Project Abstract:

STAT 301 - ANOVA

Description:

We were tasked with applying ANOVA methods to explore a data set. We had to develop, analyze, and create a conclusion for two research questions. The data set used was yearly data about how much each Minnesota county collected in Recycling, Organic Recycling, Onsite Recycling, Waste to Energy, and Landfilled waste. The questions answered were:

1. Is there a significant difference in percent change in recycling across all of Minnesota between the years 1991, 1997, 2002, 2007, 2012, and 2017?
2. Between the lowest, middle, and top tier counties in terms of Onsite Recycling, is there a significant difference in the mean Landfilled waste for the year 2017?

Analysis methodologies:

As required, each research question was focused on using one of the many ANOVA methods taught in class. Both research questions were answered in a structured format, which included explaining our choice, stating the assumptions that must be checked, and then forming a conclusion in real world context.

Programming:

We used R for all statistical analyses.

Transferable Skills:

Creative Thinking, Critical Thinking, Writing, Time Management

Post Project Debrief:

This project was for a lower-level course, which I took during my last semester at Metro due to class availability. This project was issued during two other projects, so time management was a huge necessity. This project was not high on my priority list as I had one major project going on, and I knew I would pass this class regardless of my grade. This didn’t stop me from meeting my standard of quality, though, and I completed this when it conflicted least with my other projects in a speedy fashion.

The project itself had the possibility of being very simple, but I decided to push myself to make the research questions as complex as I could to really test myself. We were also given the flexibility to choose partners or not, but I chose not to for the sake of flexibility due to the complexities of my other projects. There were no notable issues I ran into.