

Discover DH: Creating Visualizations with Tableau Public

Nicole Strayhorn
Graduate Assistant, MLIS Candidate
ncstrayhorn@yahoo.com



FLORIDA STATE UNIVERSITY
LIBRARIES

bit.ly/dscvrdata4data

Use this link to download tutorial, data, & presentation

Please open Tableau Public

Save the census data in a folder where you can find it easily

Who am I?

- Graduate Student in Information Science
- BA in Geography with a concentration in GIS
- Experienced in ArcGIS, Tableau, and QGIS
- Research Interests: Government Information, Disaster Information, Food Deserts, Women's Health, Reproductive Health

TODAY

- **What is Tableau?**
- **Public vs Desktop**
- **Structure**
- **Hands on Exercise**
- **Expanding Your Tableau Toolbox**

Tableau

- Tableau is a data visualization software that allows users to transform data into visually appealing visualizations
- Uses VizQL, a visual query language

Tableau Public

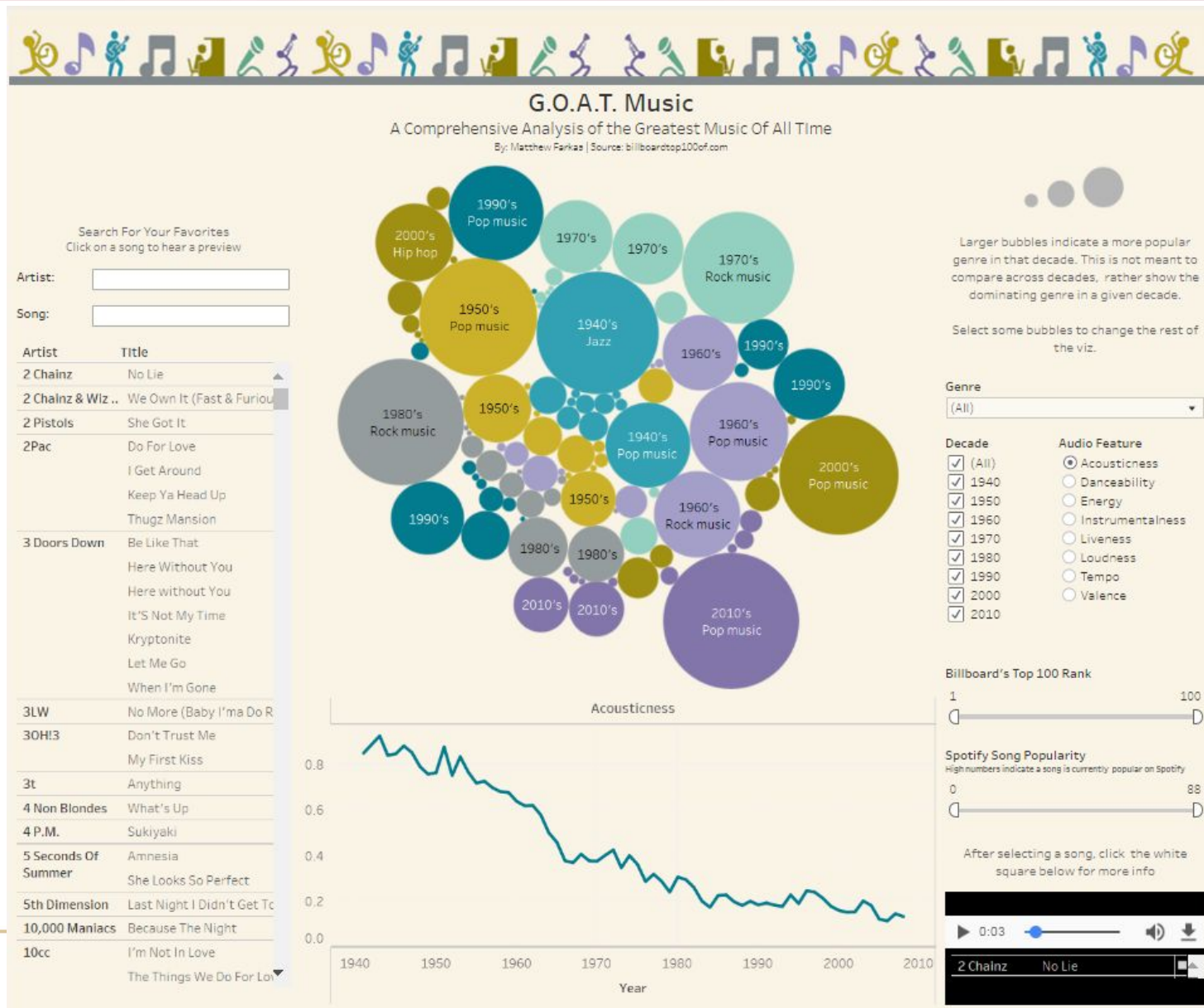
- Free
- Acceptable - Excel, Access, Text files, Google Analytics
- Limited to 15,000,000 rows of data
- No programming skills required
- 10 GB of storage space
- Current Version: 10.1
- DO NOT use Tableau Public for sensitive or proprietary data

