**PyBer Analysis Challenge:**

**Project Overview:**

The CEO, V. Isualize has tasked the Data department with processing the data collected by his Ride sharing company, PyBer. The goal for this analysis is to form a dataset separating the data from ride shares in urban, suburban, and rural areas. Furthermore, Mr. Isualize wants a direct comparison between fares in these three city categories.

**Results of Analysis:**

Table

Description automatically generated

As the above chart shows, the three city regions, rural, urban and suburban areas there are vast differences in the data which paints a very clear picture of the ride share service. The largest profit is clearly Urban riders at just shy of $40,000, while rural areas have the lowest at just over $4,000. Rural fares are ten times lower than their urban counterpart however they also have a $10 higher average fare per ride than Urban and almost x3 times greater fares than the drivers in the Urban areas. Both factors seem confusing, however the total number of rides vs drivers helps alleviate this. In both rural and suburban areas, there are more rides than drivers. The demand outweighs the supply. (Supply being drivers and demand being people wanting a ride.) In urban areas there are more drivers than people seeking rides. Coupled with shorter rides because of the proximity of travel points, its easy to see how they have lower average fares per ride and fares per driver. About 800 drivers are on average not getting any fares according to this data. Comparatively drivers in rural areas are getting about 2 rides per driver and with longer distances traveled the fares per ride are greater. The reason for such large profits in urban areas is the sheer quantity of rides.

Table

Description automatically generated

This chart shows us that areas with greater population, and thus demand, have a greater about of fares overall. Urban areas have the greatest demand, and generate a larger revenue of fares while rural areas which have x30 times fewer drivers generate far less fares.

Chart, line chart

Description automatically generated

When looking at the above chart we can visualize the data that we have been seeing. Here we took the three areas of interest, urban, suburban and rural, and plotted their fares in USD or United States Dollars along our Y axis and plotted this data over the first quarter of the fiscal year as seen by the months along our X axis.

**Summary:**

Looking at the time frame for our data we see that just prior to March, there is a sharp uptick in fares across all regions. Also, we see in January, the middle of Winter, there are fewer rides however as time moves towards warmer weather, the rate of fares go up. Urban areas see a gradual climb in fares from about middle of January through the stated uptick at the end of February. Suburban areas fluctuate up and down during this same time before having a sharp drop greater than the other areas. This graph does not show why the up or down trends in fares as any number of things can change this from weather, local events like concerts or sports, and holidays or personal events. With this data, hopefully V. Isualize can make appropriate decisions to increase both profit and services.