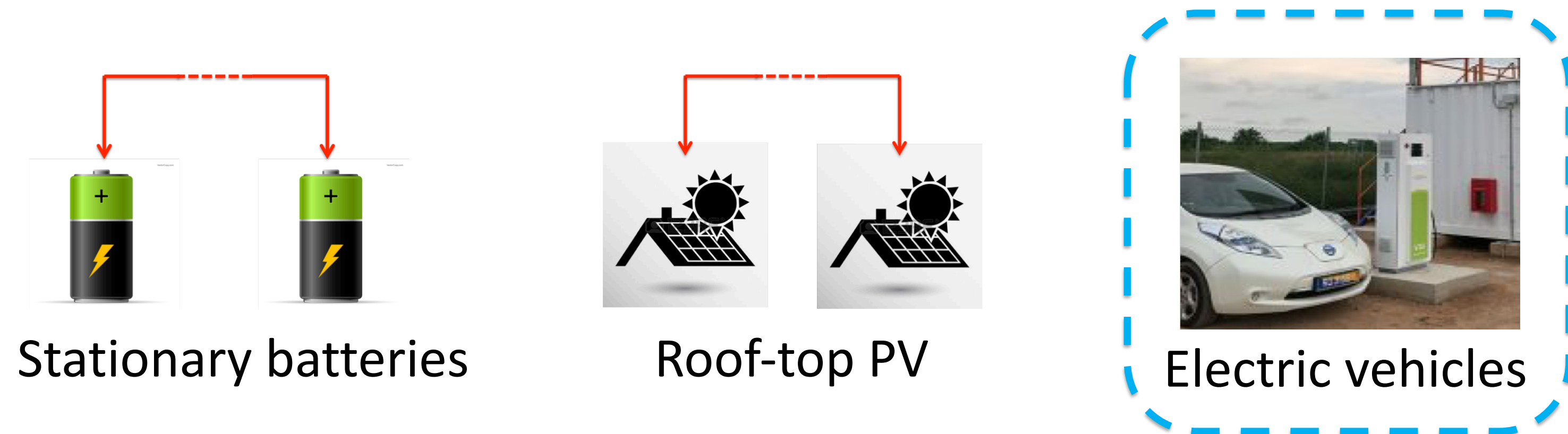


Sharing Mobile Storage for Demand Charge Reduction

Award #1646612

Lead PI: Kameshwar Poola, UC Berkeley, poola@berkeley.edu

