Fleet Equipment Inventory Analysis

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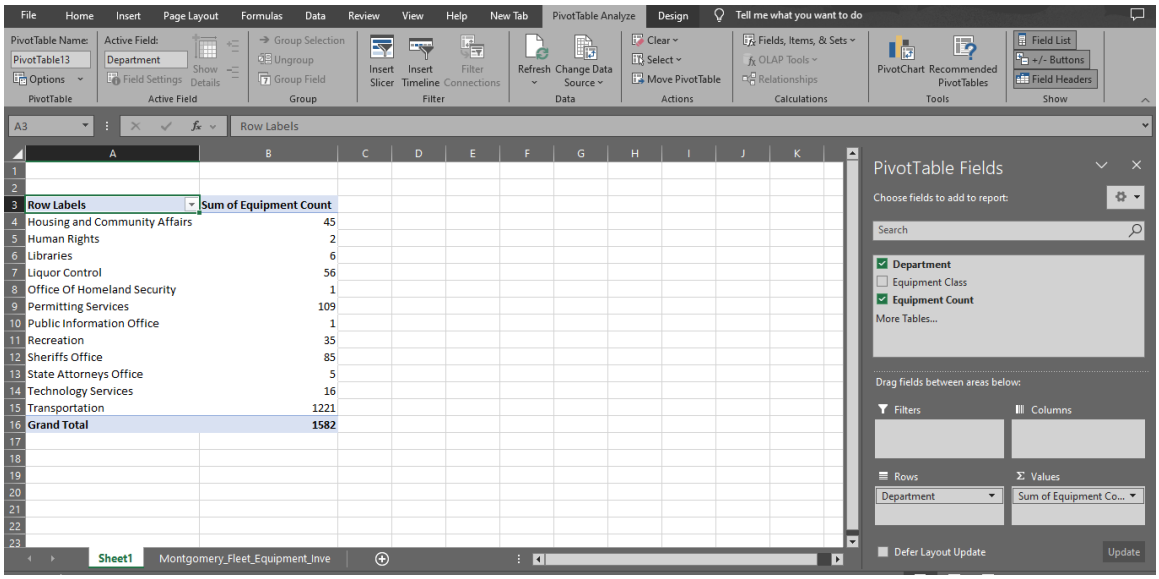
Introduction

This project focuses on analyzing fleet equipment data from various departments within a local government. The data was provided in two separate Excel worksheets, each listing the types and quantities of equipment used by different departments. The goal was to organize, analyze, and visualize this data to uncover insights about vehicle distribution, departmental usage, and equipment trends.

