
Visualizing Community Assets: Leveraging Tableau Public for Data- Driven Decision- Making within the Community Capitals Framework

NACDEP

June 10, 2025

Agenda

- Menti Activity
- What is Tableau?
 - Sharing with Tableau Public
- How we are using Tableau
 - Data Team & how we got here
 - Teaching with Tableau
 - DSPG & Community Capitals
 - Dollar bill tool & others
- Hands-on workshop
 - Set up a Tableau Public Account
 - Library Statistics Demo
 - Help Resources

Mentimeter Activity

Join at menti.com | use code 8787 2438

 Mentimeter

Instructions

Go to

www.menti.com

Enter the code

8787 2438



Or use QR code



What is Tableau?

- “Tableau is a visual analytics platform transforming the way we use data to solve problems—empowering people and organizations to make the most of their data.”
- Powerful tool that helps users analyze and share data through interactive dashboards and visualizations



- Tableau Desktop – paid desktop application to connect to data, analyze data, create visualizations, and build dashboards.

Tableau Public

- A free platform to explore, create, and publicly share data visualizations online.
 - Tableau Desktop Public Edition
 - Tableau Public Web Authoring (browser-based application)

public.tableau.com

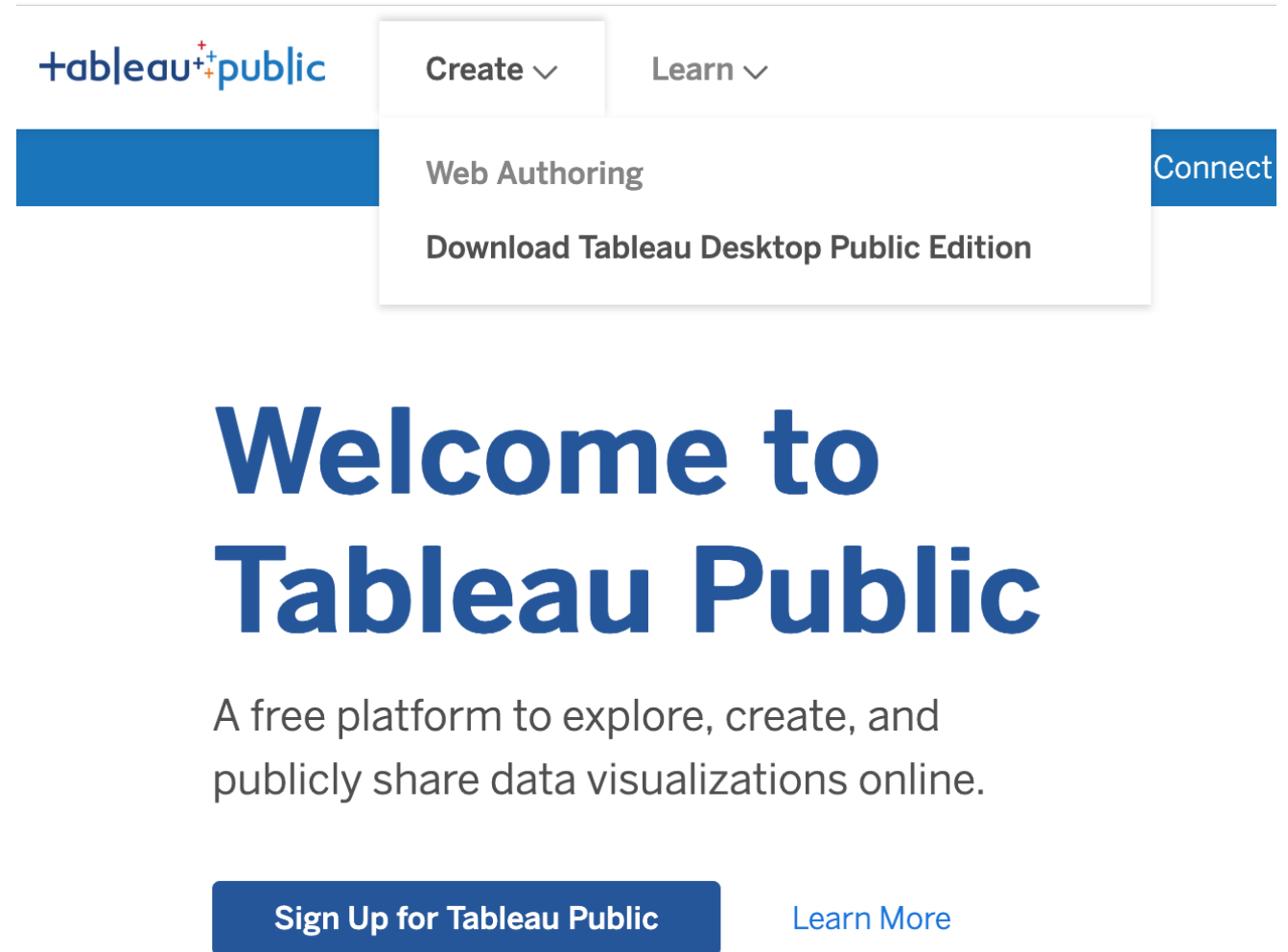






















Tableau Desktop vs Tableau Public

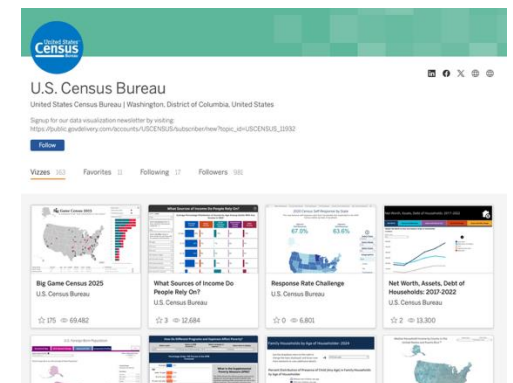
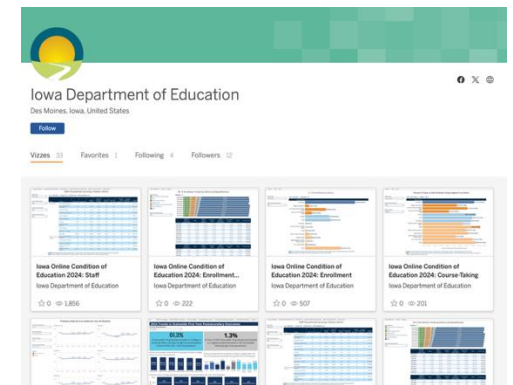
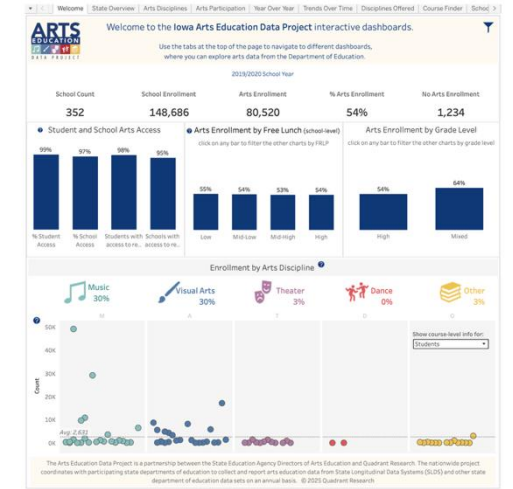
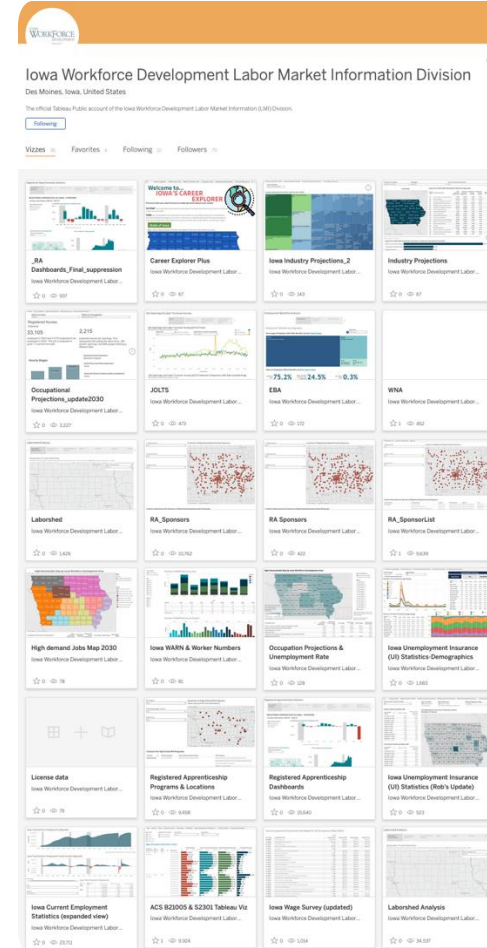
Comparison guide