Sharing opportunities in smart grid

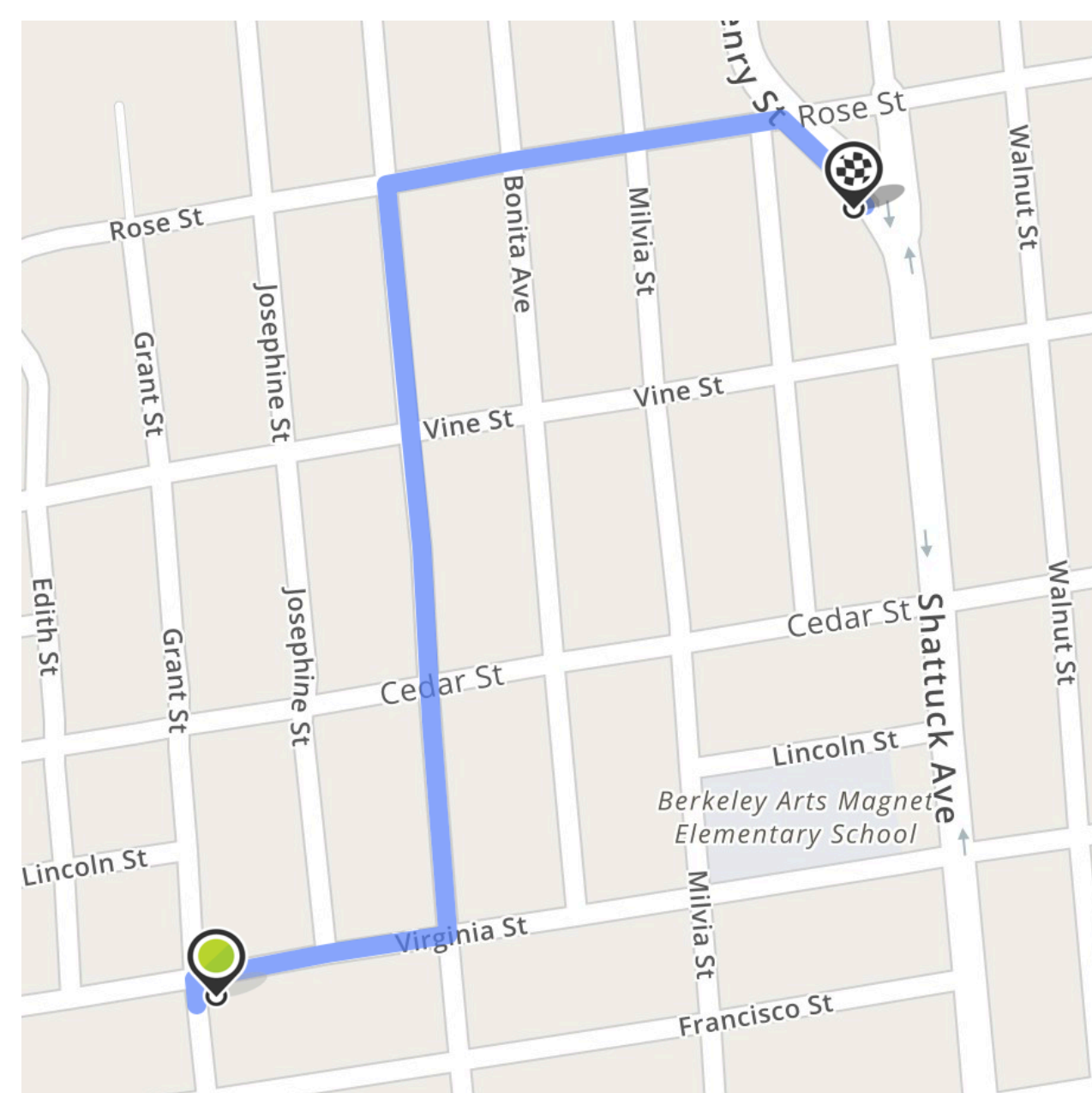


Business case: Demand charge reduction

Supply Side

Matching Platform

Demand Side

