# Comparing Finances in Colorado School Districts

Austin Pacharz
Link to <u>Google Colab Python Notebook</u>

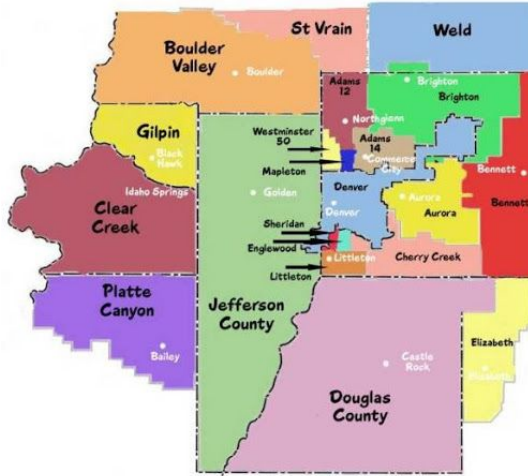# 1.



**Client:** Mapleton Public Schools

# Background



**Description:**

A small district located in the urban fringe of Denver.

**Question:**

How does Mapleton's revenue and expense per enrollment compare to other Denver Metro districts?
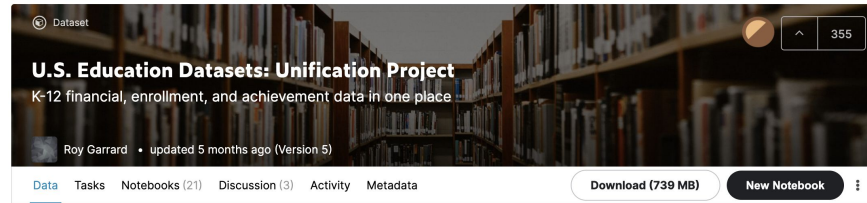
# Data



**Description:**

Financial Data for Denver Metro Districts from 1992 to 2016.

**Source:**

Kaggle via U.S. Census Bureau

*1992 is excluded because of missing enrollment data.
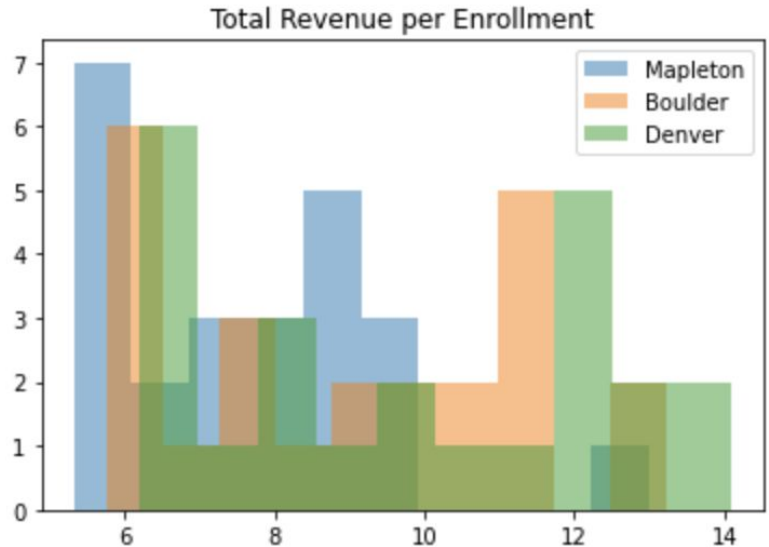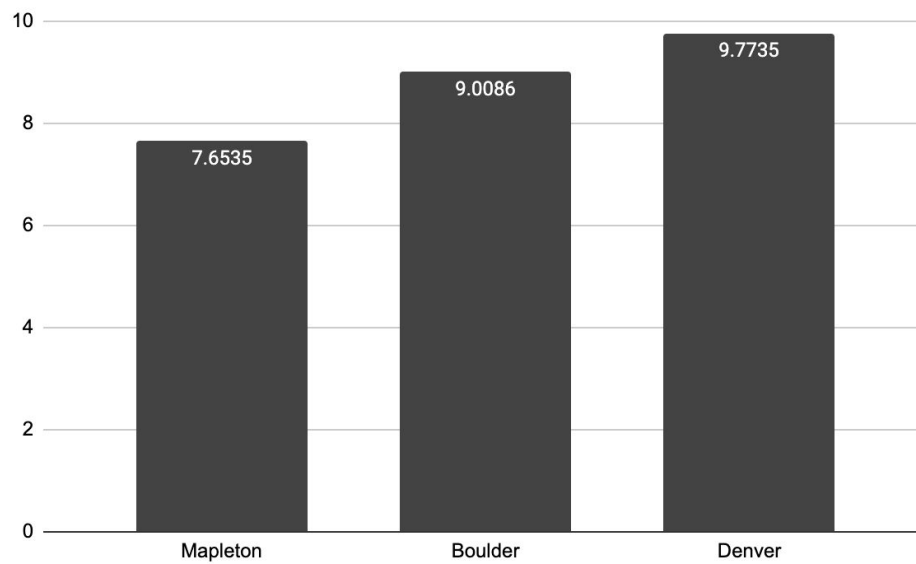
# Revenue per Enrollment