Features and Capabilities	Tableau Desktop Public Edition (free)	Tableau Desktop
Privacy and security		
Save visualizations locally		
Autorecovery		
Unlimited storage		
Publish or embed visualizations on other public sites		
Download or copy published workbooks		
Publish visualizations to Tableau Public		
Infrastructure deployment	 (Infrastructure available at no cost)	Self-hosted on premise (Role-based licenses)

Share visualizations to Tableau Cloud or Tableau Server		
Live data refresh	Limited data refresh (Google Sheets only. Data is refreshed automatically once every 24 hours)	
Data sources	Limited data source options (Google Sheets, JSON files, Microsoft Excel 2007 or later, OData, PDF, Spatial files, Statistical files, Text files, and more with Web Data Connector)	 (Can connect to all data sources)
Data source row limit	15M rows	Unlimited
Monitoring and metrics	Limited monitoring and metrics	

Sharing Data with Tableau Public

- Iowa Workforce Development
- Iowa Department of Education
- Arts Education Data Project
<https://artseddata.org/iowa/>
- U.S. Census Bureau



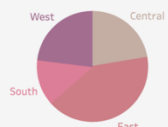
Viz of the Day

Accessibility Dashboard Design

Best Practices Part 1

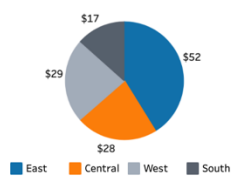
Colour Contrast Palettes for Inclusivity

Low Contrast Palette



It's difficult to distinguish between segments, especially for colorblind users or in poor lighting.

High Contrast Palette



The clear differences between segments make it easy to read for all users, including those with color vision deficiencies.

Colour Palette Examples



Color-blind friendly palettes are crucial for inclusive design, ensuring that information is accessible and easily interpretable for all users, including those with visual impairments or color vision deficiencies.

Clear Labels & Language

1. Profit for Product Category, Product type, Region

	Central	East	South	West	Profit
Bookcases	o -\$0.2K	o \$0.3K	o -\$0.1K	o -\$1.1K	o -\$5.0K
Chairs	o \$0.8K	o \$2.0K	o \$1.8K	o \$0.4K	o \$11.7K
Tables	o -\$1.3K	o -\$2.0K	o -\$3.1K	o \$0.9K	o \$0.3K
Appliances	o -\$0.9K	o \$2.0K	o \$0.7K	o \$2.8K	o \$5.0K
Art	o \$0.2K	o \$0.4K	o \$0.1K	o \$0.3K	o \$10.0K
Binders	o -\$5.0K	o \$2.3K	o -\$1.1K	o \$6.6K	o \$15.0K
Envelopes	o \$0.2K	o \$0.3K	o \$0.2K	o -\$0.1K	o \$20.0K
Accessories	o \$2.1K	o \$2.0K	o \$1.6K	o \$2.6K	o \$23.9K
Copiers	o \$0.1K	o \$9.5K	o \$0.9K	o \$1.9K	o \$0.0K
Machines	o -\$0.2K	o \$1.2K	o -\$3.9K	o \$0.0K	o \$0.0K

Sum of Profit broken down by Region vs. Category and Sub-Category. Colour shows sum of Profit. Size shows sum of Sales. The marks are labelled by sum of Profit. The data is filtered on Order Date (MY), which keeps August 2023, September 2023, October 2023, November 2023 and December 2023.

2. Charts to Tables Boosting Accessibility

Visual charts can be hard for some to access. Text tables offer a simple, readable alternative. This change makes data clearer for everyone.

	Central	East	South	West
Bookcases	o -\$0.2K	o \$0.3K	o -\$0.1K	o -\$1.1K
Chairs	o \$0.8K	o \$2.0K	o \$1.8K	o \$0.4K
Tables	o -\$1.3K	o -\$2.0K	o -\$3.1K	o \$0.9K
Appliances	o -\$0.9K	o \$2.0K	o \$0.7K	o \$2.8K
Art	o \$0.2K	o \$0.4K	o \$0.1K	o \$0.3K
Binders	o -\$5.0K	o \$2.3K	o -\$1.1K	o \$6.6K
Envelopes	o \$0.2K	o \$0.3K	o \$0.2K	o -\$0.1K
Accessories	o \$2.1K	o \$2.0K	o \$1.6K	o \$2.6K
Copiers	o \$0.1K	o \$9.5K	o \$0.9K	o \$1.9K
Machines	o -\$0.2K	o \$1.2K	o -\$3.9K	o \$0.0K

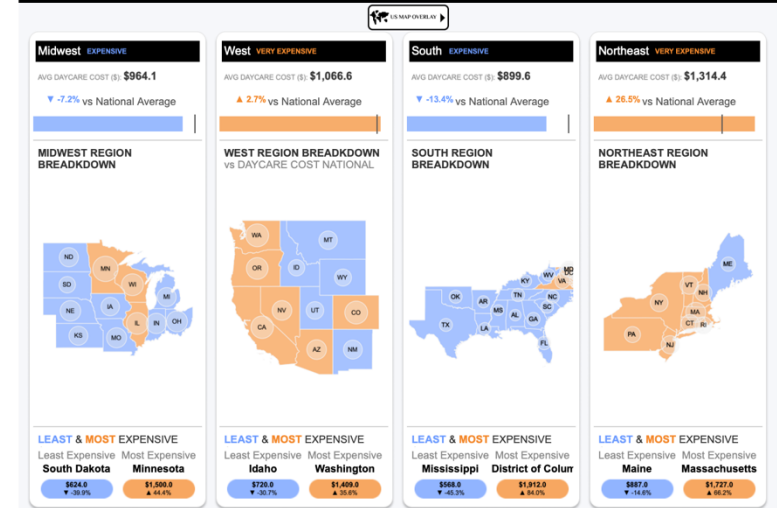
REGIONAL DAYCARE COST SCORECARD

LOOKING FOR A DAYCARE?

Select price range below to narrow your search

\$568.0 \$1,912.0

- As trade tensions rise and tariffs threaten to push prices higher across key sectors, American families are already grappling with one of the biggest household expenses—child care. The dashboard highlights LEAST EXPENSIVE and MOST EXPENSIVE Region-States for daycare.
- In places like Washington D.C., daycare costs rival a second rent payment. Families in the capital pay nearly double the national average.
- Other high-cost states, including Massachusetts and Minnesota, where higher wages and demand often drive up service prices, including child care.



WORLD HAPPINESS REPORT 2024

The top 10 countries have remained much the same since before COVID. Finland is still top, with Denmark now very close, and all five Nordic countries in the top 10. But in the next 10, there is more change, with the transition countries of Eastern Europe rising in happiness (especially Czechia, Lithuania and Slovenia), partly for this reason the United States and Germany have fallen to 23 and 24 in the rankings.

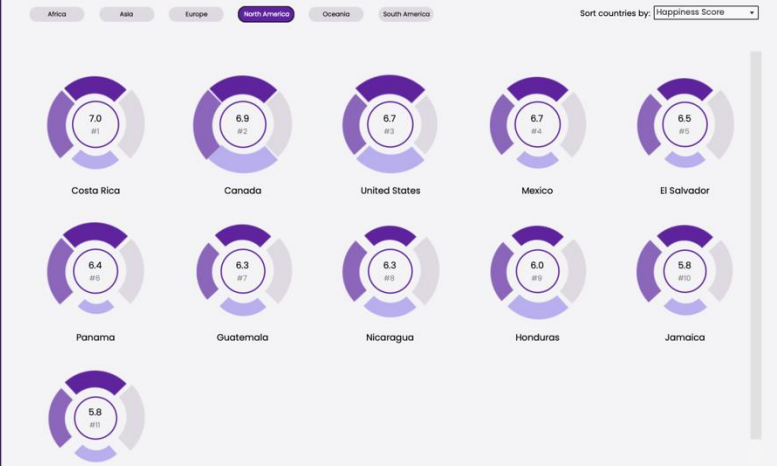
LEGEND



top 5 Countries by Happiness Score	bottom 5 Countries by Happiness Score
Finland 97	Ukraine 88
Denmark 96	Azerbaijan 87
Iceland 95	Turkiye 86
Sweden 94	Georgia 85
Israel 93	Albania 84

Hover on each country to view its specific rank.

This dashboard highlights data from the 2024 WHR that ranks countries based on their life satisfaction scores on the Gallup World. Oceania recorded the highest average happiness score at 7.04, while Africa had the lowest regional average at 4.40.