Tableau Desktop

- Prices vary
- Free 1-yr Student/Teacher Version Available
- Acceptable - Excel, Access, Text files, Google Analytics
- Unlimited rows of data
- No programming skills required
- Current Version: 10.1

Advantages

- Quickly analyze data
- Interactive data visualizations
 - Filtering capabilities → layers of data
- Data becomes less abstract
- Information discovery
- Enables creativity
- You can embed vizzes into webpages and blogs, and share them via social media or email
- Mapping: Tableau automatically recognizes country names, state/province names, county names, city names, and area codes for many countries worldwide.
 - However, if you have street addresses, those need to be geocoded
 - <https://tableaumapping.bi/>



We'll Be Moving Momentarily

Exploring DC Metro Delay data from September 2012 through September 2016



Select your metro line to filter the data



24,064

Total Delays

16.15

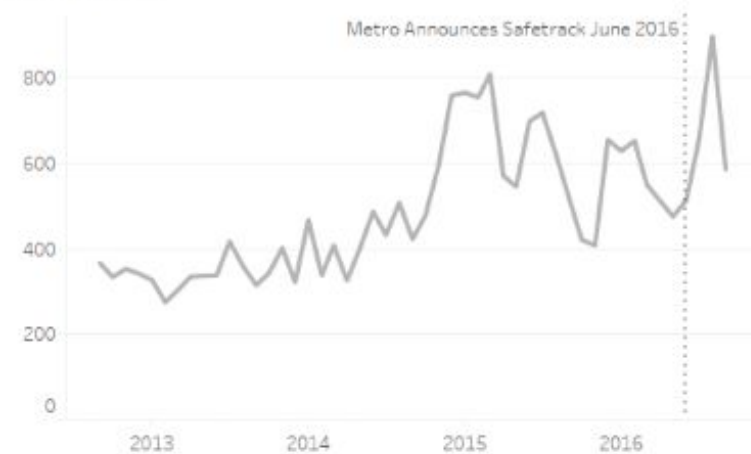
Avg. delays per day

113.0

Avg. delays per week

Delays have been increasing on average since 2015

Grey - total delays



Click or hover over the delay type to learn more.



