

Fuel efficiency and safety in Coca-Cola FEMSA last-mile logistics

Motivation / Background

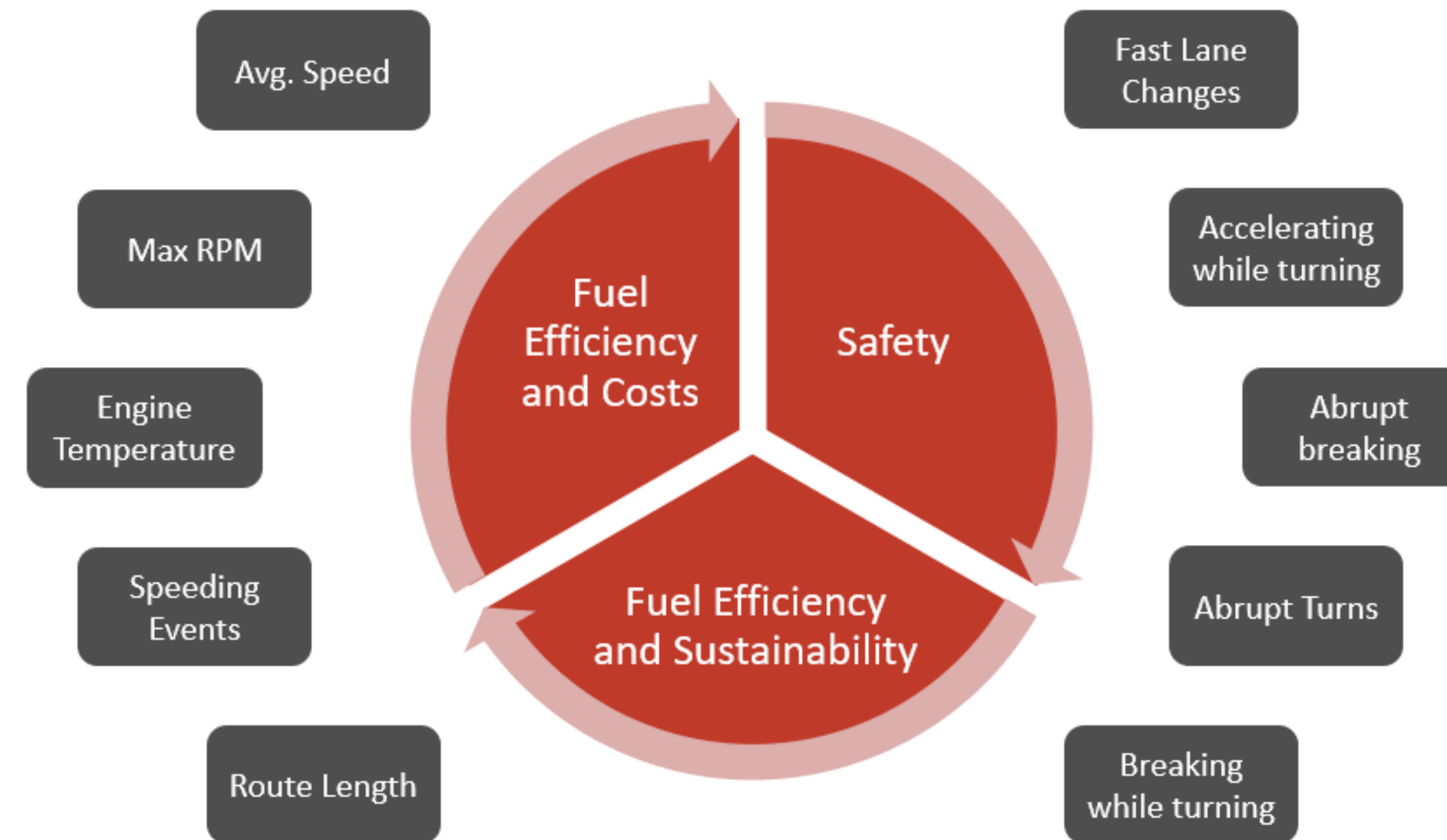
- **Transportation** accounts for **23%** of worldwide energy-related **CO₂ emissions**.
- Efficient drivers can save up to **35% in fuel consumption**.
- We helped **Coca Cola-FEMSA** reduce fuel consumption and crash rate by analyzing **over 3,000 delivery trucks' telematics data**.

Key Question

Which driving styles promote the highest levels of **safety and fuel efficiency** and what are the trade-offs between them?

