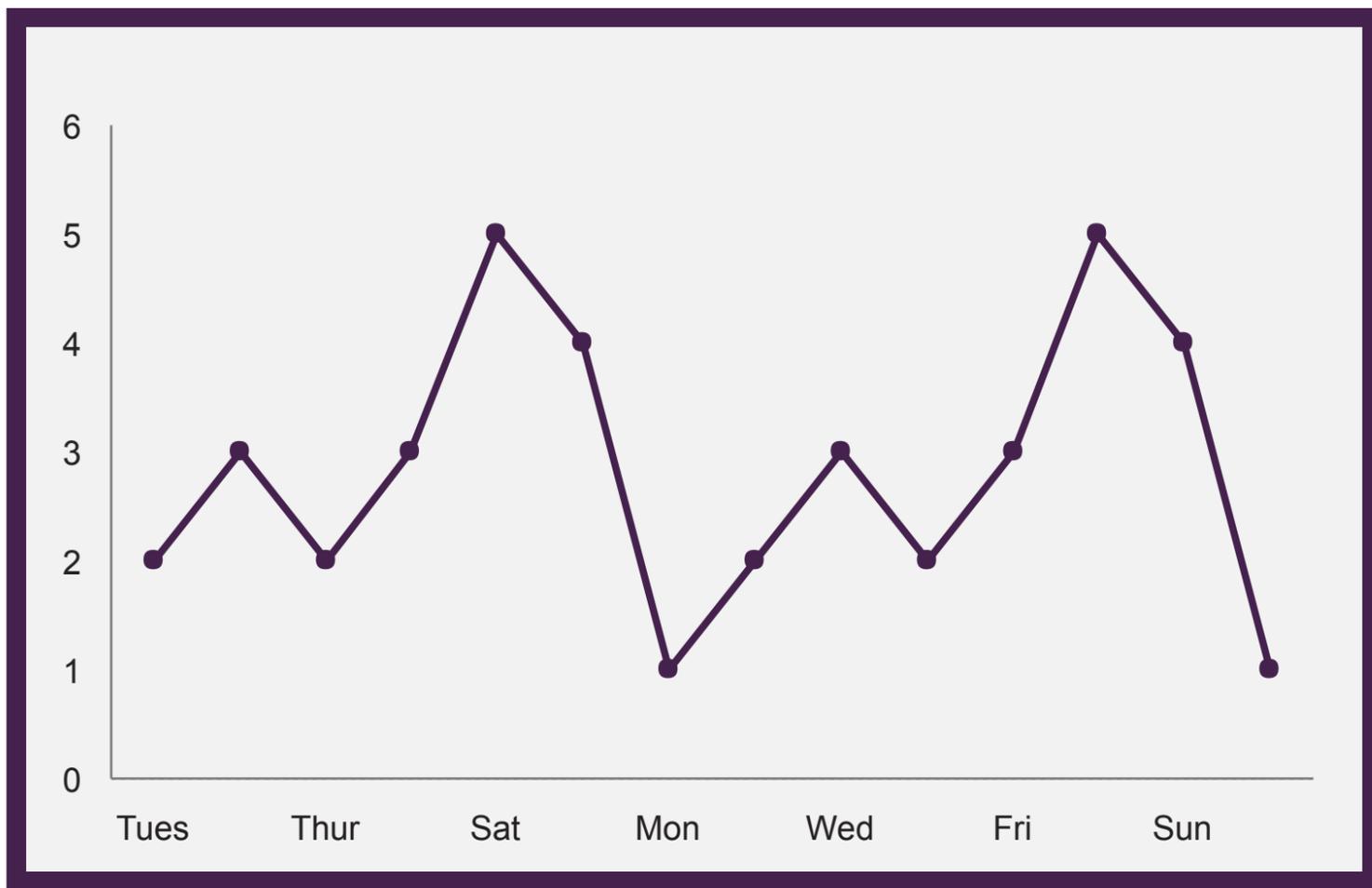


Tips for Making Data Visualizations More Effective

Day	Number of Trips
Tues	2
Wed	3
Thur	2
Fri	3
Sat	5
Sun	4
Mon	2
Tues	2
Wed	3
Thur	2
Fri	3
Sat	5
Sun	4
Mon	2

Why Visualize Data?
Data is easier to interpret when put into a visual form where multiple data points can be summarized and relationships and trends can be easily determined. When designing a visualization strategy, remember that the goal is to make the message more apparent.

Consider this example: One of Joe's goals is to increase time in the community, so his team tracks the number of trips he takes in the community.



Visualizing the data readily allows the team to see that there is an increasing trend of community outings as the week progresses with Mondays being the low point and Saturdays being the high point. This trend is not apparent from the data table.

- Data is easier to understand when put in a visual form
- Bar graphs and line graphs are easiest to interpret for people
- Often less is more for data visualization
- Know your audience to determine the best format to show your data

This information sheet was developed by the Autism Services, Education, Resources, and Training Collaborative (ASERT). For more information, please contact ASERT at 877-231-4244 or info@PAautism.org. ASERT is funded by the Bureau of Autism Services, PA Department of Human Services.

