Guide to Data Storytelling for Nonprofit Organizations

This guide is a collaborative project by students in the Spring 2025 Honors Colloquium Course, *Data Storytelling for Societal Impact*, at Meredith College and is shared freely to support nonprofit organizations.

MEREDITH COLLEGE

3800 Hillsborough Street
Raleigh, NC 27607
www.meredith.edu

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INTRODUCTION

When data is transformed into a compelling visual story, it doesn't just inform—it inspires action. That storytelling power could be what opens the door to a grant, a donation, or the opportunity your organization has been waiting for.

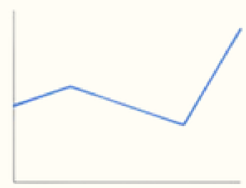
In today's digital age, nonprofit organizations are surrounded by an overwhelming amount of data—but the real challenge lies in identifying what matters most and making it meaningful. This guide is designed to introduce your organization to practical tools for finding, interpreting, and presenting data in ways that are both **clear** and **persuasive**. Through real-world examples, you'll learn how to transform raw information into **visually engaging graphics** that elevate your message and **strengthen your call to action**. Our approach draws inspiration from *Storytelling with Data: A Data Visualization Guide for Business Professionals* by Cole Nussbaumer Knaflic—a leading voice in using data to drive understanding and impact.
ISBN: 978-1119002253 | Website: storytellingwithdata.com

This guide is the collaborative work of students in the Spring 2025 Honors Colloquium course, Data Storytelling for Societal Impact, at Meredith College. In this course, we explored the powerful intersection of data, storytelling, and social change, focusing on the essential role nonprofit organizations play in addressing societal and economic challenges. In this brief guide, we share the skills we developed to turn data into compelling stories that can drive action. You'll find an overview of data visualization best practices, guidance on finding and using different types of data, two examples of nonprofit data stories, and a short introduction to using the software tools of Google Sheets and Google Slides for data analysis and presentation.

We are especially grateful to **Note in the Pocket** for generously sharing the data used in the storytelling examples featured in this guide. The organization's journey began in 2005, when a compassionate teacher and her mother provided warm clothing to children in need at a local school. What started as a simple act of kindness has grown into a thriving nonprofit that now provides new and gently used clothing to children and their families across Wake and Durham Counties in North Carolina. Their real-world impact and data allowed us to demonstrate how clear and compelling visuals can bring a mission to life.
Website: noteinthepocket.org

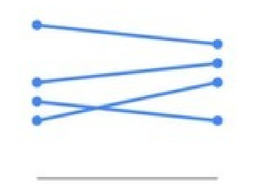
BEST PRACTICES FOR DATA STORYTELLING

This section provides a brief summary and overview of graphing techniques, as explained by *Storytelling with Data*. First and foremost, we start with **how we want the data to be visualized.** This can be done in various ways depending on your data. On the right are a few types of graphs that are effective for storytelling.



Line

Focuses on continuous data over time

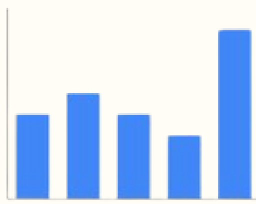


Slopegraph

Draw attention to a specific trend

Simple text

Draw attention to a specific number/data



Vertical bar

Charting categorical data

Decluttering and having **visual order** through visualizations allows one to highlight and draw attention to certain areas of the graph and decrease cognitive load, which is the audience's ability to mentally process the data story. Examples of decluttering include removing gridlines, cleaning up axis labels, and maintaining consistent color use. Relying on the visual order of data allows us to control where we want the viewers' attention to be, from the beginning to the end of a story. Otherwise, it can leave the audience confused and overwhelmed. Animations that reveal parts of a chart one at a time are also a great tool for drawing attention to a specific number and/or topic.

