

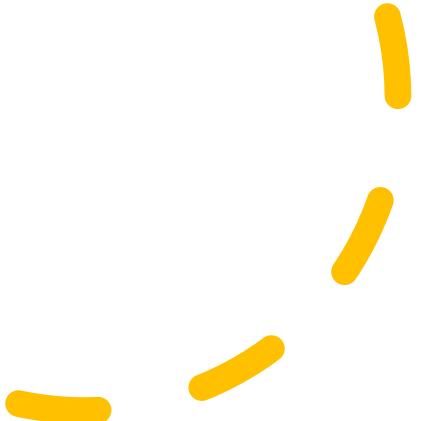
New York EV Rebate: Can We Do better?

Metis Business Proposal Project by Maxwell Wood



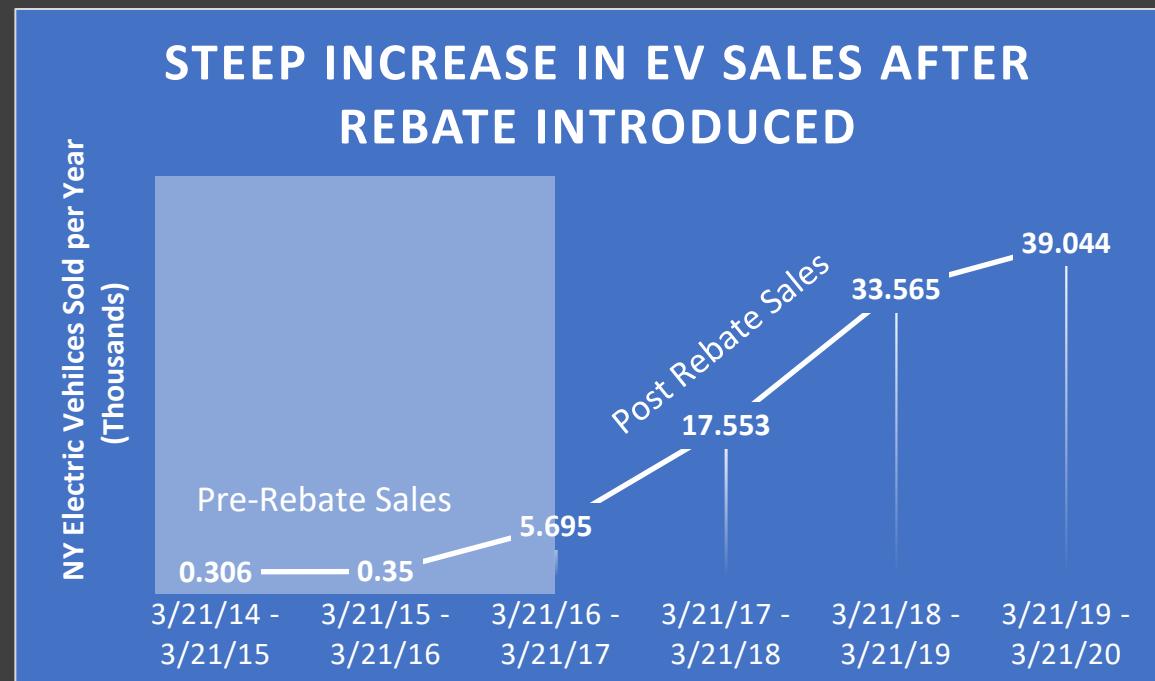
Client Information

- Mission - to Help New Yorkers:
 - Increase Energy Efficiency
 - Save Money
 - Use Renewable Energy
 - Reduce Reliance on Fossil Fuels



Rebate Program

- In 2017 NYSERDA launched an electric vehicle rebate program intended to help grow sales of electric vehicles
- The rebate amount was based on single charge range:
 - Greater than 200 miles: \$2,000 off
 - 40 to 199 miles: \$1,000 off
 - Less than 40 miles: \$500 off
 - Greater than \$42,000 MSRP: \$500 off



*From NYDMV vehicle registrations

Is Range the Right Target?