**Districts:**

Mapleton Public Schools, Denver Public Schools, Boulder Valley School District



Total Revenue per Enrollment
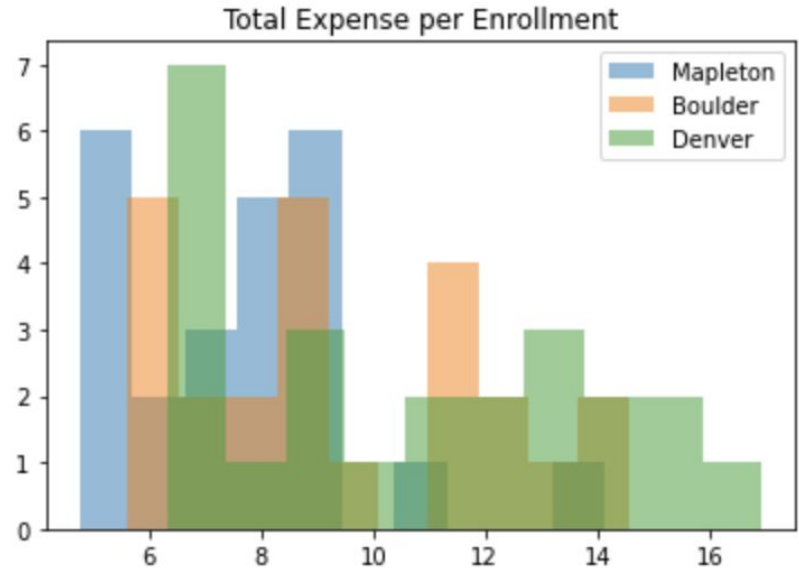
Mapleton
Boulder
Denver