How to avoid clutter in a chart

- Remove chart borders
- Remove gridlines
- Remove data markers
- Clean up axis labels
- Label data directly
- Use colors consistently

Along with decluttering graphs, we can use **preattentive attributes** to create visual order with our data. This can include using size, color, outline, underline, bold, italicize, and spatial separation that will better direct the audience's focus. A few examples are shown below:

BOLD

We have increased our revenue **by 30%**

COLOR

We have increased our revenue by 30%

ITALICIZE

We have increased our revenue *by 30%*

A few videos we recommend for further **research and visual learning**:

How to Declutter Data Visualization: https://youtu.be/X79o46W5plI
How to use Color in your Data Visualization: https://youtu.be/AiD6etOB6qI

Extended Resources for Best Practices

For more detailed explanations about data visualization and storytelling techniques, below are recommended topics and sections from the book *Storytelling with Data: A Data Visualization Guide to Business Professionals*.

Best Visuals to Use

Chapter 2: pages 35 to 61

- Scatterplots
- Line graphs
- Simple text
- Bar charts

Visuals to Avoid

Chapter 2: pages 61 to 69

- Pie Chart
- 3D graph
- Secondary Y-axis
- Donut charts

Avoid Clutter

Chapter 3

Visual clutter distracts from your message and overwhelms the viewer.

Avoid:

- Heavy gridlines
- Unnecessary legends or repeated axes titles
- Overly bright, clashing colors

How to:

- Remove chart borders and minimize ink
- Use subtle grey for axes and background elements
- Only highlight the key trend

How to Remove Clutter

Chapter 3: pages 90 to 98

Follow this step-by-step tutorial:

- Remove chart borders
- Remove Gridlines
- Remove Data markers
- Clean up axes labels
- Label data directly
- Use color consistently

Use Preattentive Attributes

Chapter 4

Visual cues draw our brains instantly to what's important. Add these preattentive attributes to your graphs:

- Color: Use bold colors for the main trend, muted for background data
- Size: Adjust to emphasize key elements
- Position: Label final data point on trend line
- Text: Use medium grey for the title; bold key numbers for emphasis

Model Visual #1: Line Graph Anatomy

Chapter 6: pages 152 to 154

Use this example as a benchmark:

- Title and subtitle/note
- X and Y axes labels
- Marking final data point with a circle and label
- Compare first and last data points
- Shade key time periods with a transparent box

Data Meets Story

Chapters 7 and 8

The book gives several examples for using a narrative structure for live or written presentations that will make the charts, and your explanation of the story that the charts are illustrating, understandable to any audience. The stories need to have a beginning, middle, and end. Ways to ensure that your story is compelling and understandable to the audience are:

- Practice telling the story to a friend or colleague who has a fresh perspective
- Do “reverse storyboarding” in which you take the final output and narrow it down to its essential outline to ensure that the story flows well and is logically organized

SOURCES OF DATA

The first step to presenting a story to your audience is finding data. For nonprofits, data is essential—it brings **clarity**, **credibility**, and **depth** to your message. It allows you to highlight the **real impact** of your work, uncover **growth opportunities**, and make **informed decisions**. Whether you're demonstrating outcomes to funders or engaging your community, **data transforms your story from a heartfelt mission into measurable results that inspire action.**

Make sure that the data you use is **relevant** to your story. Each graph you present should support the point you are trying to make. Some data can be generated from within your organization, such as volunteer hours or revenues raised. We refer to this as an **internal source** of data. Other data can come from sources outside of your organization, such as the poverty rate for your community. We refer to this as **external sources** of data. We give several examples of internal and external sources of data on the next pages.

There are two data sources you should focus on:

Internal Sources

External Sources

Internal Sources of Data

Possible sources of data from within your organization include:

Development Team / Fundraising Staff / Donor Relations Coordinator

Donor Database – CRM Systems – Grant Reports

Volunteer Coordinator / Program Managers / HR Team

Volunteer Records – Staff Performance and HR Records

Program Staff / Case Managers / Outreach Coordinators / Events Coordinator

Program Participation Data – Surveys and Feedback Forms – Event Registrations and Attendance Logs

Evaluation Team or Marketing / Communications Team

Surveys and Feedback Forms – Website and Social Media Analytics

Operations Staff / IT Support

CRM Systems – Internal data system maintenance and reporting infrastructure

Finance Department / Grants Manager / Executive Leadership

Financial Reports – Grant Reports – Staff Performance and HR Records

External Sources of Data

In some cases, consulting external data sources can significantly enhance storytelling efforts. Utilizing **publicly available databases** allows researchers to provide deeper insights into the challenges a nonprofit seeks to address or highlight specific issues affecting particular demographic groups. Accessing and analyzing such data can support evidence-based advocacy and program development. Below are examples of reliable external data sources, along with guidance on how to navigate these platforms to get the best results.