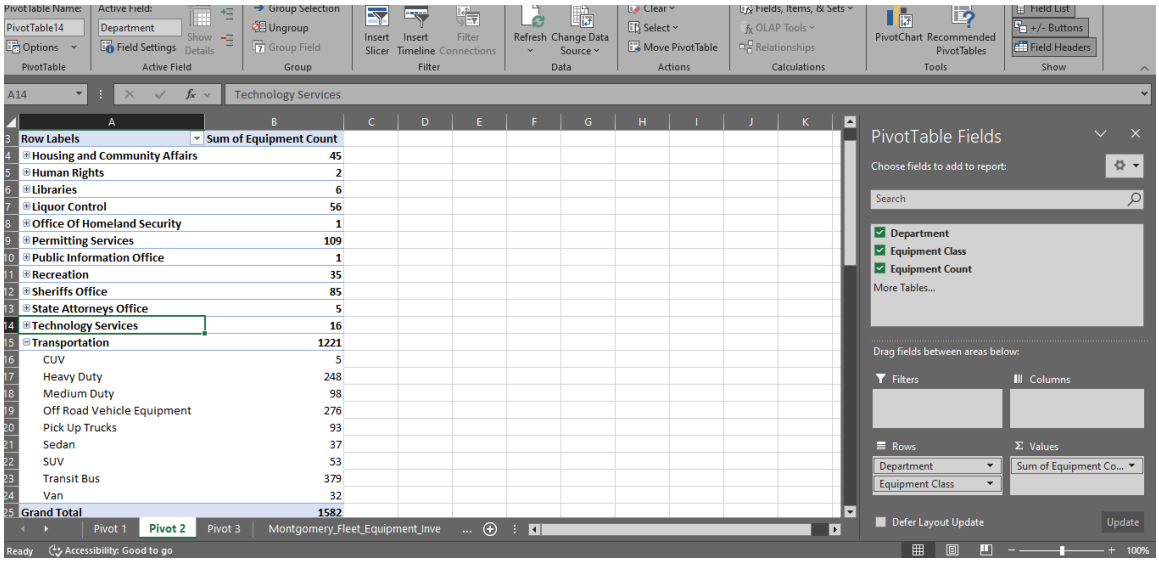
Methodology

The data was first cleaned and consolidated by copying records from both worksheets into a single sheet. It was then formatted into an Excel table to simplify filtering and analysis. A Pivot Table was created to summarize total equipment counts by department and equipment class. This enabled dynamic sorting and visualization of the most common vehicle types and departments with the largest fleets.

Analysis & Visualizations



This chart shows the total number of vehicles by department. It highlights that the Department of Correction and Rehabilitation owns the largest number of fleet vehicles.



This visualization groups vehicles by type, revealing that SUVs and sedans are the most commonly used equipment classes.

Key Insights

• The Department of Correction and Rehabilitation has the highest number of fleet vehicles.

• SUVs and sedans are the most frequently used vehicle types.

• Smaller departments like Liquor Control and Permitting Services manage relatively large fleets.

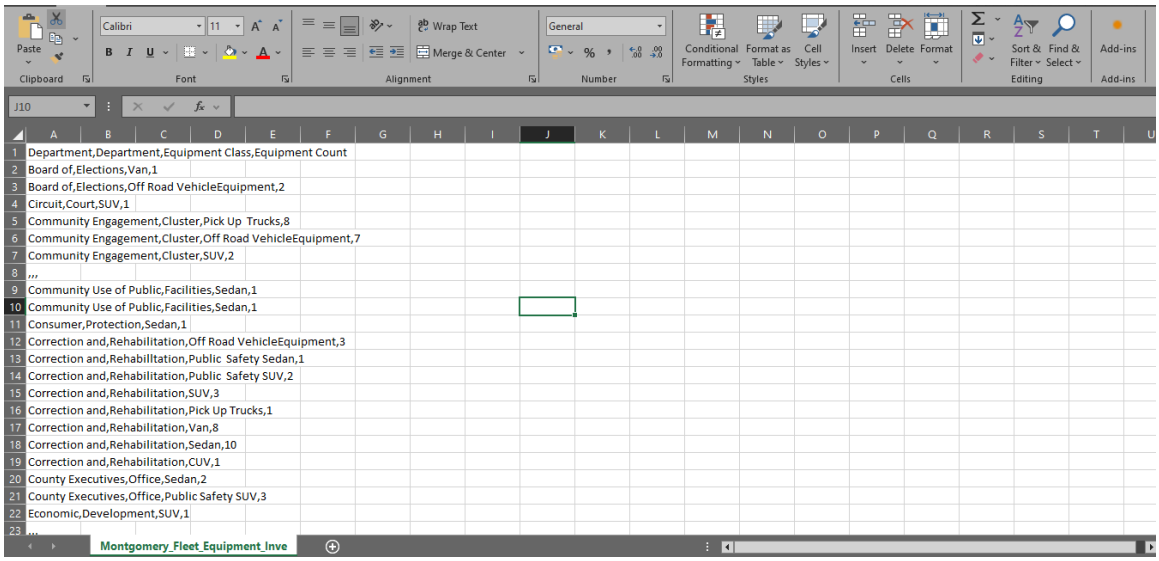
• Public Safety equipment is highly concentrated in specific departments, indicating specialized use.