# Mean Total Revenue per Enrollment

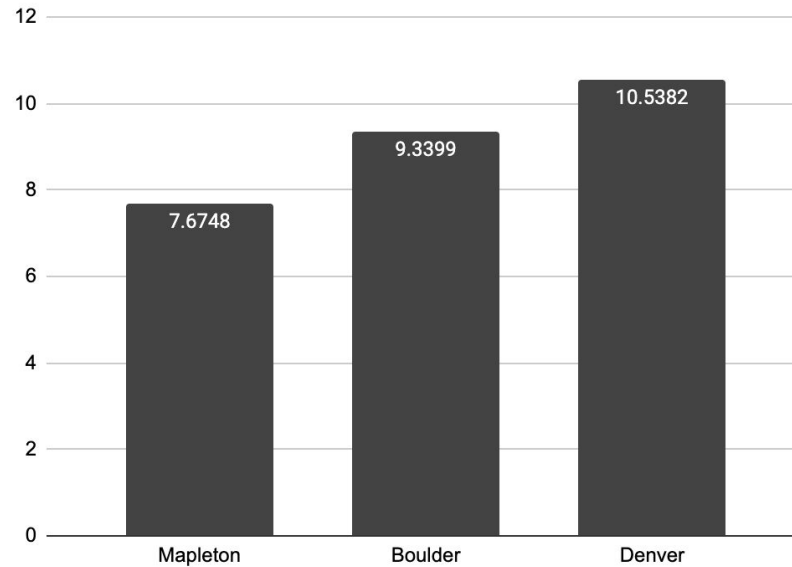# Expense per Enrollment

**Districts:**

Mapleton Public Schools, Denver Public Schools, Boulde Valley School District



Total Expense per Enrollment

# Mean Total Expense per Enrollment

# Discussion & Recommendation

### Results

The analysis shows that two other Denver Metro districts have a much higher revenue and expense per enrollment.

### Next Steps

Run the same analysis on more Denver Metro districts, including other districts in Adams County.

Also, see how percent of funding from federal, state, and local compare.

# 2.

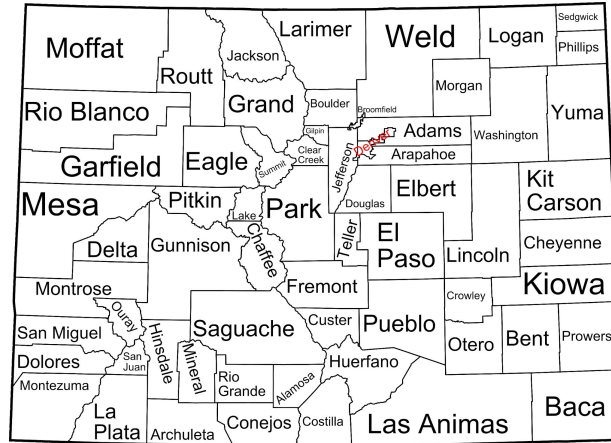**Client:** Colorado Department of Education

# **Background**



**Description:**

Split data based on enrollment to find rural v. non-rural finances for the year 2016.

**Question:**

How did revenue and expense per enrollment compare between rural and non-rural districts in 2016?

# Colorado Department of Education
## Rural and Small Rural Designation

*A Colorado school district is determined to be rural giving consideration to the size of the district, the distance from the nearest large urban/urbanized area, and having a student enrollment of 6,500 students or less. Small rural districts are those districts meeting these same criteria and having a student population of less than 1,000 students.*

| Rank | District Code | District Name | K-12 Student Enrollment | Rural Designation |
|------|------|------|------|------|
| 1 | 0270 | CAMPO RE-6 | 37 | Small Rural |
| 2 | 0260 | VILAS RE-5 | 41 | Small Rural |