U.S Bureau of Labor Statistics (BLS): https://www.bls.gov
The BLS provides current and historical labor market data, ideal for understanding employment trends, labor force participation, and economic health.

- **Steps to find data:**
  1. Go to https://www.bls.gov
  2. Click the “Subjects” tab in the top toolbar
  3. Under "Employment", you can select:
     a. Unemployment Rate
     b. Labor Force Participation Rate
     c. Employment by Demographics

- **Example of Use:** If your nonprofit is working in rural North Carolina, use BLS data to compare local unemployment rates to the national average to make the case for job training programs

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U.S Census Bureau:
https://www.census.gov
Census data includes detailed information on poverty, educational attainment, housing, and population trends, all of which are key for nonprofit reporting and strategy.

- **Steps to find data:**
  Go to https://www.census.gov
  Click on "Surveys/Programs" in the top menu and select surveys such as:
  a. American Community Survey (ACS)
  → for poverty, education, and housing
  b. Population Estimates Program
  → for demographics

- **Example of Use:** Download the poverty rate by county from the ACS to demonstrate how your food assistance nonprofit serves communities with the highest need.

USAFacts
https://usafacts.org/
USAFacts is a not-for-profit, nonpartisan data aggregator website that pulls from various government sources that detail statistics on topics such as crime, economy, government spending, health, population, and the environment.

- **Steps to Find Data:**

  Go to https://usafacts.org/

  You can search across their top of the page menu categories to get to the topic of the data you are interested in or use their search bar to find data for your topic. They have links on each graph that lead to the original source of the data they are aggregating.

- **Example of Use:** They have Data Guides on many topics, such as "The Drug Abuse and Mental Health Crisis" or "The Trends in Housing Affordability and Subsidized Housing" that compile data from various sources to explore each topic.

Other Sources of External Data:

Data.gov (https://www.data.gov/) Massive hub of U.S. government datasets across sectors (education, housing, health, etc.).

National Center for Education Statistics (NCES) (https://nces.ed.gov/) School enrollment, graduation rates, test scores, etc

World Bank Open Data (https://data.worldbank.org/) Economic development, poverty, health, and education globally.

County Health Rankings (https://www.countyhealthrankings.org/) Health, education, housing, and economic indicators by county.

Census Reporter (https://censusreporter.org/) User-friendly summaries of ACS/Census data.

Pew Research Center (https://www.pewresearch.org/) Attitudes, public opinion, tech use, religion, race, and more.

General Social Survey (GSS) (https://gss.norc.org/) Long-term trends in American attitudes and beliefs.

Tips for Researching Public Data

Use filters: Most platforms let you filter by year, geography, and demographic group. Check footnotes: Definitions and margin of error are often included. Download formats: Data is usually available in CSV, Excel, and PDF for easy analysis.

Examples of Data Stories

Note in the Pocket is a non-profit organization whose mission is to provide clothing to children and families in need. These visualizations use their data to provide examples of the visualization and storytelling techniques.

