

Intro to Visualization

Lesson Objectives

After this lesson, you will be able to...

- Describe why data visualization is important for communicating results.
- Identify how to select the correct visualization to use based on the data being presented.
- Identify characteristics to clearly communicate through data visualizations.

Teaching Tips:

- Introduce topic and learning objectives
- Pause to take any student questions after reading through the learning objectives

How Do we Make Sense of a Data Set?

We’re only looking at 1/3 of this data set! While all the data we need is here, it is difficult to make sense of and draw any meaning from.

| Airport | Reason for Delay | Number of Operations | % of Total Operations | Delayed Minutes | % of Total Delayed Minutes |
|---------|--------------------------------|----------------------|-----------------------|-----------------|----------------------------|
| SFO | Air Carrier Delay | 28,899 | 4.85% | 1,970,571 | 30.57% |
| | Aircraft Arriving Late | 37,618 | 6.31% | 2,565,218 | 39.79% |
| | Security Delay | 165 | 0.03% | 6,716 | 0.10% |
| | National Aviation System Delay | 34,642 | 5.81% | 1,628,412 | 25.26% |
| | Extreme Weather | 2,482 | 0.42% | 276,076 | 4.28% |
| | Total Operations | 596,046 | 100.00% | 6,446,993 | 100.00% |
| ATL | Weather | 387 | 27.98% | 13,939 | 26.72% |
| | Volume | 948 | 68.55% | 36,505 | 69.99% |
| | Equipment | 0 | 0.00% | 0 | 0.00% |
| | Closed Runway | 47 | 3.40% | 1,665 | 3.19% |
| | Other | 1 | 0.07% | 52 | 0.10% |
| | Total Operations | 1,383 | 100.00% | 52,161 | 100.00% |
| DEN | Weather | 545 | 66.54% | 25,402 | 76.76% |
| | Volume | 221 | 26.98% | 6,199 | 18.73% |
| | Equipment | 0 | 0.00% | 0 | 0.00% |
| | Closed Runway | 49 | 5.98% | 1,376 | 4.16% |
| | Other | 4 | 0.49% | 115 | 0.35% |
| | Total Operations | 819 | 100.00% | 33,092 | 100.00% |

Teaching tips: - Note how much more difficult it is to read and make sense out of - Raw data contains a lot of information but isn’t digestible or understandable until it is presented in a synthesized way. - The first chart allowed us to compare, draw inferences, and have a clear take-away

So What Is Data Visualization?