**Montgomery Fleet Equipment Analysis Report Using Ms Excel**

This report is to give a concise, and detailed description of the analysis process of the Montgomery Fleet Equipment dataset, with respect to the Empower Her Community (EHC) Excel challenge carried out by group 1. The aim of the project is to foster collaborative work among participants and enable knowledge sharing as far as data analysis with Excel is concerned.

The dataset was provided by EHC and it contained 4 columns and 62 rows. The column names are Department, Department, Equipment Class, And Equipment Count.

# Steps Involved in the Analysis

## Data Cleaning

We all know that data cleaning is a very important step in our analysis as directly affects the analysis report. Below are some of the data cleaning steps taken

1. **Column Widths:** Sort out the widths of all columns so that the data is clearly visible in all cells.
2. **Removing Empty Rows:** I used the find and select option in the editing section of the home bar to remove empty rows. At the end, a total of 5 empty rows were removed.
3. **Removing Duplicates:** I used the remove duplicate tool under the data tools section of the data bar to remove duplicates and I had 4 duplicates removed.
4. **Spelling:** I checked for spelling errors using the spelling option in the proofing section of the Review bar. Below were the changes made:

Envriomnental – Environmental

VehicleEquipment – Vehicle Equipment

Rehabiltation - Rehabilitation

Recsue – Rescue

Servcies – Services

1. **Whitespace:** The Find and Replace option in the editing section of the home bar was used to find and replace double -spaces from the data. A total of 3 cells were replaced.
2. **Department Names:** Flash Fill found at the editing option of the home bar to reduce the department names that spread through two columns to one column, and then hid any unnecessary columns.

At the end of the data cleaning stage, the dataset had 3 columns: New department, Equipment Class, and Equipment Count, and 53 rows, excluding the header. Below were other noticeable things found using the filter menu after turning my dataset to a table.

* + Total Department = 13
  + Total Equipment = 15

Using the Formula Bar, I did some calculations on the Equipment count column which are;

* + Sum = 531
  + Average = 10.01886792
  + Minimum = 1
  + Maximum = 75

## Pivot Table Creation and Dash Board Creation

A Pivot Table is an interactive way to quickly summarize large amounts of data, while Dashboards provide a centralized means to interact with data, observe relationships, make inferences, and extract decision-making insights. The questions below were what informed the pivot tables created and also the dashboard;

* What Department uses the most number of Equipment?
* What class of Equipment are frequently used?
* **Discussion and Conclusion.**

The General Services, Fire and Rescue, and Health and human Service departments use more equipment than other departments in total at 202, 100, and 96, respectively, out of 531.

The Fire and Rescue Department used almost all classes of equipment except for two - Medium duty and CUV.

On the equipment side, Sedan, Pickup trucks, and Vans had a higher occurrence out of 15 different equipment, with Sedan being used by 9 departments.

In conclusion, the Fire and Rescue departments prioritise Public Safety Vehicles over other equipment class and the Sedan is the most used equipment across the departments.