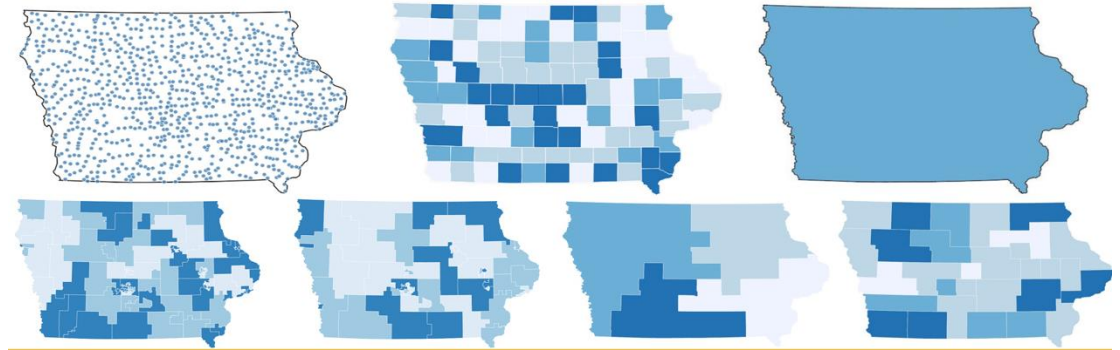
How we are using Tableau

Data Team

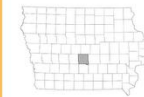
- Data Team within Iowa State University Extension and Outreach Community & Economic Development
- Slowly growing team since 2013 – recently adding two new employees with focus on data literacy
- <https://indicators.extension.iastate.edu/>
- Data for Decision Makers

Data for Decision Makers

The Data for Decision Makers are brief reports presenting a profile and snapshot of a city's, county's, or region's demographic, economic, social, health, or housing characteristics. These reports are frequently updated as new and revised data become available.



Data for Decision Makers



County Profile Polk County

report created: 12/19/2020

Population profile

Polk County is a metropolitan county in central Iowa. It is composed of eighteen incorporated communities and their surrounding rural areas. From 2000 to 2010, Polk County's population increased by 14.06 percent while the state's population increased by 4.10 percent.

Total Population				Neighboring Counties - Percent Population Change			
City	2000 ¹	2010 ²	2019 ³	County	90°-00'	00°-10'	10°-19°
Boonville	1,846	3,860	6,958	Brown, IA	4.12%	0.31%	-0.27%
West Des Moines*	46,403	56,609	67,809	Dallas, IA	36.95%	62.20%	41.31%
Windsor Heights	4,805	4,800	4,809	Jasper, IA	6.95%	-1.00%	0.93%
Carlisle*	3,497	3,876	4,294	Madison, IA	12.30%	11.84%	4.20%
Albion	439	432	452	Martin, IA	6.84%	3.92%	-0.17%
Clio*	12,855	15,547	17,242	Polk, IA	14.61%	14.96%	13.82%
Albion	10,345	14,541	19,221	Story, IA	7.72%	11.95%	8.46%
Des Moines	198,682	203,433	214,237	Waukegan, IA	12.87%	13.60%	11.34%
Elkhart	362	683	918	State of Iowa	5.39%	8.10%	3.57%
Ashley	21,117	45,582	47,355				
Grimes*	5,098	8,246	14,804				
Johanna	8,649	17,278	22,582				
Mitchellville*	1,715	2,254	2,258				
Plowman Hill	5,070	8,785	10,019				
Polk City	2,344	3,438	4,961				
Russell	352	507	504				
Sheldahl*	336	319	321				
Udenwald*	29,072	39,863	44,379				
Male Total	181,759	211,171	241,171				
Female Total	192,362	219,469	241,171				
County Total	374,121	430,640	482,342				
State Total	2,926,324	3,046,355	3,155,070				

* City is located in multiple counties, total population is provided.

Regional Director
Paul Gibson
1625 Adventurist Dr.
Albion, IA 50009
paulgibson@iastate.edu
515-957-5760
<http://indicators.extension.iastate.edu>

County Office
Paul Gibson
1625 Adventurist Dr.
Albion, IA 50009
paulgibson@iastate.edu
515-957-5760
<http://indicators.extension.iastate.edu>

Demographic Profile

Polk County

As with the other 98 counties in the state, Polk County's population is predominantly white, though between 2000 and 2010 there was a decrease in the percent of the population that is white. The percent of the population of Hispanic origin had an increase over the same time period. Compared to the state, Polk County had a higher percentage of young people (17 or younger) and a lower percentage of older people (65+) with a Bachelor's degree or higher in Polk County compared with the state.

Percentage of Population by Race/Hispanic Origin ^{1,2}					Percentage of Population by Age ^{2,3}				
Race Groups	County	2000	State	2010	Age Groups	County	State	2000	2010
White	98.9%	97.6%	86.9%	96.2%	17 or younger	25.7%	25.5%	23.1%	23.9%
White Alone	88.3%	84.7%	93.9%	91.3%	0-4	7.5%	7.6%	6.4%	6.6%
White Alone, Not Hispanic	86.4%	80.7%	92.6%	88.7%	5-9	7.3%	7.2%	6.9%	6.6%
Black or African American	4.8%	6%	2.1%	2.9%	10-14	6.9%	6.8%	7.2%	6.6%
Asian/Pacific Islander	2.6%	3.5%	1.3%	1.7%	15-17	4.0%	3.9%	4.6%	4.1%
American Indian	0.3%	0.3%	0.3%	0.4%	18-24	9.4%	9.3%	10.2%	10.0%
Hawaiian	0.1%	0.1%	0%	0.1%	25-44	32.2%	29.5%	27.6%	24.5%
Other	2.2%	2.9%	1.3%	1.8%	45-64	21.5%	24.9%	22.2%	26.6%
Two or more races	1.7%	2.4%	1.1%	1.8%	65 or older	11.1%	10.8%	14.9%	14.4%
Hispanic origin ⁴	4.4%	7.6%	2.8%	3%	85 or older	1.6%	1.5%	7.2%	7.2%

* Hispanics can be of any race.

Households and Families by Type, 2015-2019¹

	County	State		
	Estimate	MOE ²	Estimate	MOE ²
Total Households	187,798	+/-1,054	1,265,473	+/-4,009
Family Households	46.5%	+/-0.9%	50.0%	+/-0.3%
Married couple	7.8%	+/-0.5%	7.0%	+/-0.1%
Female Householder ³	13.1%	+/-0.6%	13.5%	+/-0.2%
Male Householder ³	18.4%	+/-0.7%	18.4%	+/-0.2%
Nonfamily Households	27.3%	+/-0.6%	24.6%	+/-0.2%
Householder Living Alone	5.8%	+/-0.4%	4.5%	+/-0.1%

Age Dependency⁴

58.3

57.0

66.7

63.8

Old-Age

17.6

17.0

24.3

24.3

Child

40.7

40.0

41.8

39.1

Age Dependency Ratio

Pop. County Population Pyramid, 2010⁵

85+

70-84

55-69

40-54

25-39

10-24

0-9

Male

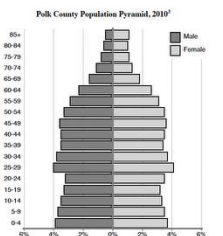
Female

* No incoherent present. ** No wife present

Educational Attainment, 2015-2019¹

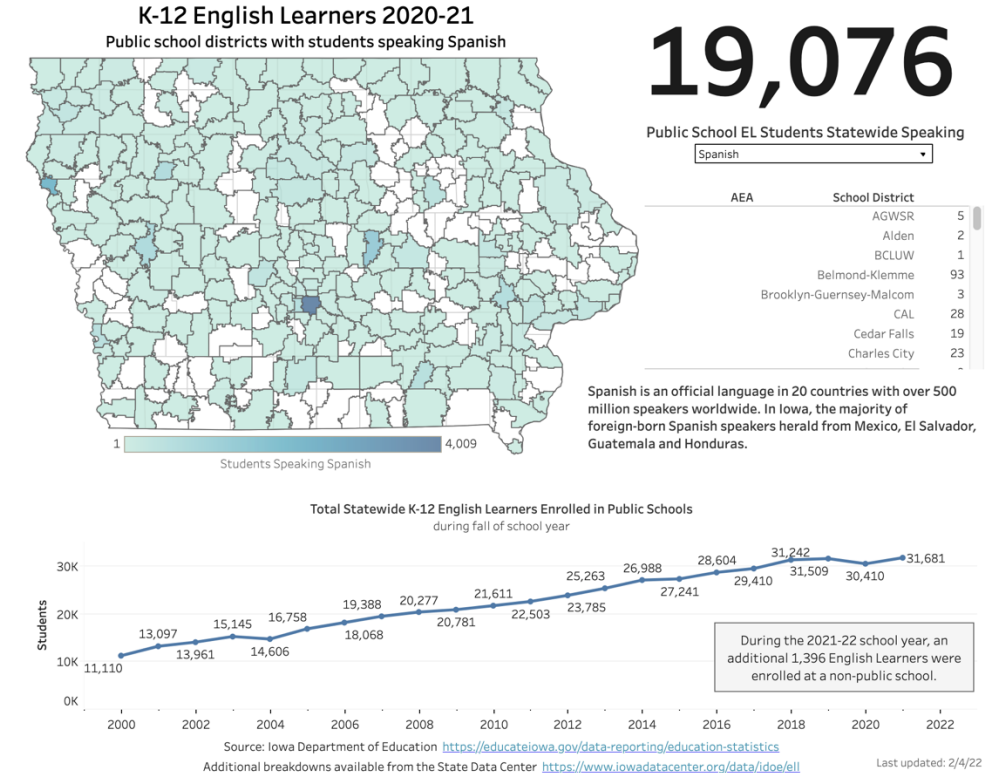
	County		State	
	Estimate	MOE*	Estimate	MOE*
Population 25 and older	28.19%	+/-1.31%	21.724%	+/-2.981%
High School Graduate or Higher	11.2%	+/-0.4%	9.3%	+/-0.2%
Bachelor's Degree or Higher	91.5%	+/-0.4%	92.1%	+/-0.2%