Relevant Literature

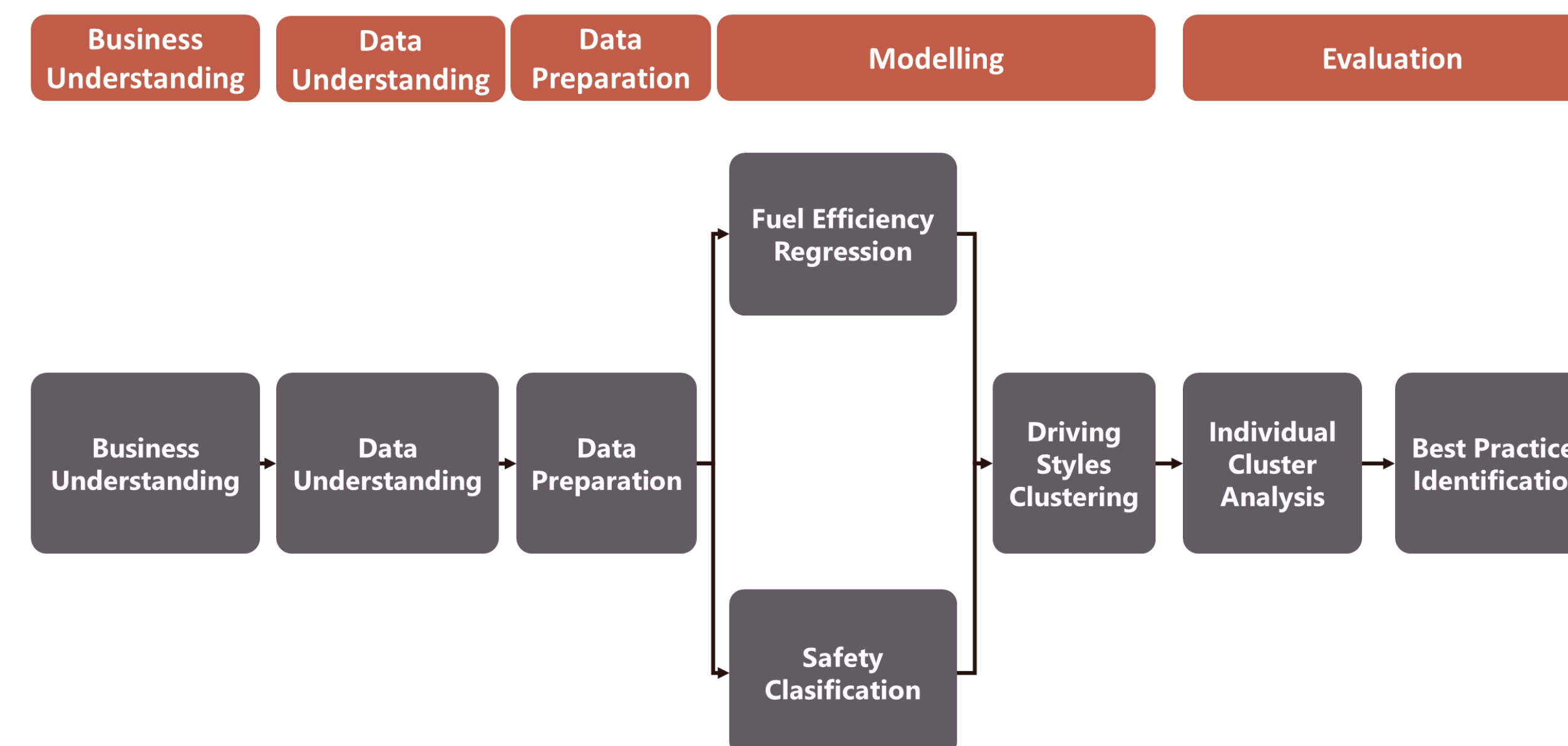
1. Green Logistics and Transportation Optimization – A Win-Win Opportunity. Retrieved October 16, 2020. [Chainalytics](#)
2. Hooper, A., & Murray, D. (2018, October). An Analysis of the Operational Costs of Trucking: 2018 Update. Retrieved October 16, 2020, from [ATRI](#)
3. Automotive revolution – perspective towards 2030. Retrieved October 16, 2020, from [McKinsey](#)
4. Sims R., R. Schaeffer, 2014: Transport. In: Climate Change 2014: Mitigation of Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. [IPCC](#)