● ● ●

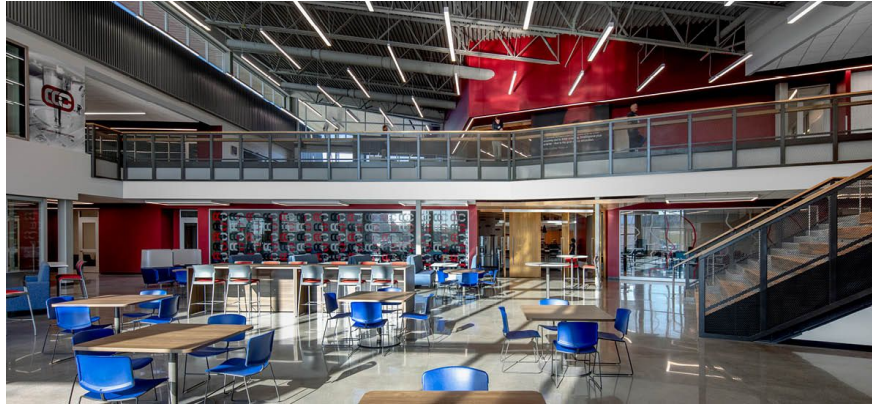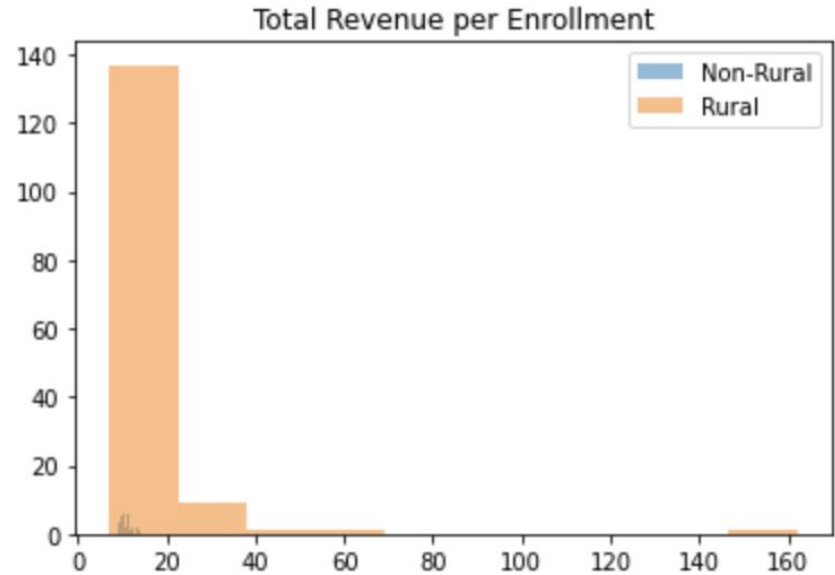| | | | | |
|------|------|------|------|------|
| 143 | 1195 | DELTA COUNTY 50(J) | 4672 | Rural |
| 144 | 0870 | DURANGO 9-R | 5228 | Rural |
| 145 | 1520 | ROARING FORK RE-1 | 5455 | Rural |
| 146 | 1180 | MONTROSE COUNTY RE-1J | 5852 | Rural |

Image from Cherry Creek Innovation Campus. Cherry Creek High School is the second largest in Colorado with over 3,500 students.