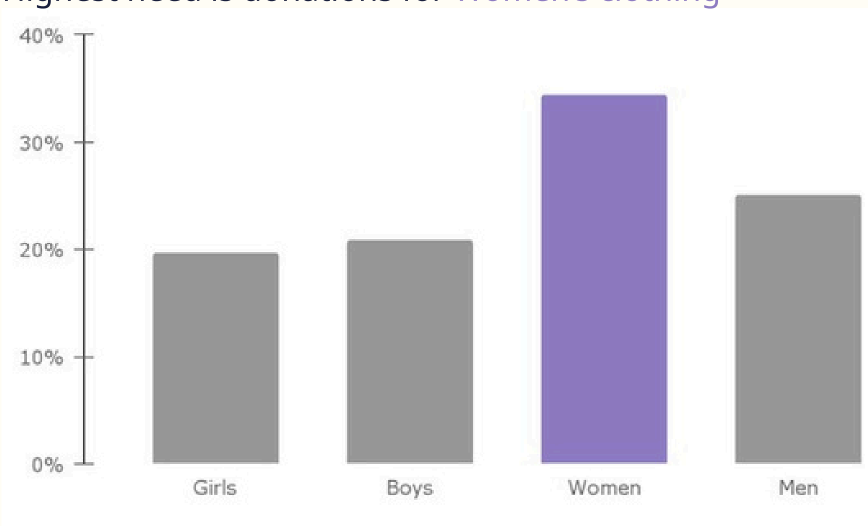
Example 1 for telling a data story about your organization's needs

Note in the Pocket (NITP) receives most of its referrals from social workers, primarily through the public school system. When a child is referred, NITP provides clothing not only for that child but also for other immediate family members in the household. The organization tracks detailed data on every clothing item distributed, including whether the sizes are for boys, girls, women, or men.

A **bar graph** was chosen for this data since we are using categorical data. To declutter the graph, all gridlines were removed and everything was grayed out except for the one category that we want to draw the audience's attention. The "Women" bar is colored in purple to bring emphasis to it since it has the highest amount of requests for clothing. Using a different color to draw the attention to a certain section of the graph is an example of a **preattentive attribute.** The purple font in the title matches the purple font in the graph to make it easier for the audience to cognitively connect the title to the chart.

Notice that the visualization has a **descriptive title** that explains what to notice in the chart. NITP could use this graph to explain a story about the recipients of their clothing. While the Women and Men clothing categories would include clothing to teenagers as well as adults, the greater need for women's clothing reflects relatively more households being led by single mothers. This chart would support their "call to action" for more donations of women's sized clothing.

Highest need is donations for Women's clothing



Example 2 for telling a data story about your organization’s needs

Our second example is a **line chart,** which is ideal for showing data points over time. Note in the Pocket has their busy periods tied to the school calendar.

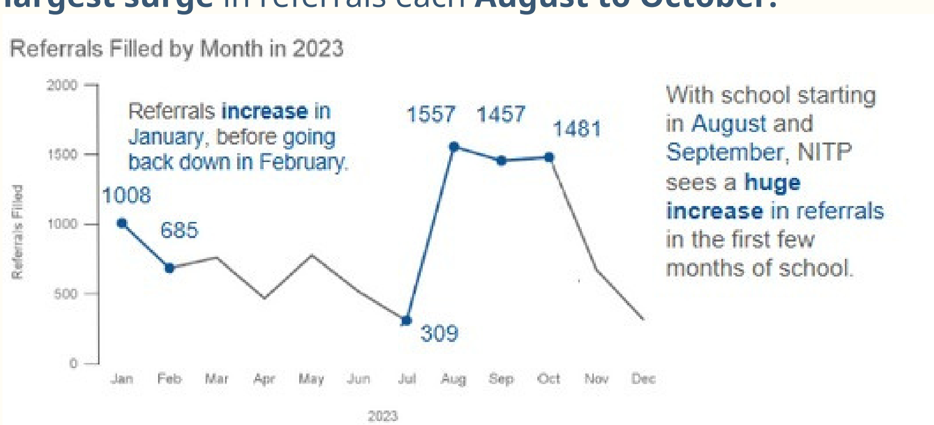
This data story illustrates the effective use of **preattentive attributes**, which are techniques that draw the audience’s attention to certain parts of the chart and give a visual hierarchy that helps to lead your audience through the information you are communicating.

