bottom, there are several small scatter plots and bubble charts.

Authors: Maila Hardin, Daniel Hom, Ross Perez, & Lori Williams

Which chart or graph  
is right for you?



The image shows a scatter plot with data points of varying sizes and colors (blue, orange, grey) arranged in a grid-like pattern, representing a heatmap or a scatter matrix.

Visual Analysis Best Practices  
Simple Techniques for Making Every  
Data Visualization Useful and Beautiful