

# Analysis of Vehicle Fuel Economy

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# What drives fuel economy?



# Data

- Vehicle Fuel Economy Estimates, 1984-2017
  - US Environmental Protection Agency (EPA)
- Approximately 38,000 vehicles
- Data includes vehicle information, fuel economy estimate in MPG, and annual fuel cost estimates
- [Raw Data](#)

# Hypotheses

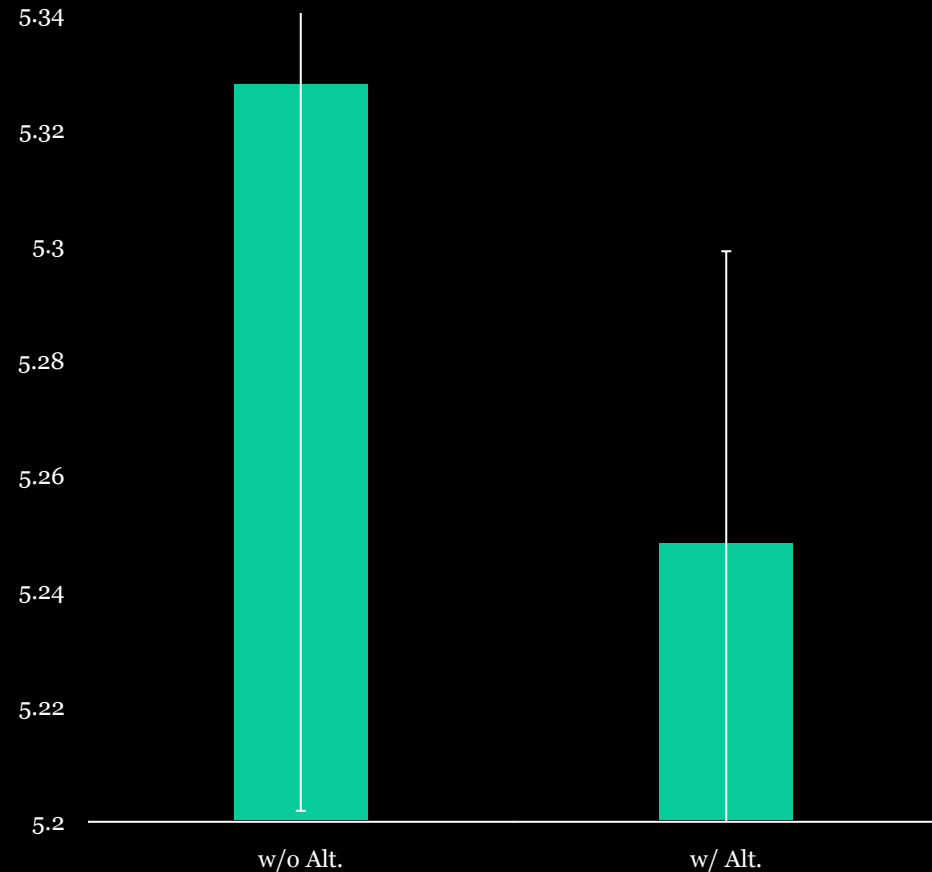
**H1:** There is no significant difference in fuel economy score when a vehicle make has no alternative fueled vehicles.

**H2:** There is no significant difference in the estimated fuel cost that is saved or spent over 5 years compared to the average vehicle when a vehicle has front-wheel drive (FWD).

**H3:** There is no significant difference in annual fuel cost for vehicles that run on regular fuel.

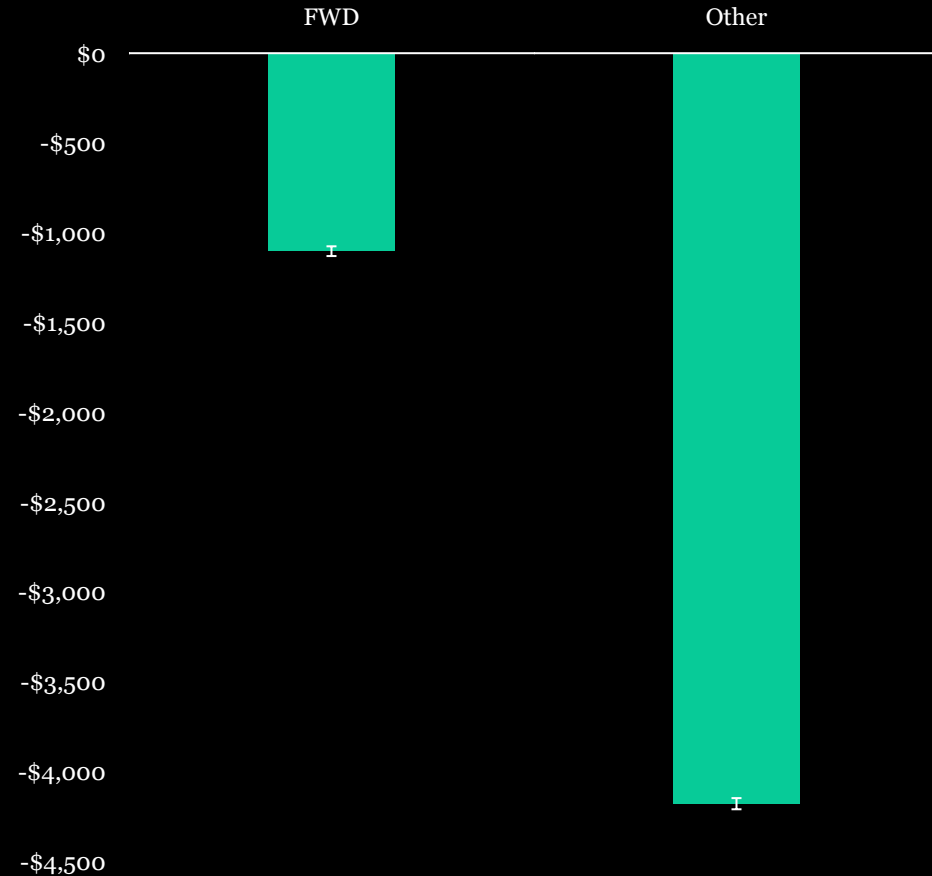
# Fuel Economy Score for Makes with & without Alt. Fuel Vehicles (2013+)