# Data

**Rural:**
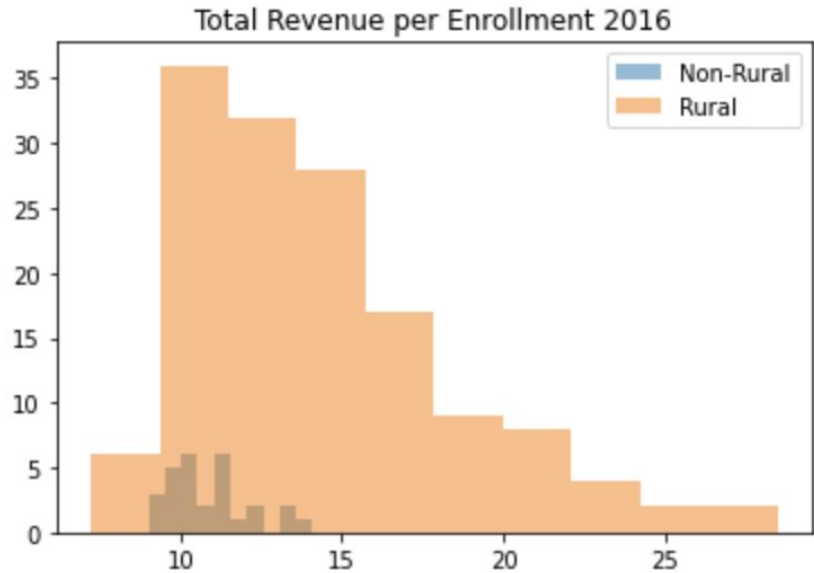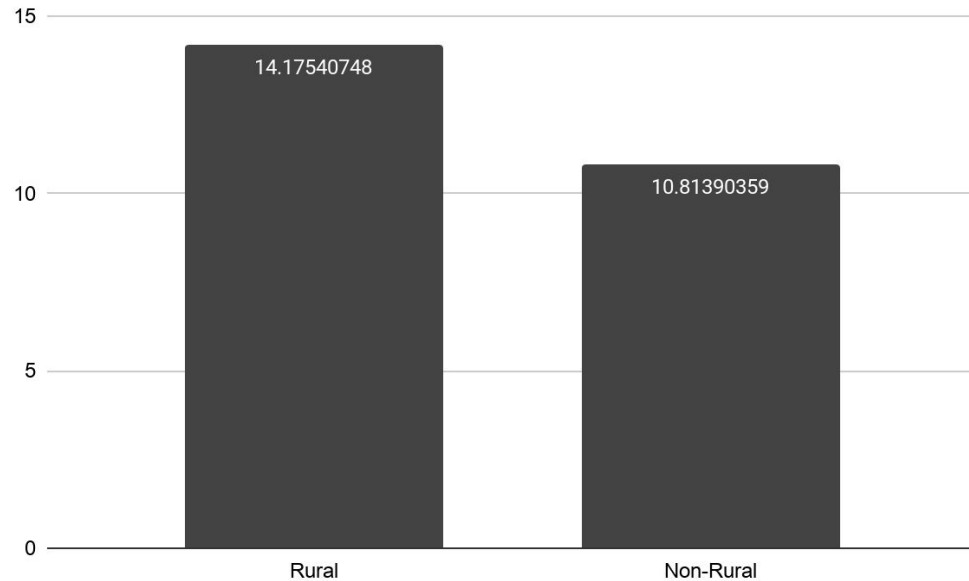
Enrollment of 37 to 5282

Includes 149 School Districts

**Non-Rural:**

Enrollment of more than 5282

Includes 28 School Districts

# Total Revenue per Enrollment
(before)



Total Revenue per Enrollment

# Total Revenue per Enrollment
(after)



Total Revenue per Enrollment 2016
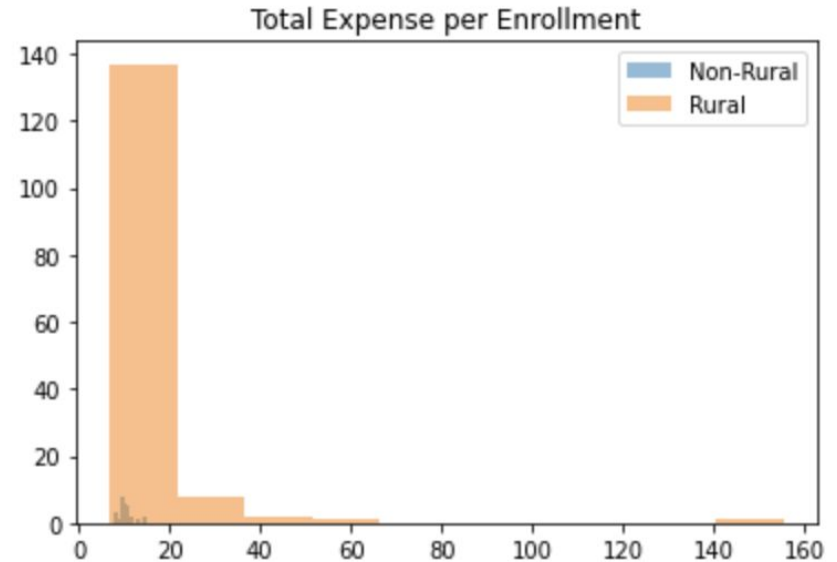
# Mean Total Revenue per Enrollment