* MOE = the margin of error for American Community Survey estimates¹ which is a statistical value that when added to or subtracted from the point estimate value gives the range of a 90% confidence interval around the estimate.



Data Team

- We have gotten into Tableau as a way of creating interactive visualizations rather than just providing the static PDF reports
- Expands the opportunities for the data and stories we can share – can provide more information/detail than can be provided in a PDF



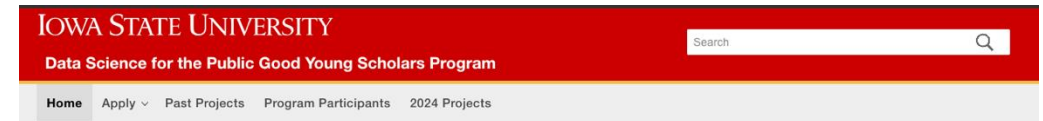
Teaching with Tableau

- Grant from the Midwest Big Data Hub to develop and deliver a pilot workshop on community data and Tableau Public
- Colleague using Tableau Public in their for-credit university course



Evaluating Community Capitals

- Summer 2024 students worked on collecting data measures related to the 7 community capitals at the county and city level based on lit review
- Created a Tableau dashboard at the end of the program to showcase the data
- Over 80 measures from nearly 20 data sources



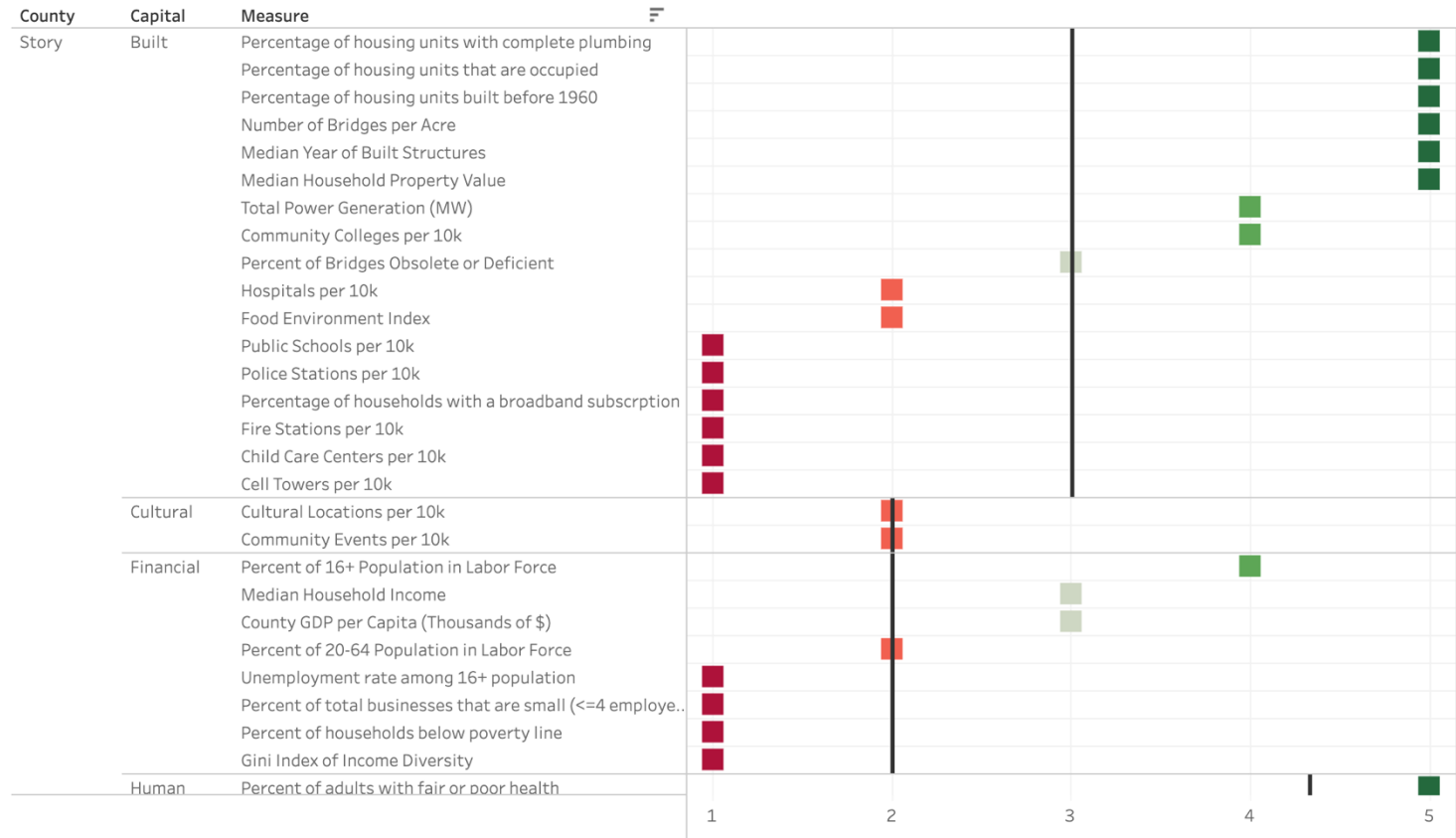
DATA SCIENCE FOR THE PUBLIC GOOD YOUNG SCHOLARS PROGRAM

2025 Data Science for the Public Good Program Overview

The Data Science for the Public Good (DSPG) Young Scholars program is an immersive summer program that engages students from across Iowa to work together on projects that address local and state government challenges around critical social issues relevant in the world today. DSPG resident scholars conduct research at the intersection of statistics, computation, and the social sciences to determine how information generated within every community can be leveraged to improve quality of life and inform public policy. This program provides an excellent opportunity to develop a professional portfolio, expand your networks, and learn about the application of data science.

The summer 2025 program runs from May 21st to July 23rd. Working in teams, fellows and interns collaborate with project stakeholders and research faculty across the Iowa State University. Research teams combine disciplines including statistics, data science, and the social and behavioral sciences to address complex problems proposed by local, state, and non-profit agencies. Students work on multiple projects and interact with different scholars, faculty, and sponsors over the course of the training program.

Evaluating Community Capitals



Other Examples

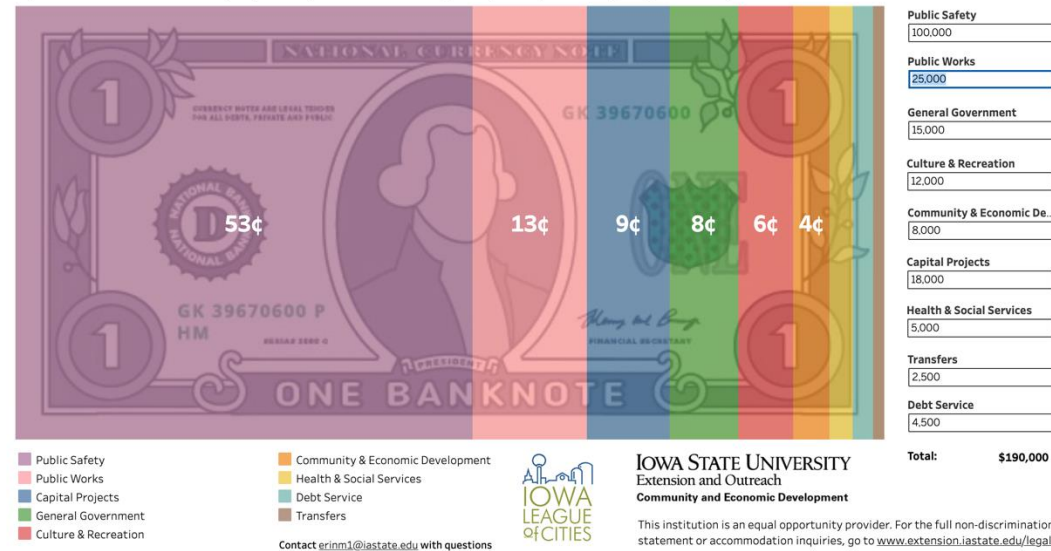
City General Fund Expenditure by Budget Category: Dollar Bill *Planning Tool*

Visualize your city's planned general fund expenditures with this interactive Dollar Bill *Planning Tool*. Building upon ISU Extension Community & Economic Development's original [Dollar Bill Tool](#), which displays current spending, this new planning tool empowers communities to create a custom dollar bill for planning purposes, projecting their budgeted expenditures. It offers a clear visual representation of how planned expenses are distributed across different budget categories, facilitating informed decision-making and community engagement.