- **Color**: This visual uses color to create focus on January to February and July to October. When looking at the visual, the highlighted portions are in a brighter color, capturing the audience's attention and connect visually to the text explanations.
- **White Space**: This visual uses generous white space, bringing the audience's focus to the highlighted times in the graph, and reducing the information for the audience to process
- **Bold**: This visual uses bold text to bring attention to the changes in the amount of referrals discussed.
- **Data points**: Only the relevant data points are labeled directly on the line chart. Including every data point is too much clutter.
- **Placement of text**: The text explaining the January and August data points is placed directly on the graph near those data.

If Note in the Pocket is working with a corporate partner on scheduling a clothing drive, the story they could tell with this data that leads to a specific call to action could be:

“Our 2023 referral data shows a clear trend: the highest volume of clothing requests occurs from August to October, aligning with the start of the school year. To meet this seasonal surge, we must build our inventory well in advance. That’s where your organization can make a powerful impact. By hosting a clothing drive in the spring or early summer, you help ensure that we’re fully stocked and ready to respond when demand is at its peak. We welcome clothing drives year-round, but your support during this strategic window would directly strengthen our ability to serve children and families when they need it most.”

Clothing inventory needs to be ready by July to meet the **largest surge** in referrals each **August to October.**



Instructions: Google Sheets

Google Sheets and Google Slides are free spreadsheet and presentation software with powerful data visualization capabilities that are easy to use. In this section, we will explain some basics for how to use Google Sheets to create charts of your data and then how to import the charts into Google Slides for further refinement.

1. **Start off by adding your data into Google Sheets.**

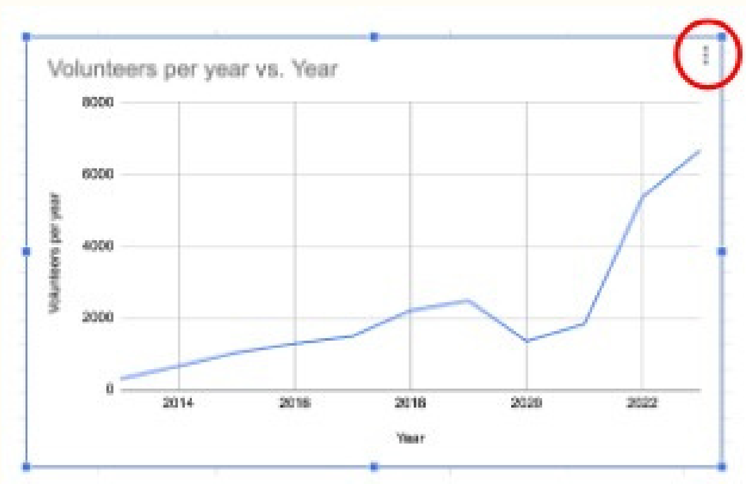
You can either copy and paste your data into a sheet, or if your data is compatible with Google Sheets, you can upload your data file as a Google Sheet.

2. Next you may need to clean your data or reformat your data into a table that makes sense to you. You may have to transform your data or delete unnecessary data.

Year	Volunteers per year
2013	308
2014	661
2015	1037
2016	1289
2017	1491
2018	2205
2019	2482
2020	1354
2021	1829
2022	5368
2023	6671

3. Highlight your data and then click on the **Insert** tab on the top menu. Then click on the **Chart** option to create the graph. Sheets will automatically create a chart that it thinks will fit with the data.

4. To open the **Chart Editor** and change the type of chart or edit anything else on the chart, click on the chart and then click on the 3 vertical dots on the upper right of the chart (red circle in the graph below). When the Chart Editor opens on your screen, click on the **Chart type** dropdown menu, and choose the style of chart (line chart, bar chart, etc.) that you want to use.

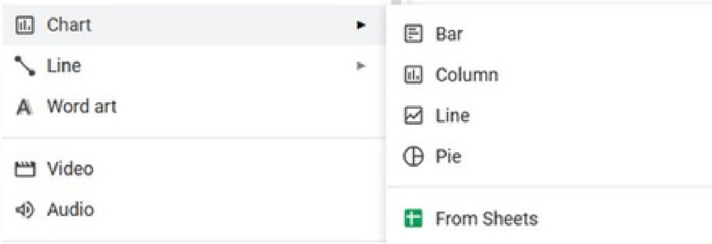


5. You can **edit the features** of your chart in a number of ways under the **Setup** tab when the Chart Editor menu is open. You can change the axes and title, color of the lines or bars, the legend, or gridlines.