15,037



5,861



1,157



966



843



93



67

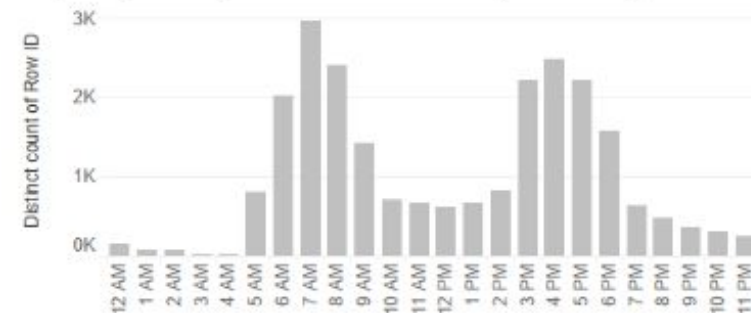


25



15

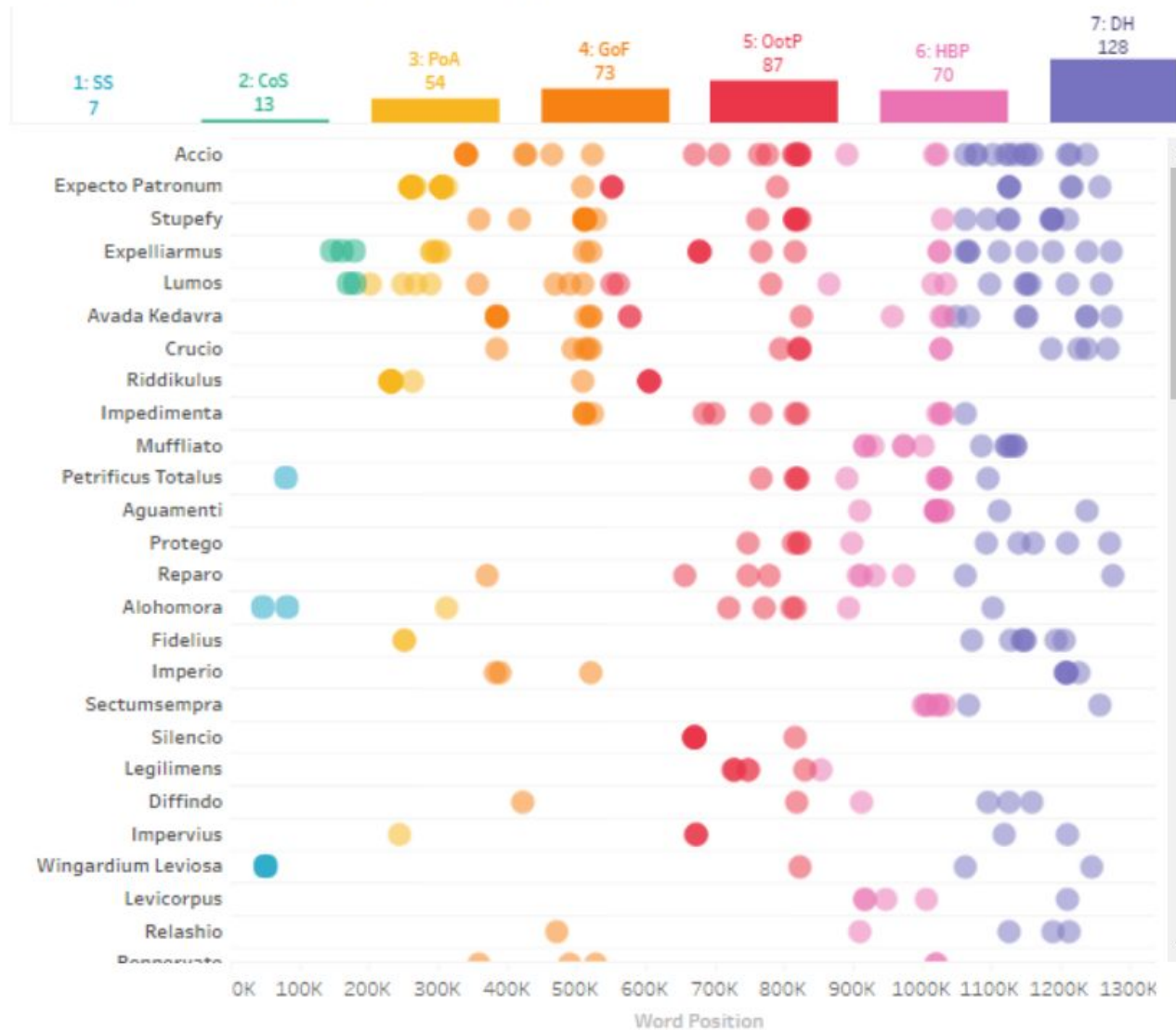
Frequency of Delays for All on the All Line by Time of Day