How to use this tool:

- 1. Locate the Budget Categories:** On the right side of the dollar bill graphic, you will find the main budget expenditure categories.
- 2. Enter Planned Expenditures:** For each category, enter your city's *planned* expenditure amount for the upcoming budget cycle in the corresponding input field.
- 3. Observe the Visual:** As you enter the planned amounts, the dollar bill graphic will automatically update.
- 4. Understand the Representation:** The shaded portion of the dollar bill for each category represents the proportion of your total *planned* general fund expenditures allocated to that category. For example, if your total budgeted general fund expenditures are \$100,000, and you enter \$40,000 for the "public safety" category, approximately 40% of the dollar bill will be shaded in light purple, visually indicating that 40 cents of every general fund dollar is planned for public safety.

Important Note: Ensure that the sum of your planned expenditures across all categories represents your total budgeted general fund expenditures.



City General Fund Expenditure by Budget Category, FY 2025

The dollar bill tool below shows the categories in which the selected city spends, or invests in, from its general fund. It represents how much of every dollar of revenue that comes to the city goes to each of the functions below by budget category. For example, if a city spends 35 cents of every general fund dollar on public safety, the dollar bill will show 35 cents for that category. Property tax revenues make up a significant portion of general fund revenues (about 54% for fiscal year 2025).

For more detailed information on general fund revenues and expenditures by category, see the *City General Fund Revenue and Expenditures* reports at: <https://indicators.extension.iastate.edu/indicators/Publications/?>.

Use the drop-down menu to the right to select a city.

2025 AMES



* Calculated values are rounded to the nearest cent which may add up to a total slightly more or less than \$1.00

Data Source: Iowa Department of Management

Budget Category

- Public Safety
- Public Works
- Culture & Recreation
- Health & Social Services
- Transfers
- Debt Service
- General Government
- Capital Projects
- Community & Economic Development

For more details on the source of average city general fund revenues visit the chart below.

Average City General Fund Revenues by Source



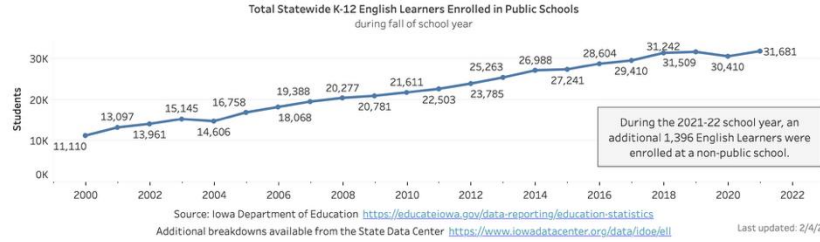
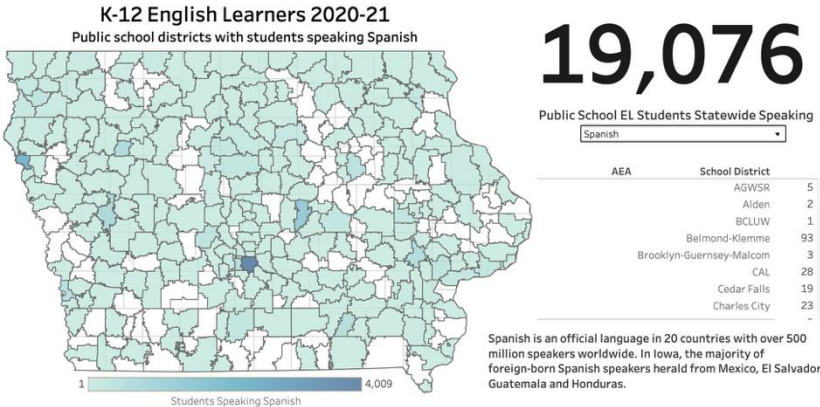
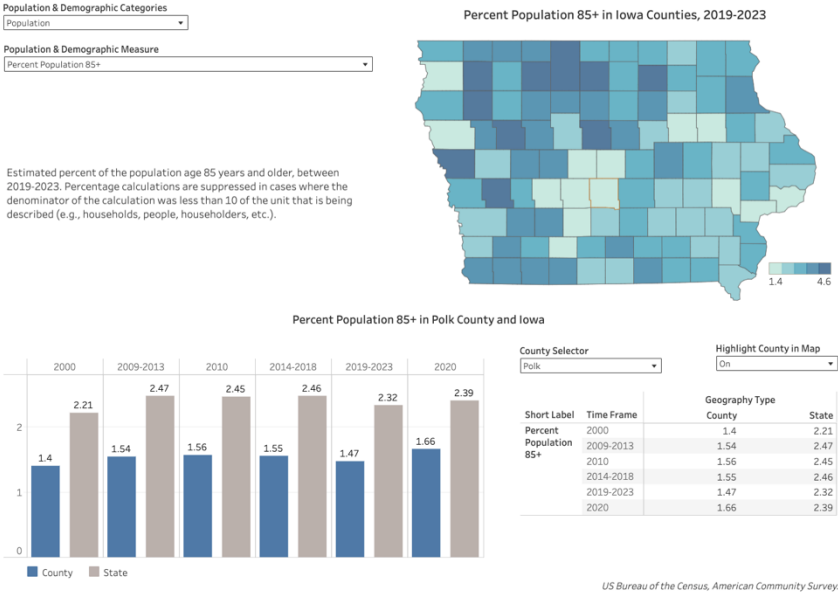
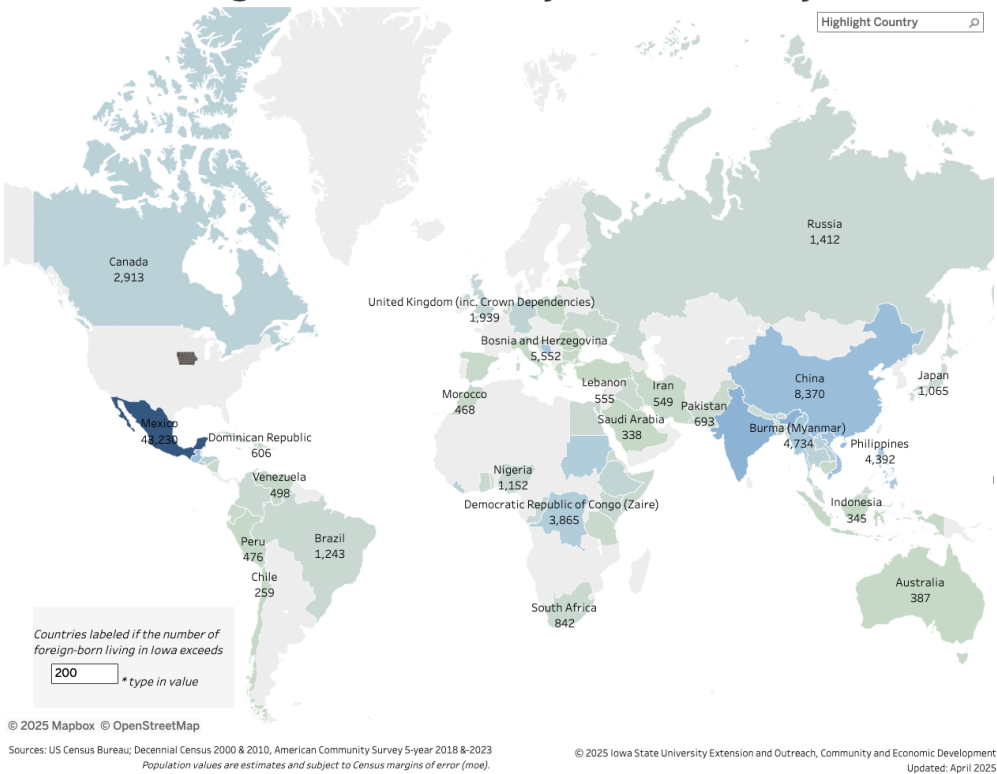
IOWA STATE UNIVERSITY
Extension and Outreach
Community and Economic Development

Contact erinm1@iastate.edu with questions

This institution is an equal opportunity provider. For the full non-discrimination statement or accommodation inquiries, go to www.extension.iastate.edu/diversity/ext.