Points to Remember:

Bar graphs are easiest for most people to interpret

Line graphs are helpful for showing small changes over time

Make sure the visualizations are well labeled so people can understand what is being represented. This includes units of measurement

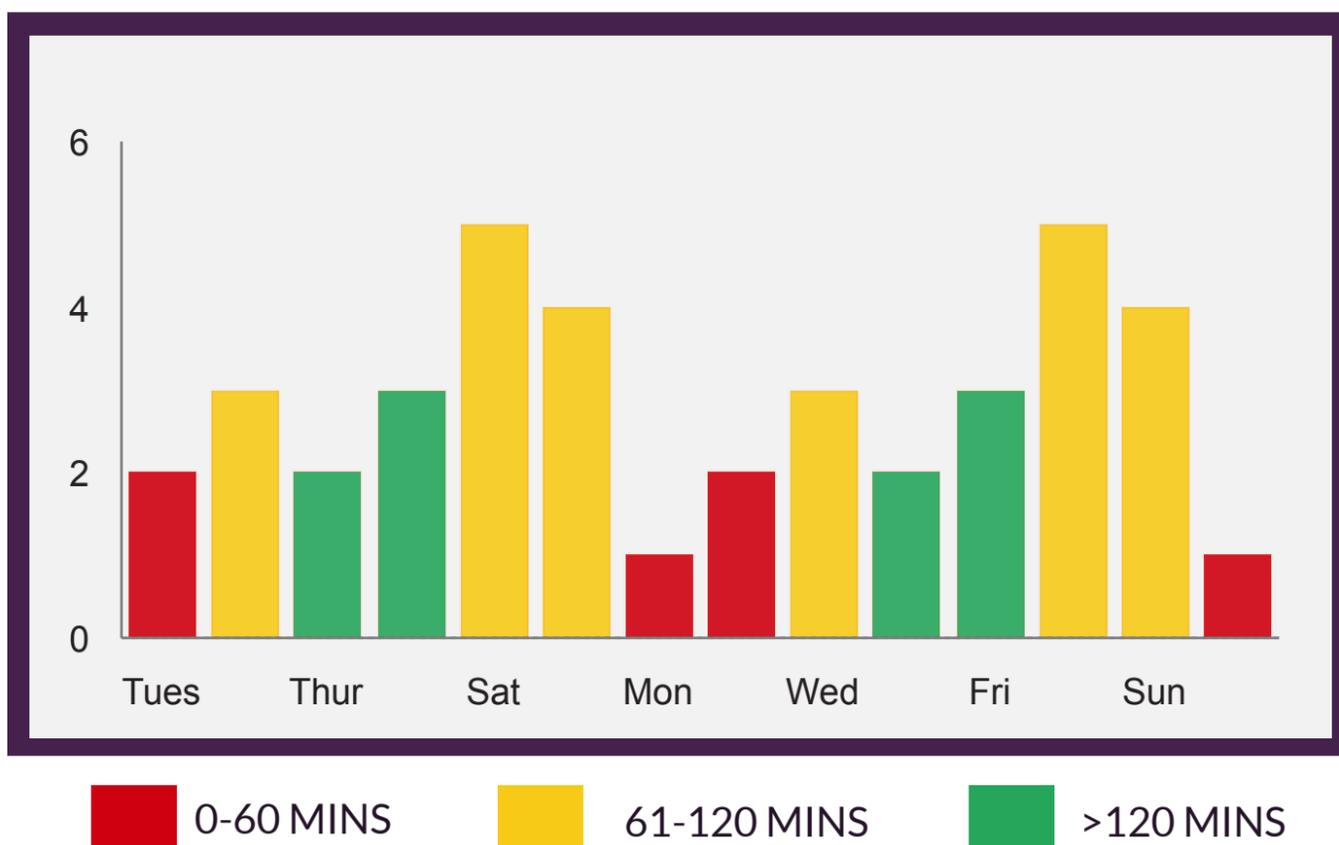
Determine the appropriate amount of data to visualize. Showing an entire year's worth of data may create a lot of "noise" which may make it difficult to understand small changes that occurred during that time, for example, what happened after a new community support plan was implemented. However, there may be situations where showing a larger data set is helpful, such as wanting to see the change in sleep since starting a new medication 6 months ago.

Well-designed data visualizations should "speak for themselves". If you are finding that you need to explain your graphs, you may need to put more effort into how you set up and label the visualization.

Making the Most of Data Visualizations

In general, less is more for data visualizations as it makes them easier to understand and interpret. Including too many variables on one graph can make things complicated and difficult to understand. The aim is to include as much information as you can, while keeping the design as simple as possible.

Joe and his team decide the amount of time he spends in the community each day is as important as the number of trips he takes. The previous line graph does not show how much time he was in the community, only the number of trips. You could create a second graph that showed the number of minutes he was in the community each day, or find a way to incorporate both factors into one graph.



By switching to a bar graph the team can graph the number of trips on the horizontal axis and color code the bars to represent the amount of time he spends in the community. Now two points of data are being represented, allowing the team to evaluate his community outings more effectively. For example, as a result of this data visualization, Joe and his team may decide to revise his community plan for Sundays, as four outings occur but he is spending less than 60 minutes in the community. Mondays are also a concern as he's only gone into the community once on those days and for less than an hour. On the opposite side, the team may want to look more closely at Thursdays as he's only gone out twice those days, but is in the community for more than 2 hours. There may be opportunities there that can be used to increase his access to activities on other days.