# Data Dashboard Development

Creating an effective data dashboard is essential for turning data into actionable insights. This tip sheet provides guidance for developing dashboards that are not only visually appealing but also functional and aligned with your organization's goals. By carefully selecting and curating metrics with these principles in mind, dashboards can provide powerful, actionable insights that drive informed decision-making. By focusing on these tips, you can ensure that the dashboard is tailored to its intended purpose, drives valuable insights, and meets the needs of its users.

The factors that affect engagement with data visualization are infinite, but the diagram below attempts to cover a few consistent ones:
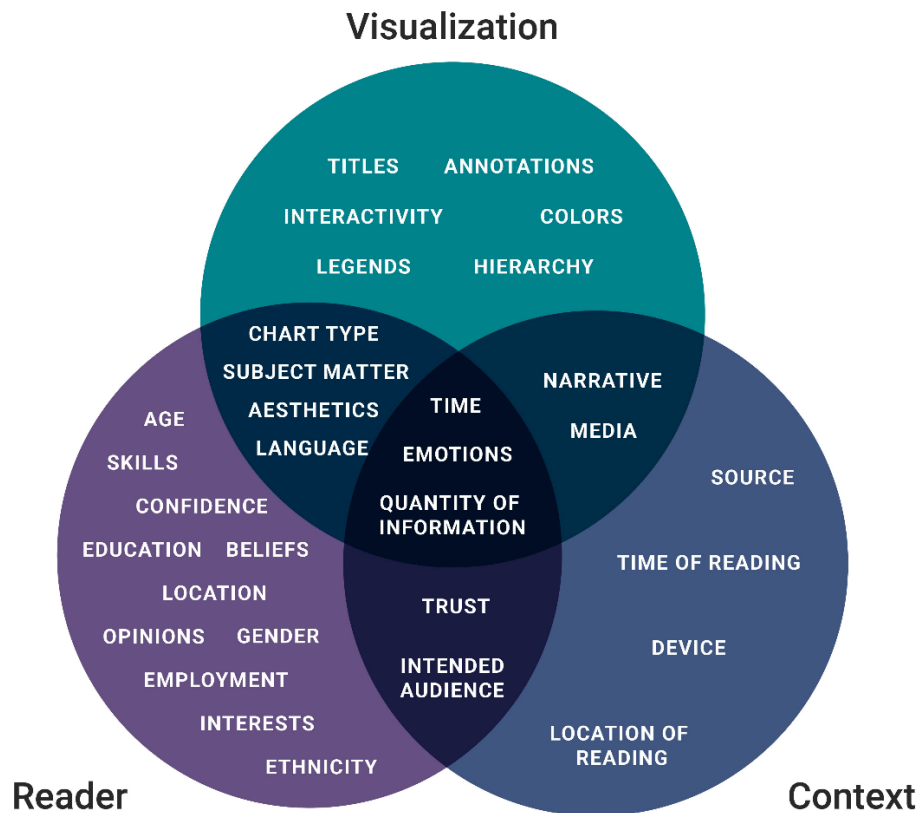
From: [Baltimore City Data Fellows Design Guide](#)

What is Your Dashboard's Purpose?

1. **Consider the audience:** When creating a dashboard, consider who will be using the information and tailor the metrics to their specific needs. Also, ensuring that users can understand the dashboard, either by providing a user guide or further explanations on the dashboard, can assist a casual user with using the information.
2. **Define what you are trying to communicate to the audience:** Determine what you want the dashboard to achieve. Are you tracking performance, monitoring key performance indicators, visualizing trends, or facilitating decision-making? Clearly defined goals will guide what data and metrics to use and how they can support the story you are aiming to tell.
3. **Consider if a dashboard is the best means for displaying the data**: At first, creating a dashboard may appear to be the most effective way to communicate information. However, there may be other ways to present data so the audience can best use and interpret the information, such as:
   - Fact Sheets
   - Slideshows
   - Infographic
   - Persuasive narratives
   - Long-form storymaps

Choosing Effective Metrics for the Dashboard

1. **Determine the most useful pieces of information to align with your story:** The dashboard may not be able to include all the information you hope to convey; the key data points included in the dashboard should be those that directly support the narrative or objectives you want to tell, ensuring they are impactful for the audience.
2. **Measure the timeliness and relevancy of the metric:** Depending on how often the dashboard will be updated, it is important to choose metrics that will be relevant and timely to users. Being clear about the chosen metrics and when updates should be expected is also important for users.
3. **Choose filters without overloading the dashboards**: It is necessary to keep the dashboard simple to not overwhelm users with information. When creating filters, it is important to decide which metrics belong together on the dashboard and which should possibly go on a different page, or not be included at all.
4. **Consult with users:** Engage key stakeholders throughout the process to ensure the dashboard's purpose aligns with their expectation and what would be most useful to them. Regular feedback ensures that you are building a product that delivers value to users and includes metrics that are important to them.

Dashboard Design and Visualization

1. **Direct the user's attention to the key findings and main takeaways:** There are many design elements that can be used to highlight the most important insights to guide the user's focus

and ensure they can quickly understand the information. These elements include, but are not limited to:

- o Reduce clutter, but at the same time, do not hide the data or make it difficult to find
- o Integrate the message or text into the graphics
- o Consider how to break up data into multiple visuals if it tells a better story
- o Use white space and position important insights in prominent spots
- o Decide which elements of the graphic should be highlighted or emphasized

2. **Focus on comprehension:** The data must be easily understood by the audience, especially if they are not familiar with data analysis and interpretation. Making sure labels are clear, large, and easily understandable can assist with readability and usability of the dashboard. Charts and metrics must be accompanied by adequate context so the user can understand why this is important.

3. **Use the right visualization:** Not all types of visuals may be the most effective manner of displaying the data. Consider what type of graphic would best suit your needs:

- o Bar charts: Ideal for comparing discrete categories or showing progress over time; ensure that they always start at zero
- o Line charts: Best for displaying trends over time or continuous data
- o Pie charts: Use sparingly, and avoid if there are too many categories
- o Heatmaps: Useful for showing intensity or patterns in data
- o Tables: Helpful for displaying detailed data, as long as they are not too difficult to read
- o Maps: Tend to be common anchors on dashboards, but make sure they are used with care. Is the geographical element important, or is the map simply a nice illustration?

4. **Ensure the dashboard is accessible:** It is important to choose colors, design elements, and captions that prioritize accessibility and make the dashboard more inclusive, allowing everyone to access key insights.

Communicating and Sharing the Dashboard

1. **Choose an intuitive place for the dashboard to live:** Considering where a user may look for the dashboard and that the information is in an easily accessible location is important so that users know where to expect to find the information they are searching for.

2. **Think about whether the user will want to export the data:** It is possible that users may hope to download the data via Excel or create a PDF from the dashboard to be able to share information to external audiences.

3. **Market the dashboard and make sure the audience is aware it exists:** Promoting the dashboard across relevant channels can help remind users of its existence and be aware of any future updates to the platform.

4. **Create methods to receive feedback:** Establish clear channels such as surveys, conversations with users, or feedback forms to gather insights from users about the dashboard's functionality and usability. Regularly review this feedback to make iterative improvements and ensure the dashboard continues to meet user needs effectively.

Resources to Learn More:

- *The Big Book of Dashboards* – Steve Wexler, Jeffrey Shaffer, and Andy Cotgreave
- *Better Data Visualizations: A Guide for Scholars, Researchers, and Wonks* – Jonathan Schwabish
- *The Wall Street Journal Guide to Information Graphics* – Dona M. Wong