The Spells of Harry Potter

spells explicitly said aloud in the books, excludes non-verbal and implied magic

Sort By: Most Occurrences



Structure - Clean Data

YE	PUBISHER	RESOURCE_TYPE	GEO_SEQ_N	COVERAGE	REGIC	URL_SQL_N	IDENTIFIER
1992		Tech Report	1	United States	NAM	1	http://ntl.bts.gov/lib/000/500/558/ntci1.pdf
1980		Tech Report				1	http://ntl.bts.gov/lib/000/500/572/8001.htm
1993		Tech Report				1	http://ntl.bts.gov/lib/000/500/577/9306.htm
1976		Tech Report	1	Seattle (Washington)	NAM	1	http://ntl.bts.gov/lib/000/500/591/7610.htm
1975	United States. Congress. Office of Techno	Tech Report				0	http://ntl.bts.gov/lib/000/500/593/7503.pdf
1975	United States. Congress. Office of Techno	Tech Report				1	http://ntl.bts.gov/lib/000/500/593/7503.htm
1975	United States. Government Printing Offic	Tech Report				1	http://ntl.bts.gov/lib/000/500/594/7504.htm
1991		Tech Report	1	United States	NAM	1	http://ntl.bts.gov/lib/000/500/595/9115.htm
1975		Tech Report	1	East North Central States	NAM	1	http://ntl.bts.gov/lib/000/500/599/7507.htm
1975		Tech Report	2	Eastern States	NAM	1	http://ntl.bts.gov/lib/000/500/599/7507.htm
1995		Tech Report	1	Cincinnati (Ohio)	NAM	1	http://ntl.bts.gov/lib/000/600/609/planp.pdf
1995		Tech Report	2	Indiana	NAM	1	http://ntl.bts.gov/lib/000/600/609/planp.pdf
1995		Tech Report	3	Kentucky	NAM	1	http://ntl.bts.gov/lib/000/600/609/planp.pdf
1995		Tech Report	4	Ohio	NAM	1	http://ntl.bts.gov/lib/000/600/609/planp.pdf
1996		Tech Report	1	Ohio	NAM	0	http://ntl.bts.gov/lib/000/600/612/861.pdf
1994		Tech Report	1	Washington	NAM	0	http://ntl.bts.gov/DOCS/05bellv.html
1980		Tech Report	1	United States	NAM	1	http://ntl.bts.gov/lib/000/600/637/8015.htm
1985	United States. Congress. Office of Techno	Tech Report	1	United States	NAM	0	http://ntl.bts.gov/lib/000/600/638/8520.pdf
1985	United States. Congress. Office of Techno	Tech Report	1	United States	NAM	1	http://ntl.bts.gov/lib/000/600/638/8520.htm
1990	United States. Congress. Office of Techno	Tech Report	1	United States	NAM	0	http://ntl.bts.gov/lib/000/600/640/9037.pdf
1990	United States. Congress. Office of Techno	Tech Report	1	United States	NAM	1	http://ntl.bts.gov/lib/000/600/640/9037.htm
1975	United States. Congress. Office of Techno	Tech Report	1	East North Central States	NAM	0	http://ntl.bts.gov/lib/000/600/642/7509.pdf
1975	United States. Congress. Office of Techno	Tech Report	1	East North Central States	NAM	1	http://ntl.bts.gov/lib/000/600/642/7509.htm

Structure - Tableau File

- **Workbooks**
 - .twbx
 - **Worksheets**
 - Work space for analyzing and visualizing data
 - **Dashboards**
 - Presentation space for combining various visualizations into one environment
 - **Stories**
 - A story is a sheet that contains a sequence of worksheets or dashboards that work together to convey information
 - Show how facts are connected, provide context, demonstrate how decisions relate to outcomes

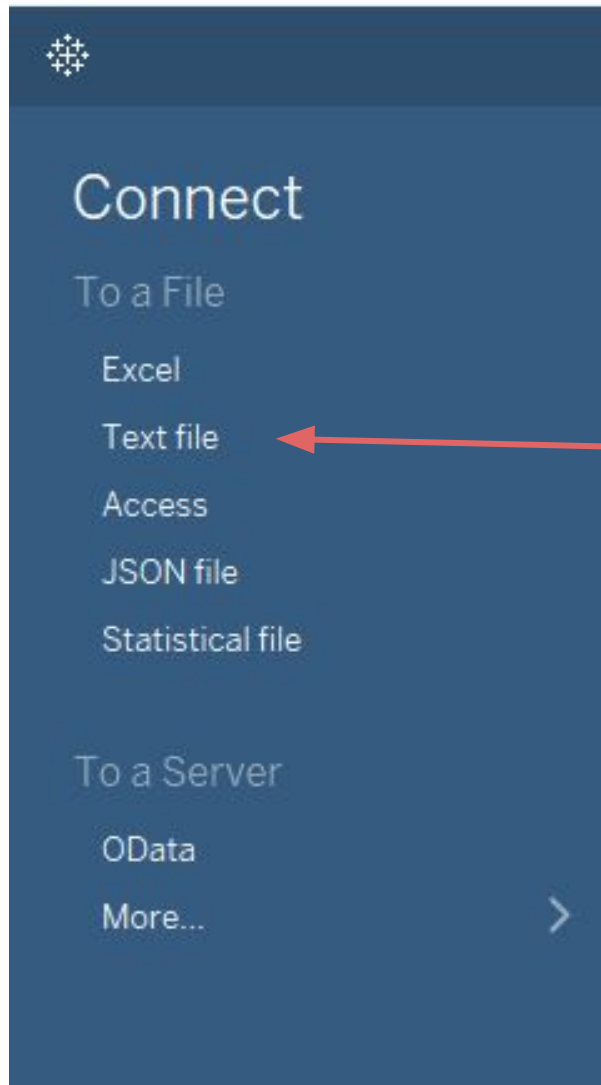
Questions?