Conclusion

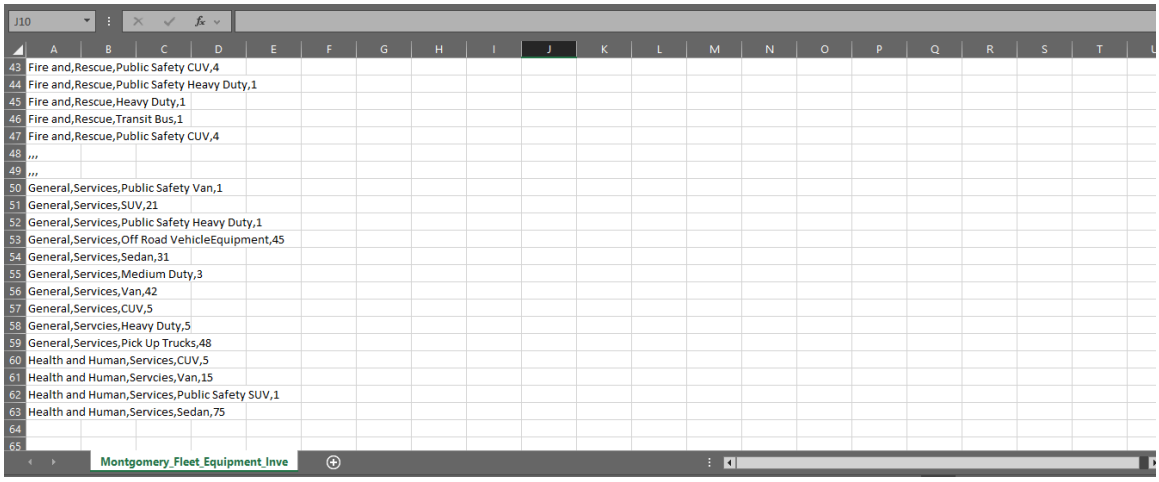
This analysis provides a clear overview of how different departments allocate and manage fleet resources. The insights can support future decisions related to vehicle acquisition, maintenance budgeting, and operational planning. Excel's tools—such as data tables, Pivot Tables, and charts—helped streamline the process and presented findings in a visually effective way.

Part 1: Data Cleaning

Original Dataset Overview



	A
1	Department,Department,Equipment Class,Equipment Count
2	Board of,Elections,Van,1
3	Board of,Elections,Off Road VehicleEquipment,2
4	Circuit,Court,SUV,1
5	Community Engagement,Cluster,Pick Up Trucks,8
6	Community Engagement,Cluster,Off Road VehicleEquipment,7
7	Community Engagement,Cluster,SUV,2
8	,,,
9	Community Use of Public,Facilities,Sedan,1
10	Community Use of Public,Facilities,Sedan,1
11	Consumer,Protection,Sedan,1
12	Correction and,Rehabilitation,Off Road VehicleEquipment,3
13	Correction and,Rehabilltation,Public Safety Sedan,1
14	Correction and,Rehabilitation,Public Safety SUV,2
15	Correction and,Rehabilitation,SUV,3
16	Correction and,Rehabilitation,Pick Up Trucks,1
17	Correction and,Rehabilitation,Van,8
18	Correction and,Rehabilitation,Sedan,10
19	Correction and,Rehabilitation,CUV,1
20	County Executives,Office,Sedan,2
21	County Executives,Office,Public Safety SUV,3
22	Economic,Development,SUV,1
23	...



	A
43	Fire and,Rescue,Public Safety CUV,4
44	Fire and,Rescue,Public Safety Heavy Duty,1
45	Fire and,Rescue,Heavy Duty,1
46	Fire and,Rescue,Transit Bus,1
47	Fire and,Rescue,Public Safety CUV,4
48	,,,
49	,,,
50	General,Services,Public Safety Van,1
51	General,Services,SUV,21
52	General,Services,Public Safety Heavy Duty,1
53	General,Services,Off Road VehicleEquipment,45
54	General,Services,Sedan,31
55	General,Services,Medium Duty,3
56	General,Services,Van,42
57	General,Services,CUV,5
58	General,Servcies,Heavy Duty,5
59	General,Services,Pick Up Trucks,48
60	Health and Human,Services,CUV,5
61	Health and Human,Servcies,Van,15
62	Health and Human,Services,Public Safety SUV,1
63	Health and Human,Services,Sedan,75
64	
65	

Data Cleaning & Preparation

Using Microsoft Excel, I cleaned and structured the raw dataset:

- Text to Columns: Split combined values into separate fields for better readability.
- Column Adjustments: Resized and renamed columns for clarity.
- Consistent Formatting: Applied Excel table formatting for efficient analysis.