# Total Expense per Enrollment
(before)



Total Expense per Enrollment
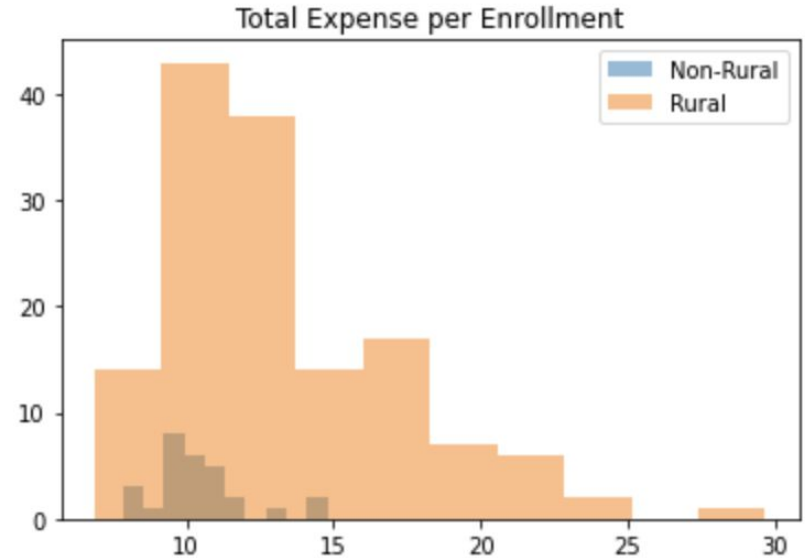
# Total Expense per Enrollment
(after)
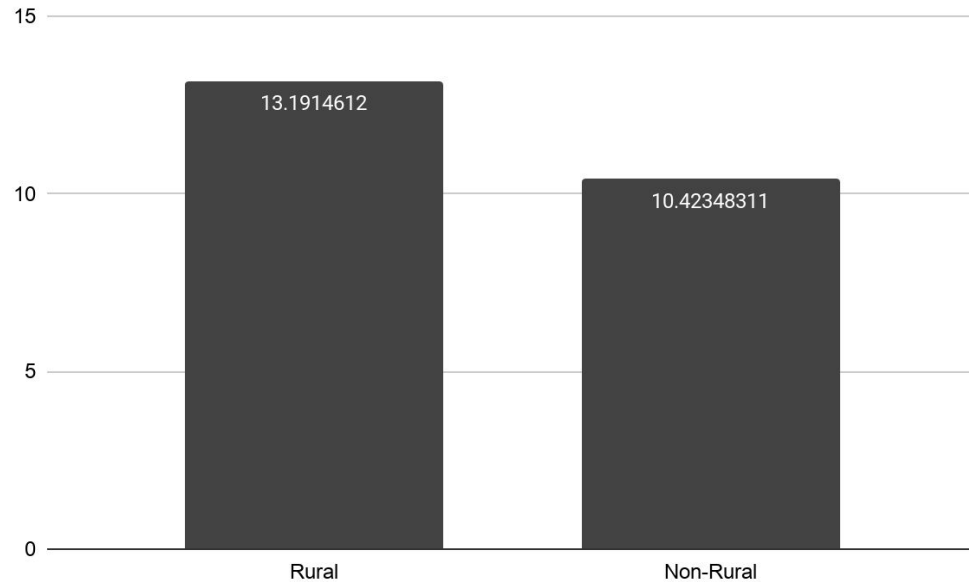


Total Expense per Enrollment

# Mean Total Expense per Enrollment

# Discussion & Recommendation

### Results

Rural schools have much higher revenue and expense per enrollment, even after eliminating outliers.

### Next Steps

Compare the percent of federal, state, and local revenue between rural and non-rural.

Find data on per-pupil funding and see if it matches results of revenue and expense per enrollment.

# Thanks!

**Any questions?**

You can find me at

- **in** /austinpacharz
- 🐦 @AlgebraAustin
- apacharz@gmail.com