Let's get started!

Open Tableau

Bring in Data



Click “Text file”
to connect to
the census data

Preview Data

Tableau Public - Married People 20 to 34

File Data Window Help

Connections [Add](#)

census_maritalstatus_2015
Text File

Files

- ACS_15_5YR_B12006.txt
- ACS_15_5YR_...etadata.csv
- ACS_15_5YR_...ith_ann.csv
- ACS_15_5YR_S1201.csv
- ACS_15_5YR_...etadata.csv
- census_marit...tus_2015.csv
- Shakespeare_...ord_freq.csv
- New Union

census_maritalstatus_2015

Filters
0 | [Add](#)

If nothing needs to be changed click the **orange tab** below in lower left corner.

Sort fields Data source order

☐ Show aliases ☐ Show hidden fields 1,000 rows

census_maritalstatus_2015.csv County	census_maritalstatus_2015.csv State	census_maritalstatus_2015.csv Percentage of Mar...	census_maritalstatus_2015.csv Percentage of Wid...	census_maritalstatus_2015.csv Percentage of Div...	census_maritalstatus_2015.csv Percentage of Sep...	census_maritalstatus_2015.csv Percentage of Nev...	census_maritalstatus_2015.csv Percentage of Mar...
Autauga County	Alabama	2.0000	0.0000	0.00000	0.00000	98.0000	44
Baldwin County	Alabama	0.7000	0.1000	0.00000	0.00000	99.3000	35
Barbour County	Alabama	0.0000	0.0000	0.00000	0.00000	100.0000	21
Bibb County	Alabama	3.0000	0.0000	0.00000	0.00000	97.0000	35
Blount County	Alabama	0.1000	0.0000	0.00000	0.00000	99.9000	47
Bullock County	Alabama	0.0000	0.0000	0.00000	0.00000	100.0000	5
Butler County	Alabama	0.0000	0.0000	1.30000	0.00000	98.7000	27
Calhoun County	Alabama	1.0000	0.0000	0.10000	0.00000	99.0000	29

Data Source Map Married People Bars Sample 1

Nicole Strayh...

Tableau Interface

Main Menu

Tableau Public - sonnet words

File Data Worksheet Dashboard Story Analysis Map Format Window Help

Tool Bar

Standard

Data Window

Dimensions

- Frequency (bin)
- Sonnet Words
- Measure Names

Measures

- Frequency
- Number of Records
- Measure Values

Shelves

Columns

Rows

Canvas

Abc

Chart Types

No recommendations

Select or drag more data to see recommendations

Workbook Tabs

Data Source Treemap

Status bar

1 mark 1 row by 1 column SUM(Number of Records): 3,079

Basics

- Fields from data source are divided into
 - Dimensions - Qualitative information
 - text, date, or boolean values
 - Measures - Quantitative information
 - numerical values
 - Examples: Sum, Averages, Count, Min, Max, Costs
- Color, Size
- Rows, Columns

Exercise

1. Create a map

- a. Use one female and one male measure of your choosing

2. Create a different chart, maybe a bar chart

- a. Use one female and one male measure of your choosing

3. Dashboard

- A dashboard is a collection of several worksheets that you have previously created in your workbook. The dashboard displays all of the worksheets in a single place so different data can be compared simultaneously.
- To create a new dashboard, click the icon next to new worksheet in the lower left corner. Our dashboard is going to include the map and bar graph worksheets that we previously created.

Tableau Toolbox

- Tableau's Resources
 - <https://public.tableau.com/en-us/s/resources>
 - <https://www.tableau.com/learn/training>
- Zen Masters
 - <http://www.tableau.com/ZenMasters>
- VizWiz
 - <http://www.vizwiz.com/>
- Viz Painter
 - <https://vizpainter.com/>
- Interworks, Tableau Essentials
 - <https://www.interworks.com/blog/series/tableau-essentials>
 -

Tableau Competition

Tableau's Student Viz Assignment Contest

Round 2: January 17-May 16, 2017

Showcase your work of art for a chance to win a Tableau swag bag

<https://public.tableau.com/en-us/s/student-viz-assignment-contest>



Questions?

LIB.FSU.EDU