Blank Row & Cell Removal

To maintain data consistency, all blank rows and cells were removed. This step reduced potential errors during PivotTable creation and ensured a cleaner data structure.

White Space Removal

Using the Find and Replace function, I eliminated unnecessary leading/trailing spaces in cells. This prevented issues like duplicate entries due to invisible spaces and improved filtering and sorting.

Spell Check

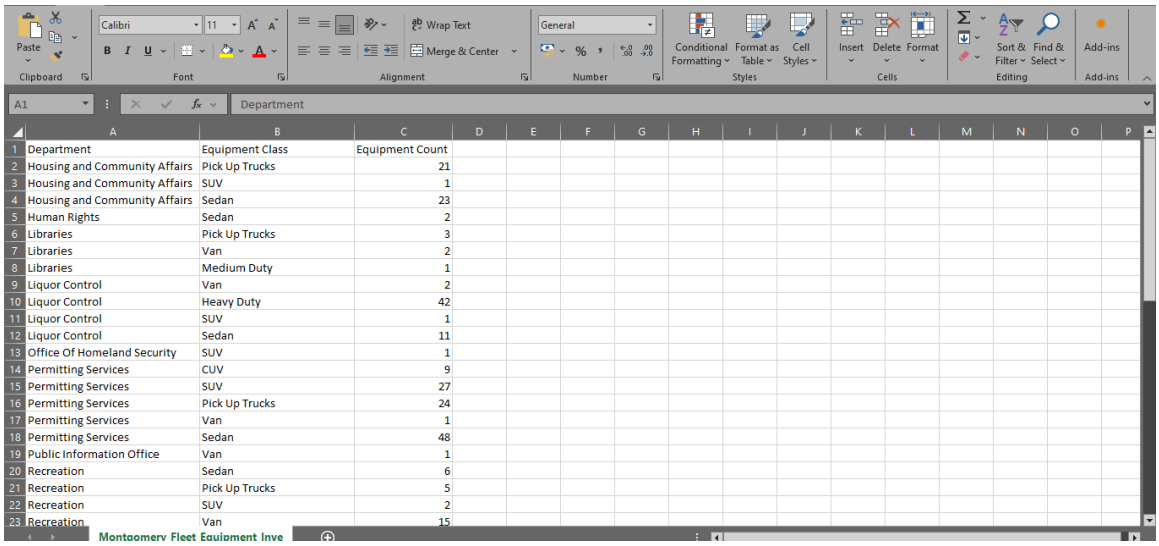
I ran a full spell check on the dataset to ensure names of departments and equipment types were accurate and professional. Correct spelling improves the reliability of charts and summary tables.

Conclusion of Part 1: Data Cleaning

The cleaning process transformed unstructured data into an organized format suitable for analysis. Key steps included:

- Text splitting
- Removing blanks
- Trimming white spaces
- Spell checking
- Applying structured formatting

This foundation was essential for the accuracy of the next phase.



	A	B	C
1	Department	Equipment Class	Equipment Count
2	Housing and Community Affairs	Pick Up Trucks	21
3	Housing and Community Affairs	SUV	1
4	Housing and Community Affairs	Sedan	23
5	Human Rights	Sedan	2
6	Libraries	Pick Up Trucks	3
7	Libraries	Van	2
8	Libraries	Medium Duty	1
9	Liquor Control	Van	2
10	Liquor Control	Heavy Duty	42
11	Liquor Control	SUV	1
12	Liquor Control	Sedan	11
13	Office Of Homeland Security	SUV	1
14	Permitting Services	CUV	9
15	Permitting Services	SUV	27
16	Permitting Services	Pick Up Trucks	24
17	Permitting Services	Van	1
18	Permitting Services	Sedan	48
19	Public Information Office	Van	1
20	Recreation	Sedan	6
21	Recreation	Pick Up Trucks	5
22	Recreation	SUV	2
23	Recreation	Van	15

Part 2: Data Analysis Using Pivot Tables

With clean data in place, I used Pivot Tables to analyze the distribution and quantities of fleet vehicles by department and equipment class. Summary statistics included:

- Total vehicles: 1,582
- Average per entry: ~32
- Minimum: 1

- Maximum: 379
- Unique entries analyzed: 49

This analysis offered valuable insights and supported data-driven reporting.