Principles of Scientific Graphical Display

"The only thing worse than one pie chart is two pie charts."

Edward Tufte, Statistician

Transportation professionals need to be able to create effective graphics for communicating technical results in reports and presentations. Like good writing, making good graphics takes effort. However, it is rare to receive any formal instruction at the undergraduate level; instead, the expectation is that you learn how to make good graphs by absorbing examples. Unfortunately, there are many poor examples that violate even the most basic guidelines for producing effective graphics. I know that this has been my experience and I expect that it is of many others.

The purpose of this chapter is to get you thinking about the purpose of graphics and to introduce you to the science behind the effective presentation of data. Though we'll only really be scratching the surface of these ideas, effective graphical representation is an issue that has a recognizable impact on nearly everyone who lives and operates in a data-rich environment. This definitely includes you, so let's get started!

ACTIVITY LIST

Activity Type	Number and Title	Assessment Type
Out-of-class	Activity 1: Principles of Graphics	Short response
Out-of-class	Activity 2: Overview of the Datasets Available	Short quiz
In class	Activity 3: An Experiment in Graphical Perception	Participation
In class	Activity 4: Critiquing a Graphic for Graphicacy	Peer feedback