The Problem

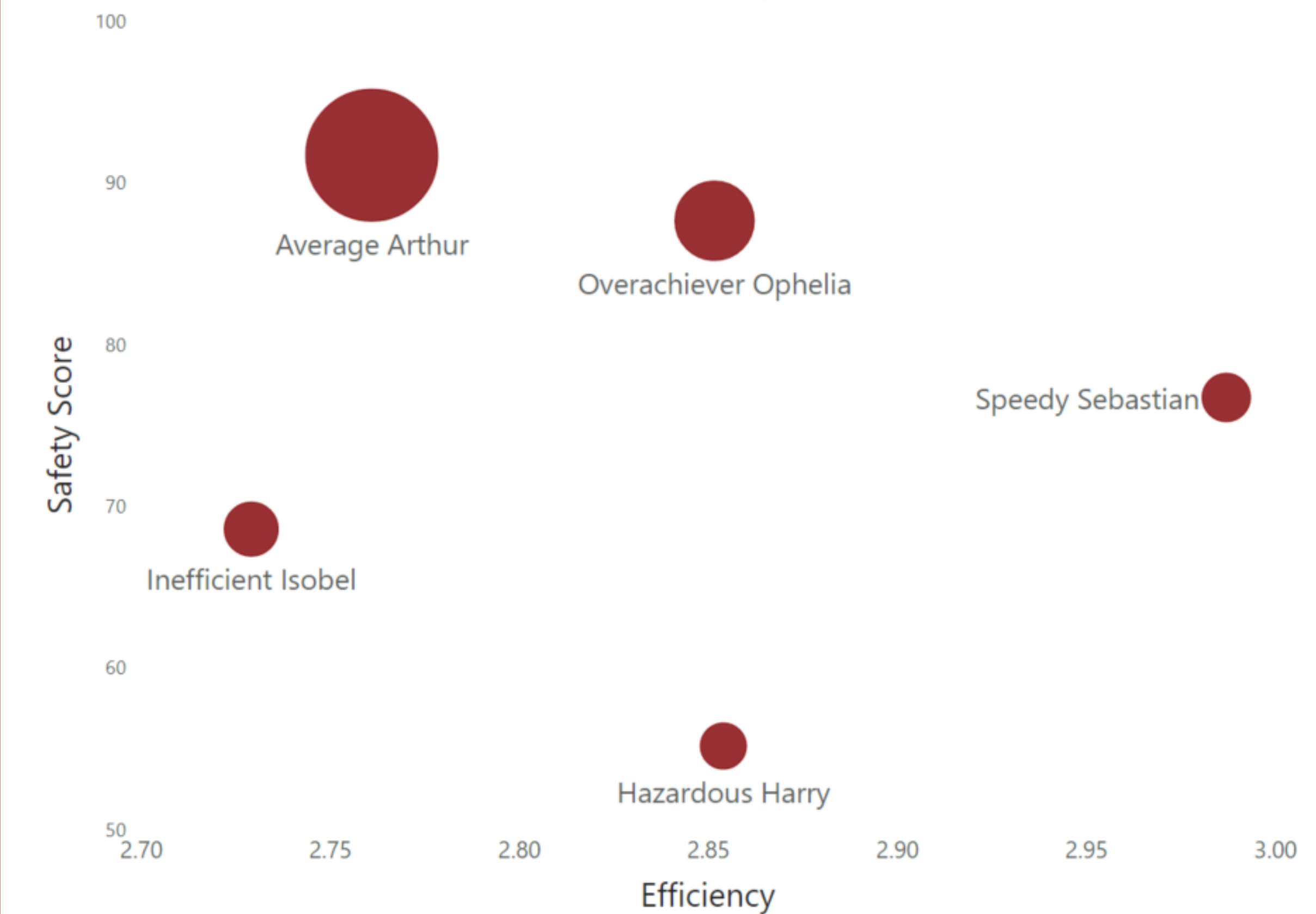
As fleets grow, it becomes increasingly difficult to keep track of parameters that could lead to problems in safety and fuel efficiency.

Methodology



Results

Efficiency, Safety Score and No. of Observations by Clusters



Contribution

1. Some drivers can **improve the safety proxy by 34% without sacrificing fuel efficiency** by applying our behavior framework.
2. **Fuel efficiency will increase by 6%** if we increase average speed by 1km/h, reduce acceleration events in 5% and reducing max. RPM by 5%.
3. Telematics offer **key real time data to measure driving behaviors** from a safety and fuel efficiency.