Analysis of the Environmental impact of Cars vs Trucks

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Background

- SUVs and trucks now make up the majority of new vehicle sales
- "Light trucks" not held to the same standards for emissions
- Using data analysis, we can provide evidence for stronger standards

Dataset

- HighD dataset chosen
- Provides data for highways in Germany
- High quality, real driving behaviour
- Many different sensors: GPS, radar, lidar

Cloud tools

- Google BigQuery
  - Allows storing and handling large datasets extremely efficiently
- Google Pub/Sub
  - Used for data ingestion into BigQuery
- Google Looker Studio
  - Data visualization
- Google Drive, Github
  - Collaboration

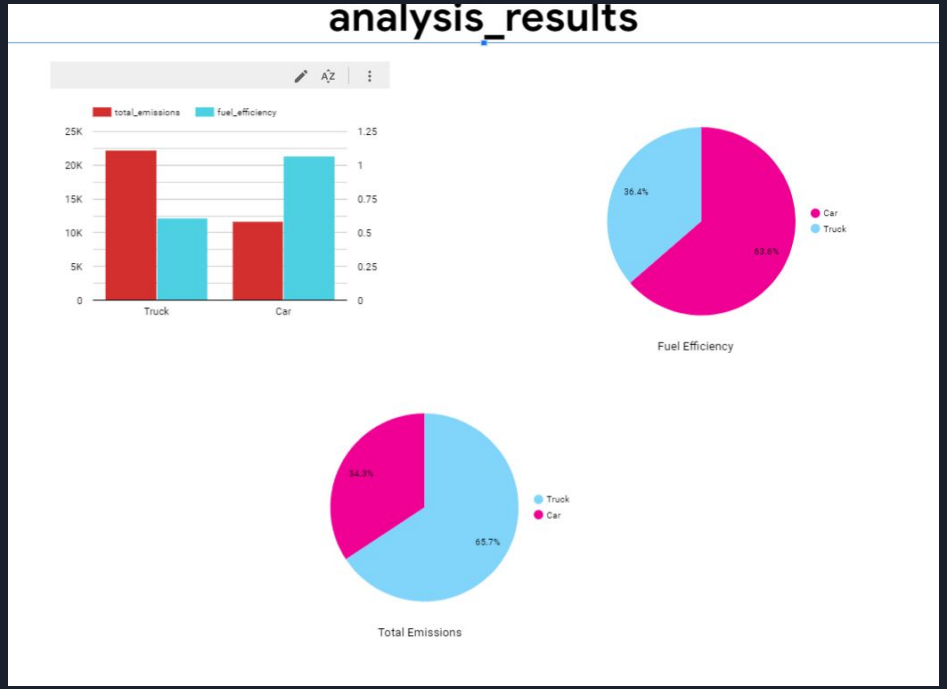
Data Analysis

- Performed using BigQuery
- Data structured using SQL and retrieved in the appropriate format and layout

Row	class	avg_speed	fuel_efficiency	avg_distance	total_distance	num_vehicles	total_emissions
1	Truck	24.6072941...	0.60957535...	386.518470...	32854.0700...	85	22275.0594...
2	Car	32.8281175...	1.06615921...	396.292235...	33684.8400...	85	11621.2698...

Data visualization

- Performed using Looker Studio
- Transform data from raw numbers into aesthetic and informative visualizations



Conclusions

- Using cloud tools, we were able to show the large difference in environmental impact between cars and trucks
- We were able to present this data in an informative and visual manner

Thank you for watching