Other Examples

Migration to Iowa by Birth Country



Hands on Tutorial

Iowa Public Library Statistics

Create Tableau Public Account

- Go to public.tableau.com
- Click **Sign Up for Tableau Public**
- You will receive an email containing a link to confirm this registration. You must follow the instructions in the email in order to activate your Tableau account
- **Sign in** with your new account information

Create your Tableau Account

Passwords are case sensitive, 8-100 characters long.
Requires at least one number (0-9), one uppercase letter,
one lowercase letter, and one of the following characters: ! "
 \ # \$ % & ' () * + , - . / : ; < = > ? @ [] ^ _ ` { | } ~ .

CREATE MY ACCOUNT

ALREADY HAVE AN ACCOUNT? [SIGN IN](#)



[Sign In](#) [Reset Password](#)

Thank you for registering. You will receive an email containing a link to confirm this registration. You must follow the instructions in the email in order to activate your Tableau account.

Quick Links

- [Tableau Home Page](#)
- [Tableau Community](#)
- [Blueprint Assessment](#)
- [Tableau Public](#)

English (US) System Status Blog Developer Academic Careers Contact Us Help

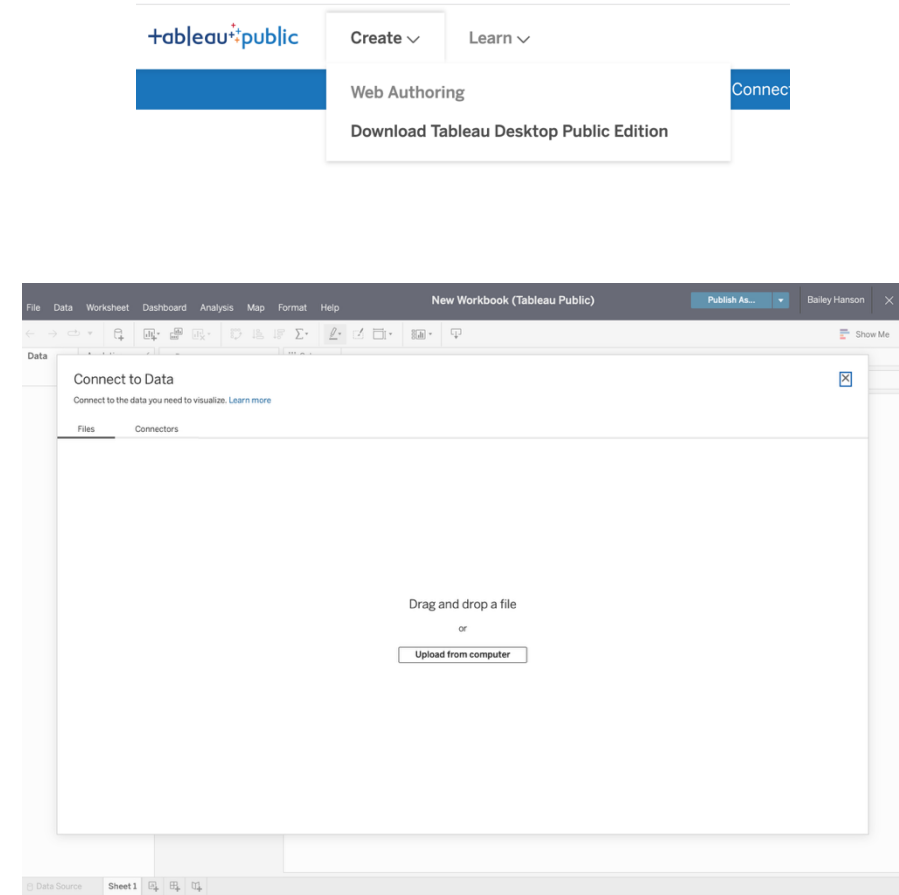
[LEGAL](#) [PRIVACY](#) [UNINSTALL](#) [DO NOT SELL MY PERSONAL INFORMATION](#) [YOUR PRIVACY CHOICES](#)

in

© 2025 SALES

Create a New Workbook

- Usually, you would click **Create** then **Web Authoring** to start a new workbook
- A new workbook would open asking you to connect to data
- But we are going to start with a template that already has data loaded



Make a Copy

- Search **NACDEP 2025** in Tableau Public
- Select **NACDEP 2025 Library Demo Template**
- Select **Make a copy**
- When the workbook opens, click **Publish As...** and give the project a name and click **Publish**

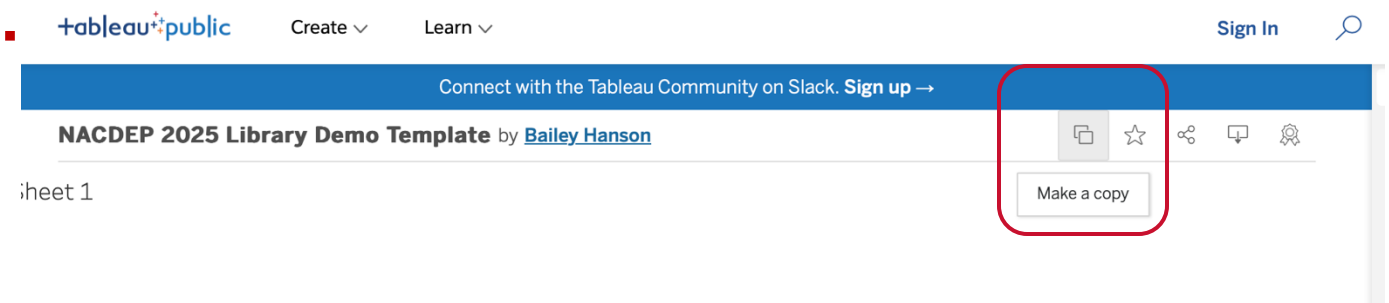
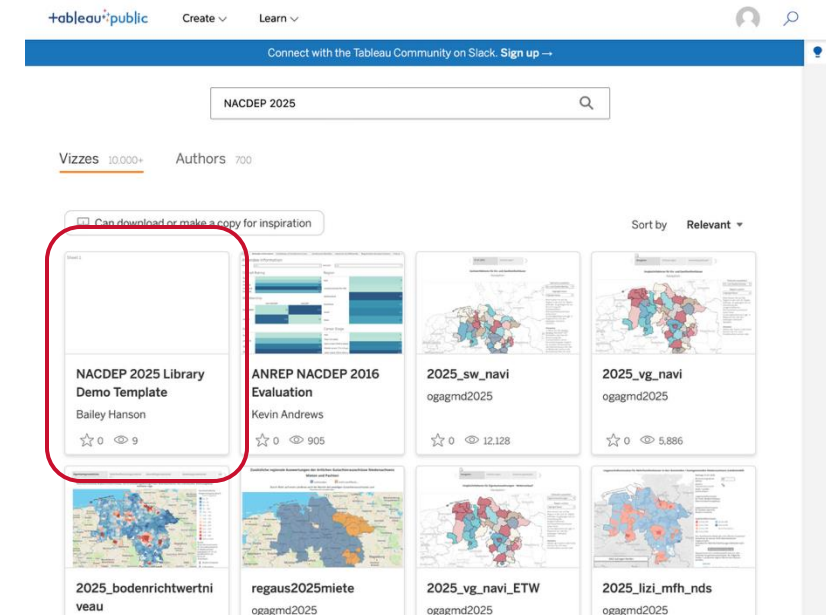
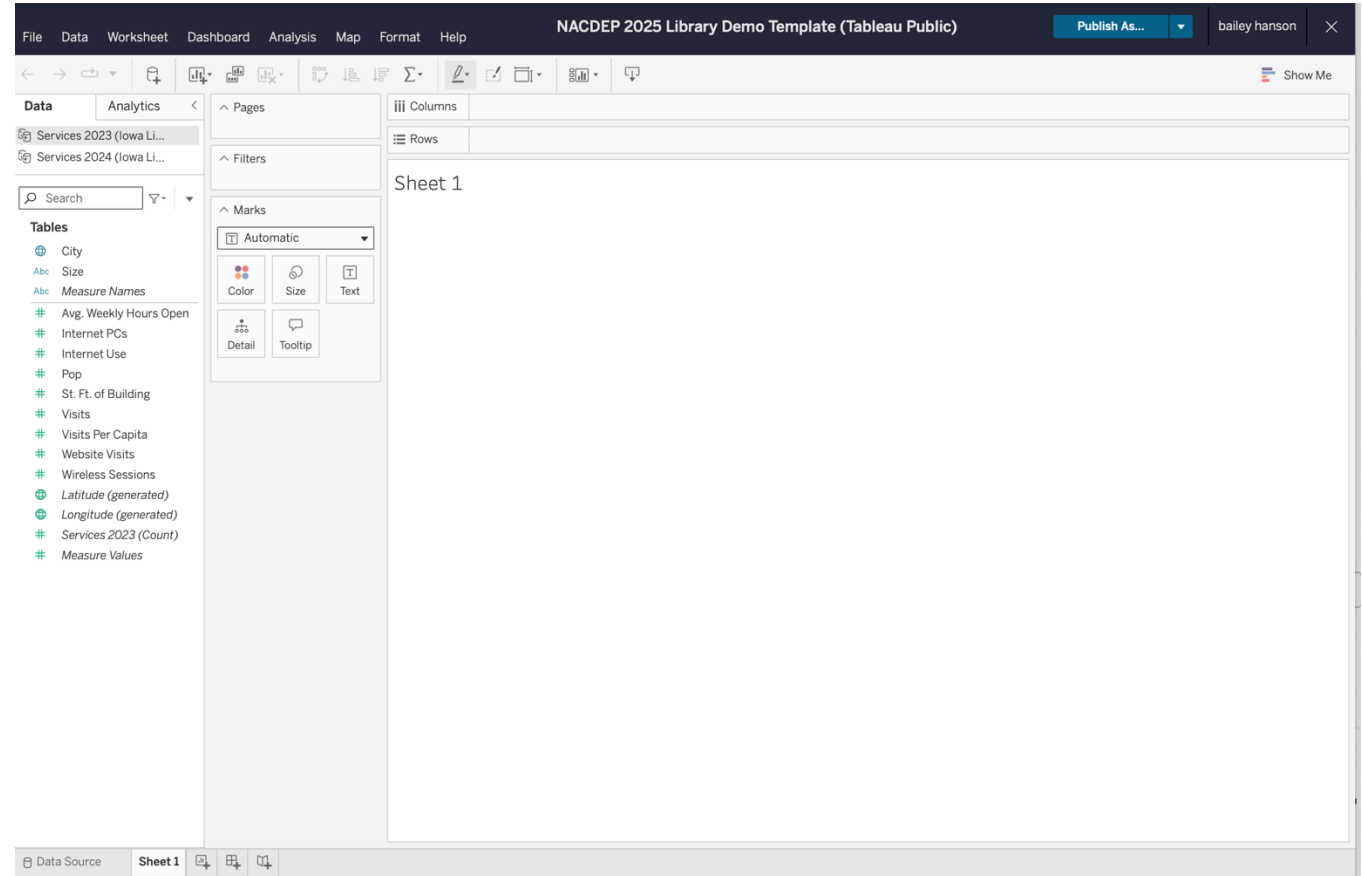