Instructions: Google Slides

Google Slides lets you import charts directly from Google Sheets and automatically update them if the data changes. You can also add text, shapes, and annotations in Slides to highlight key points and make your data story clearer for your audience.

Import your chart to Google Slides: Go to the **Insert** tab in Google Slides, click **Chart**, and select **From Sheets**. Select the Google Sheets file that contains your chart. Finally, select the chart you want to import and click "**Import**".

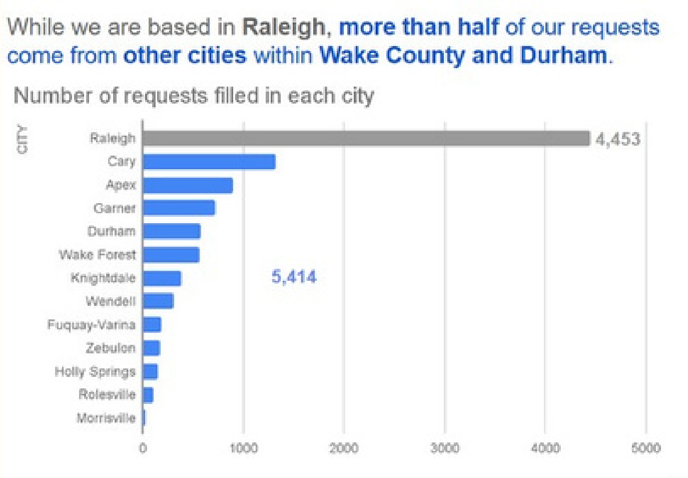


Updating a Linked Graph

After editing your chart in Google Sheets, go back to Google Slides. **Refresh** the page if needed. Click on the chart, then click **Linked chart options** (top right corner). Select **Update** to apply the changes.

Add a title

To add a title, type into the **Click to add title** box. Google Slides provides better formatting tools for action titles than Google Sheets since it's easier to edit and add preattentive attributes.



Insert and customize text boxes

Click on the **Insert** tab, then select **Text Box**. Click and drag on the slide to create the box. Type your text, then highlight it to edit. Use the top menu to change the font, size, color, or apply bold, italics, or underline.

Add shapes and lines

Go to the Insert tab, click **Line**, and choose a line type. Click and drag to draw the line. To add a shape, click **Shape** (also under Insert), select a shape, and drag to draw it. Click the shape to edit its Fill color or Border color using the toolbar.

Recommended resource for chart animation:

The *Storytelling with Data* YouTube channel has a video in which they show you how to animate the elements of your chart to create a stronger oral presentation (https://www.youtube.com/watch?v=-Ple4ZfrFlM)

Conclusion

Now you're ready to tell compelling stories that are supported by data visualizations. When you started reading this Guide, we mentioned how important grants and donations could be for the future success of a nonprofit organization.

It is essential for nonprofits to learn how to create compelling data stories when applying for grants or to secure funding for three key reasons:

Graphs highlight key data points and support the proposal objectives without the clutter associated with long, formal documents.

Graphs are easier to read than text and grab a viewer's attention, making them more accessible to viewers.

Graphs visually illustrate trends and highlight relationships between variables, helping stakeholders to more easily comprehend the message and be prepared to take action.

We hope this guide has inspired you to use the tools to craft compelling data stories that will spark action, elevate your mission, and make a lasting impact in the communities you serve.

STUDENT AUTHORS

Natalie Barlow
Kaitlyn Bartholomew
Lydia Bonecutter
Elizabeth Daughety
Kerry DeSimone
Grace Dunn
Perla Gerez Hernandez
Ericka Hewitt
Vanessa Jaimes Bustos
Grace Landenberg
Emilee Lewis
Deborah Mong'are
Marina Ostrowski
Atiqua Prithu
Grace Sipek
Tristan Smith

With the guidance of Dr. Anne York, Professor of Economics