LARGER RANGES IN VEHICLES
REQUIRE LARGER BATTERIES



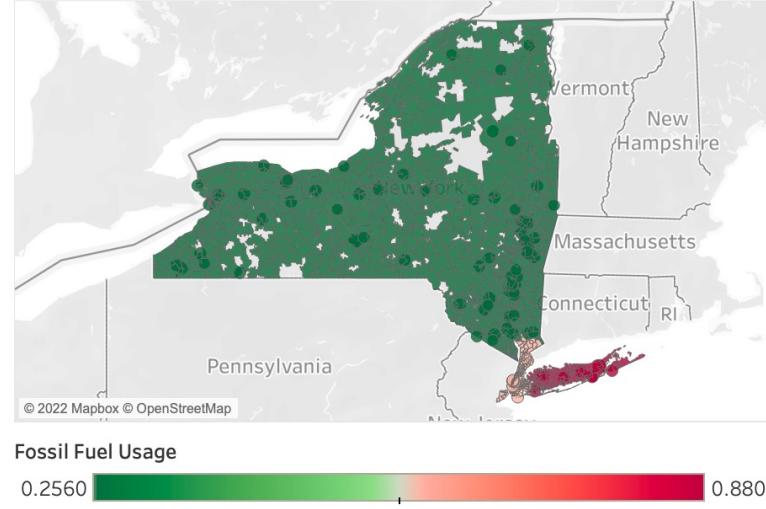
THIS ADDS WEIGHT TO
VEHICLES



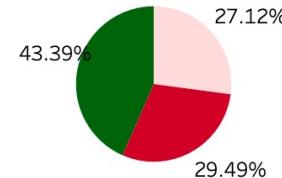
EXTRA WEIGHT CAN MEAN
LOWER VEHICLE EFFICIENCY

New York's Grid Energy is Far from Carbon Free

Fraction of Energy Coming From Fossil Fuels



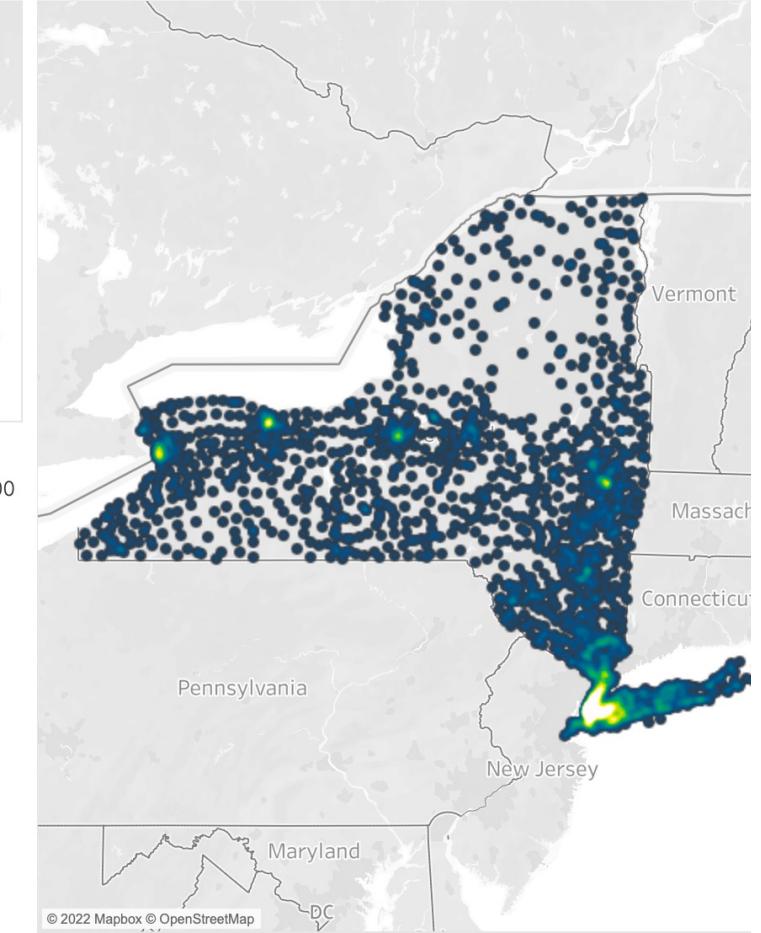
Vehicles in Grid Sub Region



Grid Sub Region

- NYCW
- NYLI
- NYUP

Electric Vehicle Owner Location



* Data from New York Department of Transportation and Department of Energy

Problem and Impact Hypothesis



Problem:

New York's EV rebate doesn't appear to encourage more efficient vehicles



Impact Hypothesis:

Knowing how the rebate is impacting sales will :

- Quantify the cost and benefit of the rebate
- Provide insight into how restructuring the rebate could impact sales of more efficient vehicles

Solution Path

Collect Data

- NYSERDA
- Department of Energy (DOE)
- Vehicle Features



Success Criteria

- An accurate predictive model that can:
 - Compare sales in states with and without rebates
 - Compare coefficients of interest to other vehicle features