- Statistically **NO** significant difference of fuel economy scores between makes with and without alternative fuel vehicles.
- With 95% confidence, the average fuel economy score is between -0.56 and .215 points in difference for makes without alternative fuel vehicles.



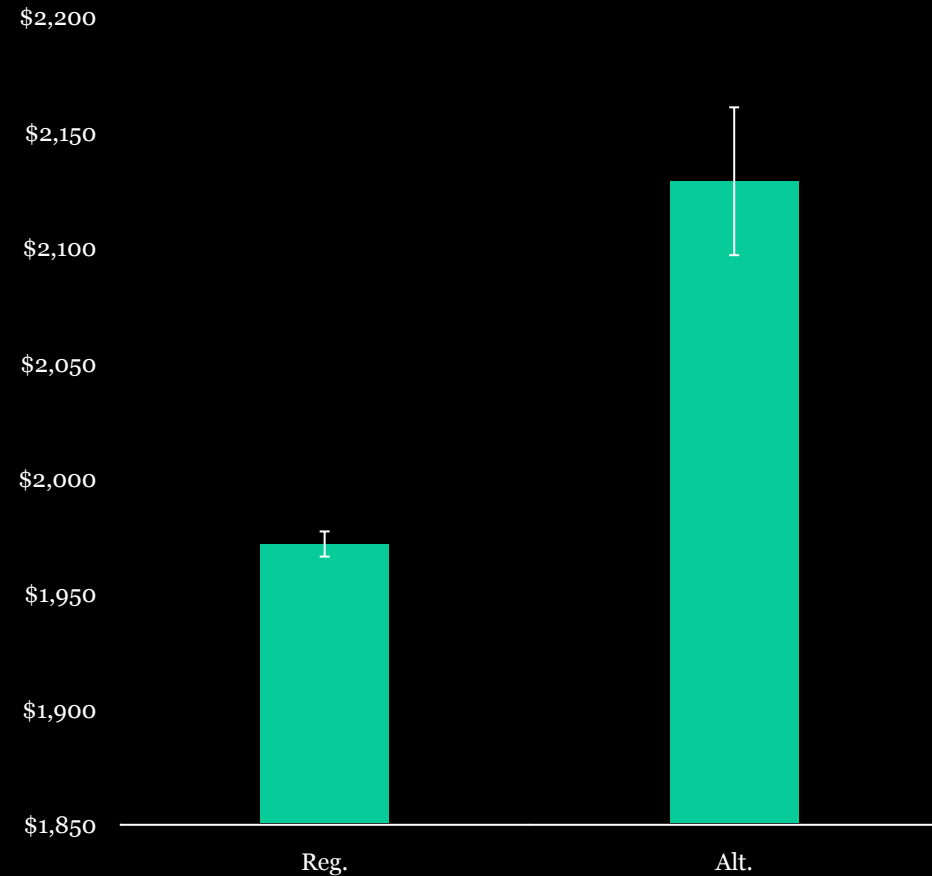
# Save or Spend Amount for FWD & Other Drive Types

- Statistically significant difference of the cost amount saved or spent between vehicles with FWD and other drives.
- With 95% confidence, the average cost amount is between \$3035.78 and \$3118.31 higher in savings for vehicles with FWD.



# Annual Fuel Cost for Regular & Alternative Fuel Types

- Statistically significant difference of annual fuel cost between regular and alternative fuel types.
- With 95% confidence, the average annual fuel cost is between \$124.65 and \$189.62 cheaper for regular fuel types.







## Recommendations

Any car make with a fuel economy score is worth exploring

Choosing a FWD will save consumers over \$3000 compared to the average vehicle

As a whole, regular fueled vehicles will save over \$100 a year in fuel