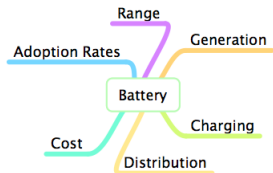# Enabling Greener Driving
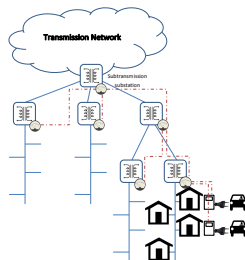# A Computer Science Approach

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January 22, 2013

Our Areas Of Research

Modeling

Control Theory

Optimization

Big Data

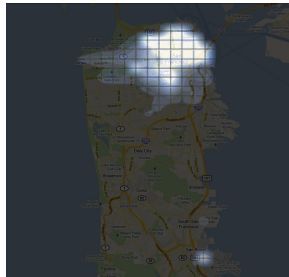# EV Adoption Barriers: Range Anxiety & Price

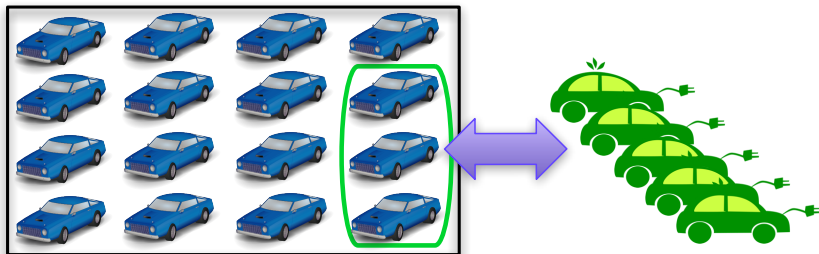Empty Battery

Emergencies

Resale Value? ROI? Worth it?

Should taxi companies adopt EVs?

- Data oriented approach: 500+ taxis, 400,000+ fares

- Modeled battery levels, fuel displacement, missed fares, infrastructure placement, batteries required,...

- Revenue analysis: cost of cars, fuel, electricity, stations, batteries,... slightly profitable with prices in 2011

Sizing Car Pools For Reduced Range Anxiety

- Dealerships*, rental agencies, community lots.
  - ▷ *can amortize into EV price, sold as "free", ↑ EV sales

- Working with Community Carshare → data for locating and sizing

EV Review Mining

- Programmatically mine thousands of EV reviews/discussions
  - ▷ How do opinions *temporally evolve*?
  - ▷ Are opinions *correlated* with other trends?
  - ▷ Identify *authoritative sources* of information
  - ▷ *Personalized product* recommendations