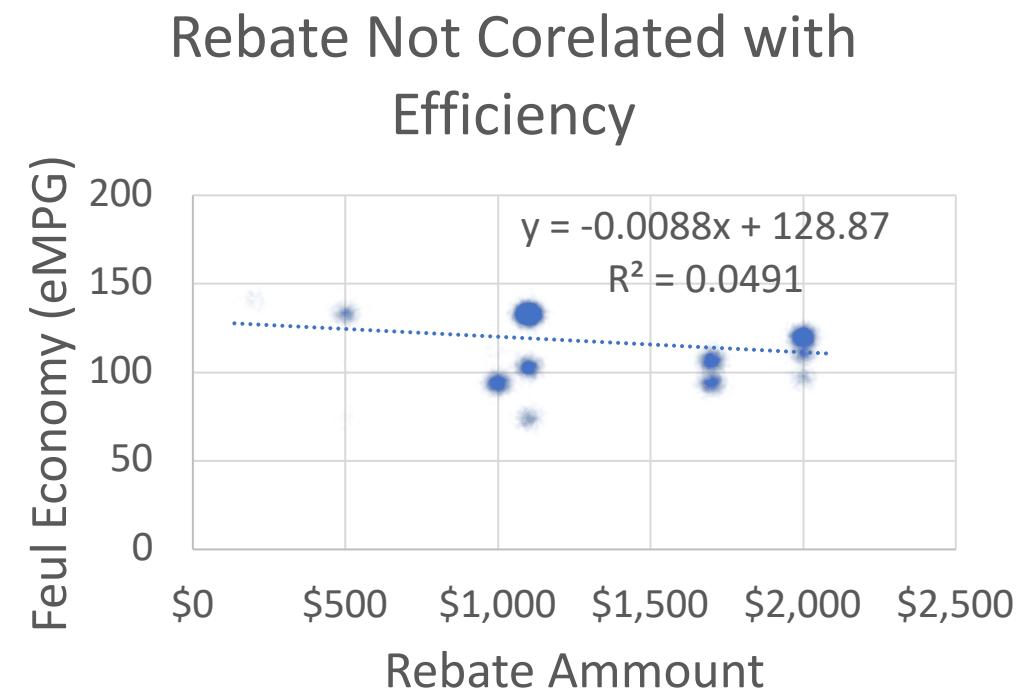
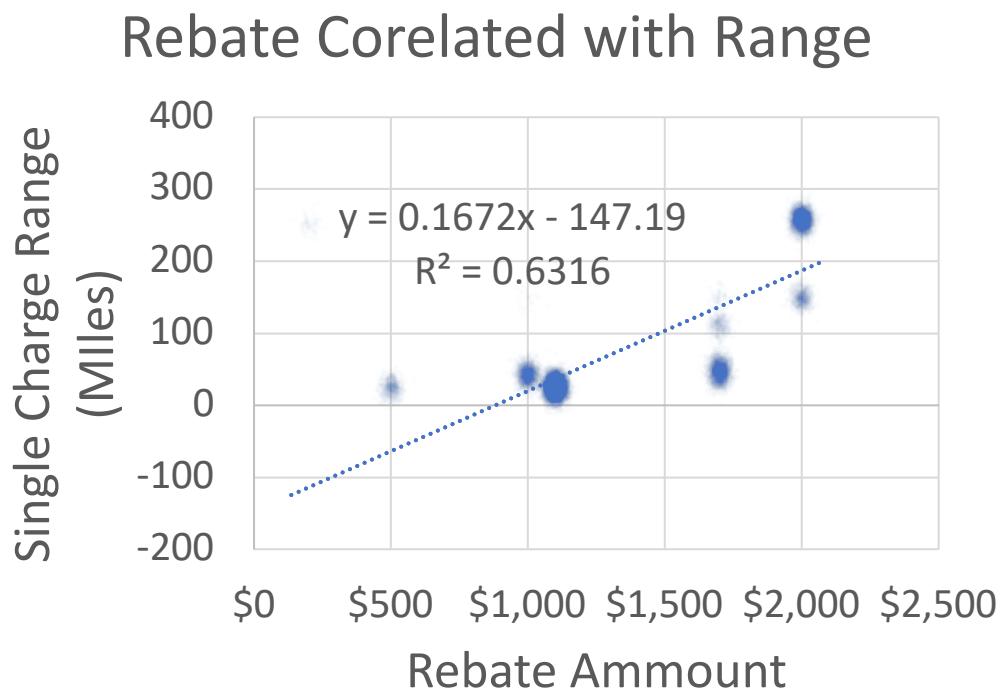


Build Model

- Target: Vehicle Sales
- Features of Interest:
 - Rebate Amount
 - Vehicle Range
 - Vehicle Efficiency



Preliminary Analysis



*Data from NYSERDA showing all electric vehicles sold in New York since the introduction of the rebate below \$42,000

Risks and Assumptions

I focus on NYSERDA's mission to increase energy efficiency

It also aims to reduce NY's reliance on fossil fuels

Altering the rebate may negatively impact overall sale of electric vehicles



Thank You!