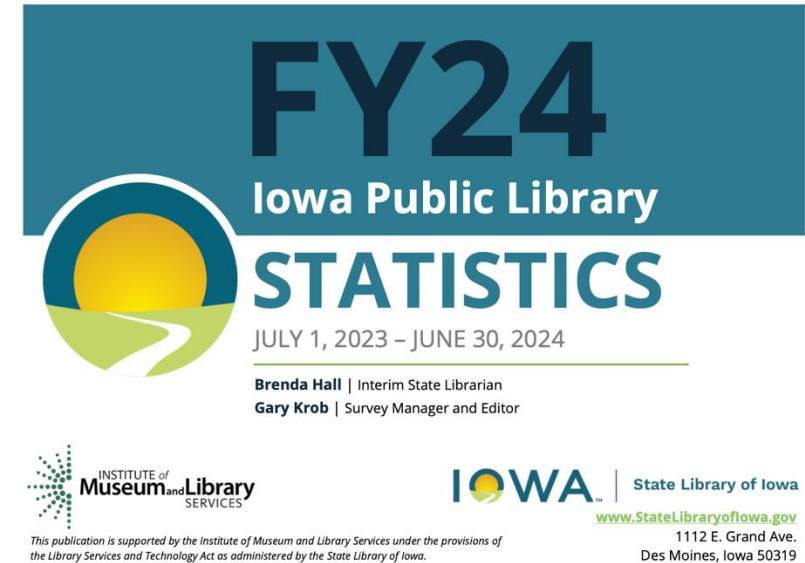
Tableau Workbook from Copy

- You now have a Tableau workbook saved to your public account that already has the data sources you need to start



Iowa Library Statistics Data

- The Public Libraries Survey (PLS) from The Institute of Museum and Library Services
- Iowa Public Library Stats Report – data provided as tables within a PDF report
- Created an Excel file from the tables in the PDF on library services (visits, public internet usage, etc.)



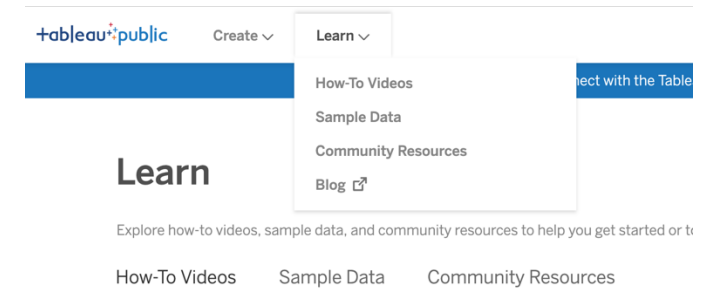
Demo in Tableau Public

Tableau Public Learning Resources

- Tableau Public Learn
- help.tableau.com

Tableau Help

- Tableau Cross-Product
- Tableau Cloud
- Tableau Prep
- Tableau Desktop and Web Authoring
- Tableau Server on Linux
- Tableau Server on Windows
- Tableau Public
- Tableau Server in the Cloud
- Developer Resources
- Tableau Mobile
- Tableau Reader



Questions?

Bailey Hanson
Data Analyst III
Iowa State University Extension
and Outreach

bahanson@iastate.edu

Data Source Interface

Source:
Tableau Help

The screenshot shows the Tableau Data Source Interface for a Microsoft Excel file named 'data'. The interface is divided into several sections:

- Connections:** Shows the 'data' connection from Microsoft Excel.
- Sheets:** Lists the sheets within the Excel file, including 'Sheet1' and 'New Union'.
- Canvas:** The main workspace for creating visualizations. It shows a 'Sheet1' data source and a message: 'Need more data? Drag tables here to relate them. [Learn more](#)'.
- Data grid (fields):** A table showing the fields available in the data source. It includes columns for Type, Field Name, Physical Table, and Remote Field Name.
- Data grid (rows):** A table showing the first 100 rows of data from the 'Sheet1' data source. It includes columns for Date, Symbol, Name, Daily Closing Price, and Industry.
- Metadata grid:** A table showing the metadata for the data source, including the field names and their physical table names.

Annotations with red arrows point to the following elements:

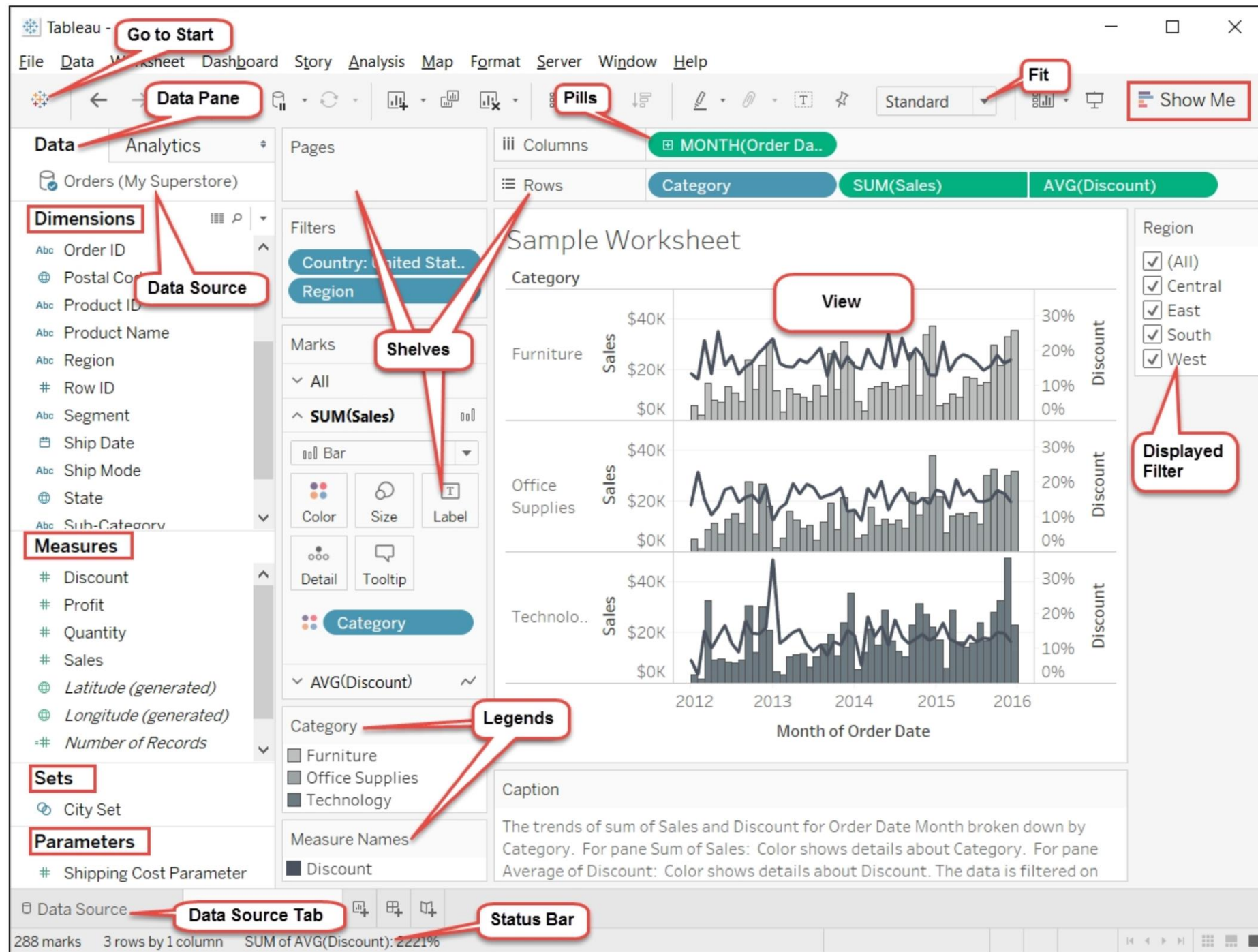
- Data source name:** Points to 'Sheet1 (data)' in the top left.
- Tableau connection options:** Points to the 'Connection' section in the top right, which includes options for 'Live', 'Extract', 'Edit', and 'Refresh'.
- Canvas:** Points to the main workspace area.
- File name:** Points to 'data' in the 'Connections' section.
- Sheets within Excel file:** Points to the 'Sheets' section.
- Data grid (fields):** Points to the table showing the fields available in the data source.
- Number of preview rows:** Points to the '100' value in the 'rows' column of the data grid.
- Metadata grid:** Points to the table showing the metadata for the data source.
- Data grid (rows):** Points to the table showing the first 100 rows of data from the 'Sheet1' data source.

Type	Field Name	Physical Table	Remote Field Name
Date	Date	Sheet1	Date
Symbol	Symbol	Sheet1	Symbol
Name	Name	Sheet1	Name
Daily Closing Price	Daily Closing Price	Sheet1	Daily Closing Price
Industry	Industry	Sheet1	Industry

Date	Symbol	Name	Daily Closing Price	Industry
2/1/2019	NAB.AX	National Australia Bank Ltd.	23.63000	Banking
3/1/2019	NAB.AX	National Australia Bank Ltd.	23.93000	Banking
4/1/2019	NAB.AX	National Australia Bank Ltd.	23.98000	Banking
7/1/2019	NAB.AX	National Australia Bank Ltd.	24.22000	Banking
8/1/2019	NAB.AX	National Australia Bank Ltd.	24.44000	Banking
9/1/2019	NAB.AX	National Australia Bank Ltd.	24.57000	Banking
10/1/2019	NAB.AX	National Australia Bank Ltd.	24.60000	Banking
11/1/2019	NAB.AX	National Australia Bank Ltd.	24.55000	Banking
14/1/2019	NAB.AX	National Australia Bank Ltd.	24.67000	Banking
15/1/2019	NAB.AX	National Australia Bank Ltd.	24.72000	Banking
16/1/2019	NAB.AX	National Australia Bank Ltd.	24.80000	Banking
17/1/2019	NAB.AX	National Australia Bank Ltd.	24.81000	Banking
18/1/2019	NAB.AX	National Australia Bank Ltd.	24.89000	Banking

Worksheet Design Interface

Source:
O'Reilly
Mastering Tableau by
David Baldwin



Data Categories: Dimension vs Measures

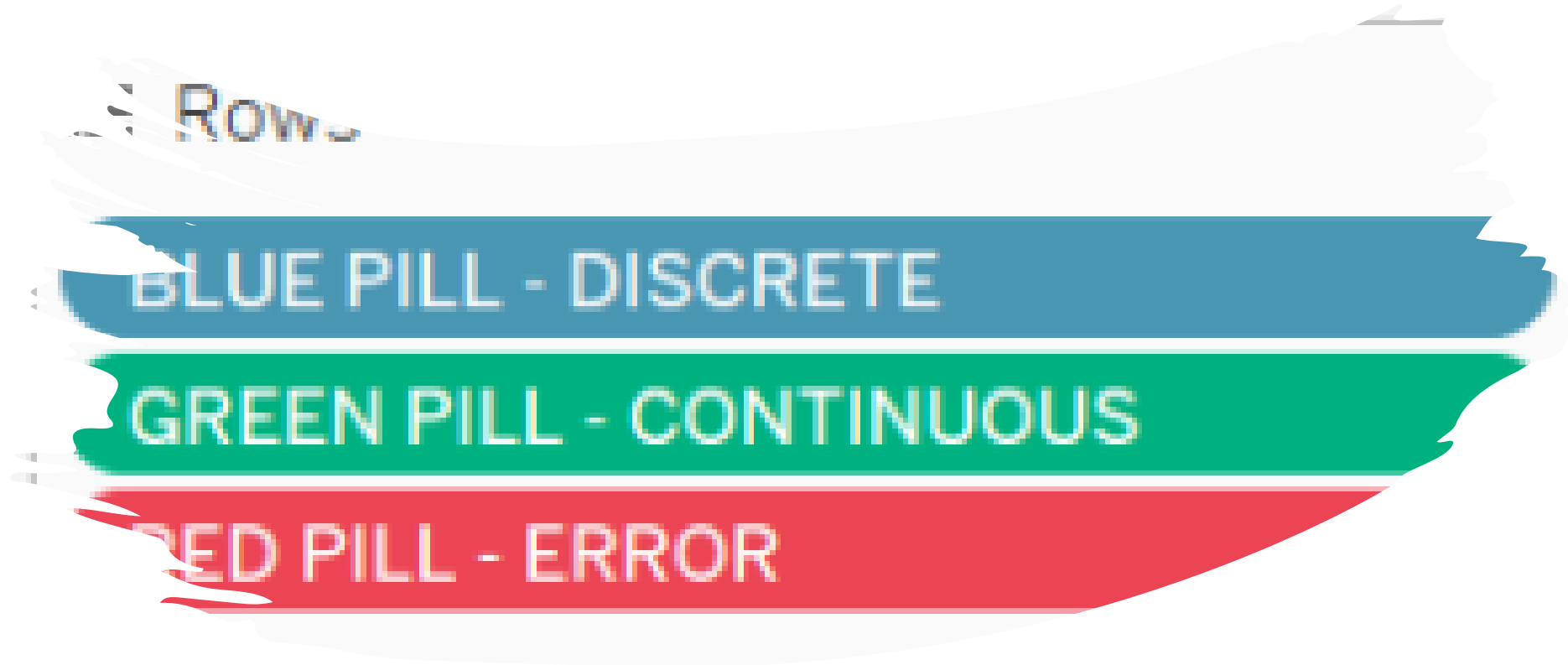
Blue and Green Pills

- ***Dimensions are qualitative***, meaning they can't be measured but are instead described. Dimensions are often things like city or country, eye color, category, team name, etc. Dimensions are usually discrete.
- ***Measures are quantitative***, meaning they can be measured and recorded with numbers. Measures can be things like sales, height, clicks, etc. In Tableau Desktop, measures are automatically aggregated; the default aggregation is SUM. Measures are usually continuous.

Data Categories: Dimension vs Measures

Blue and Green Pills

- *Discrete* means individually separate or distinct. Toyota is distinct from Mazda. In Tableau Desktop, discrete values come into the view as a label and they create panes.
- *Continuous* means forming an unbroken, continuous whole. 7 is followed by 8 and then it's the same distance to 9, and 7.5 would fall midway between 7 and 8. In Tableau Desktop, continuous values come into the view as an axis.
- Dimensions are usually discrete, and measures are usually continuous. However, this is not always the case. Dates can be either discrete or continuous.



Row
BLUE PILL - DISCRETE
GREEN PILL - CONTINUOUS
RED PILL - ERROR

A shorter answer ...

Dimensions usually cannot be aggregated (summed, averaged etc), whereas measures can be.