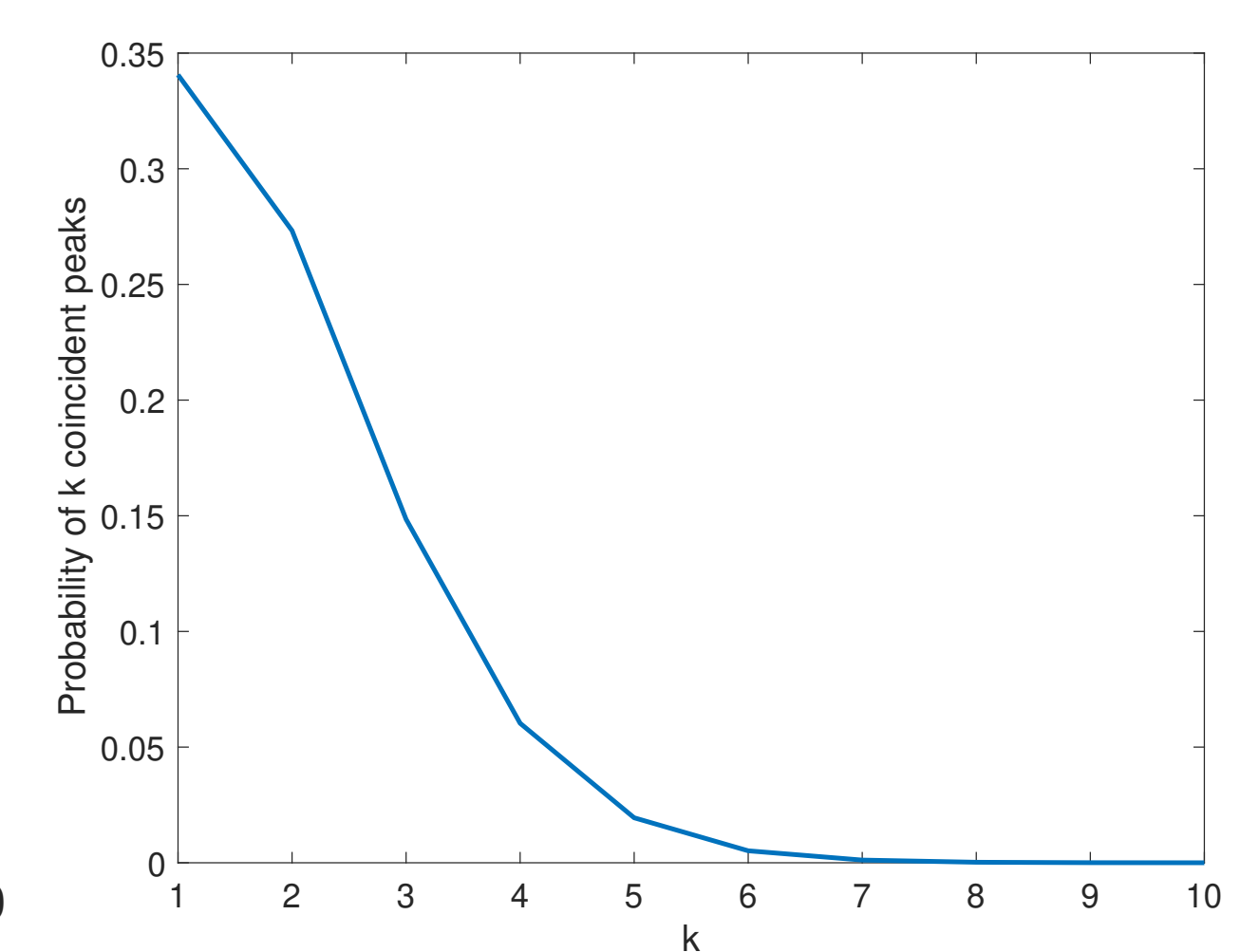
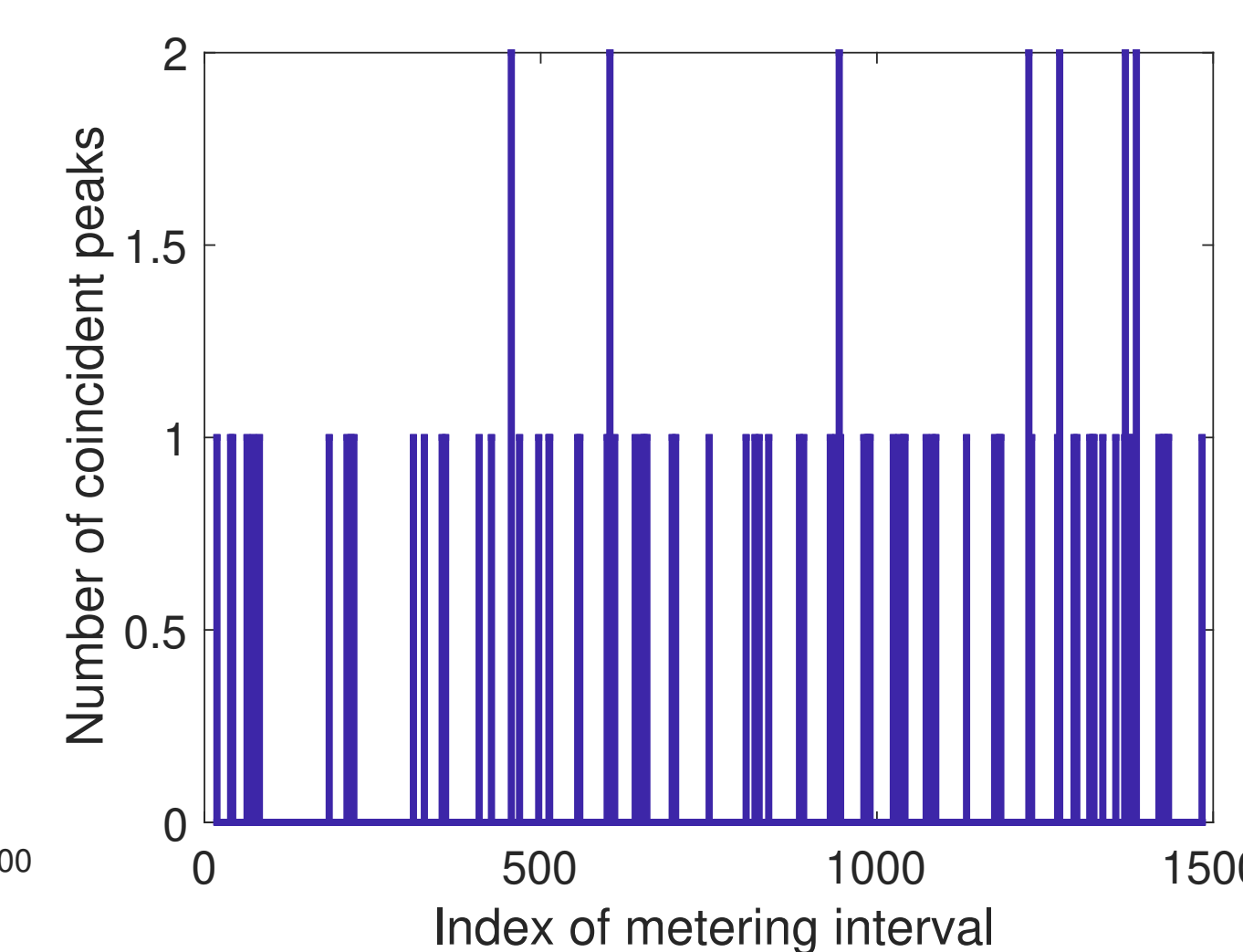
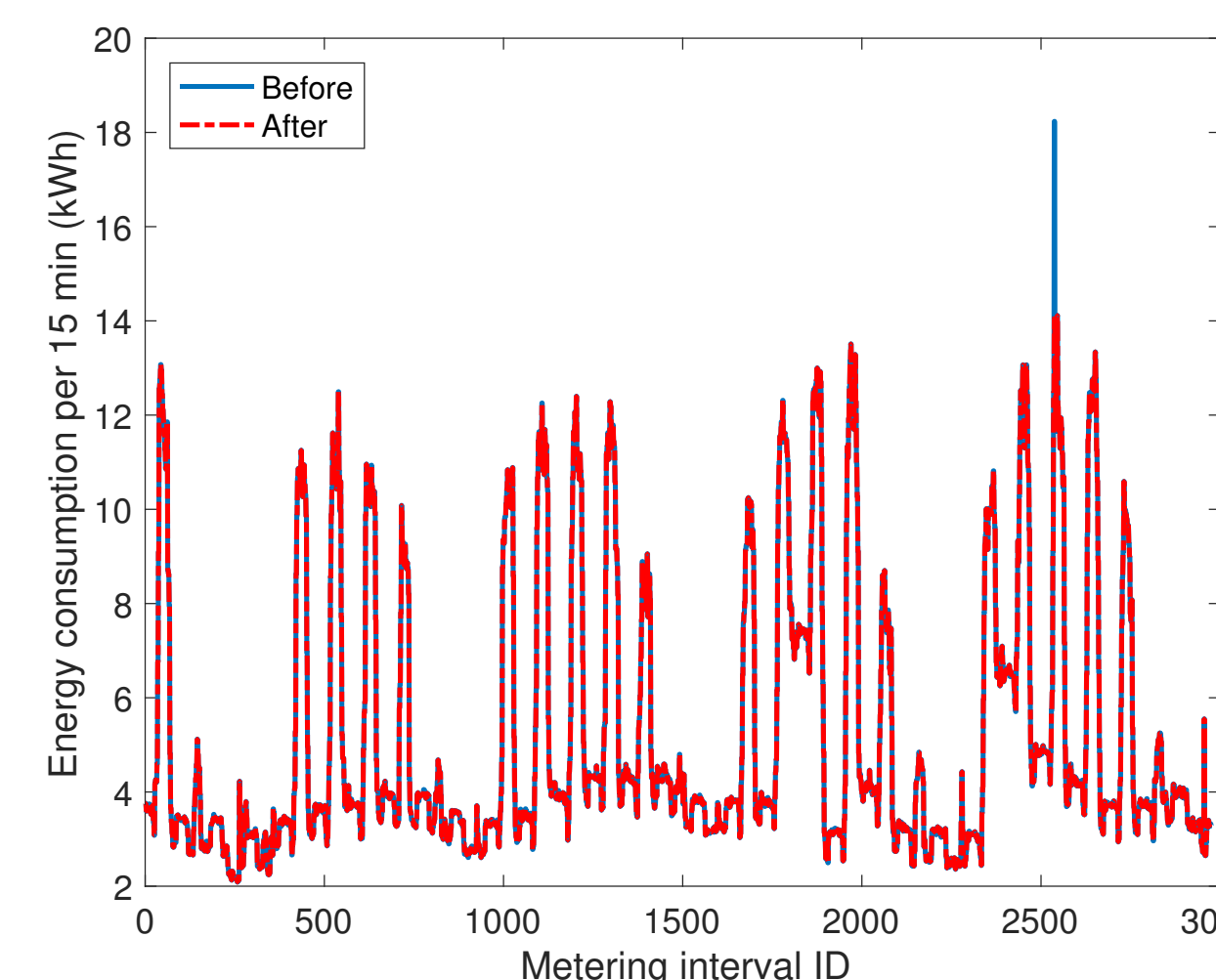


- Supply side
- Increasing EV adoption
 - 95% of time parked

- CPS platform manages
- Matching
 - Flow of information
 - Flow of money

- Demand side
- Eager to reduce demand charge
 - Installed bi-directional charger

Temporal statistics of peaks

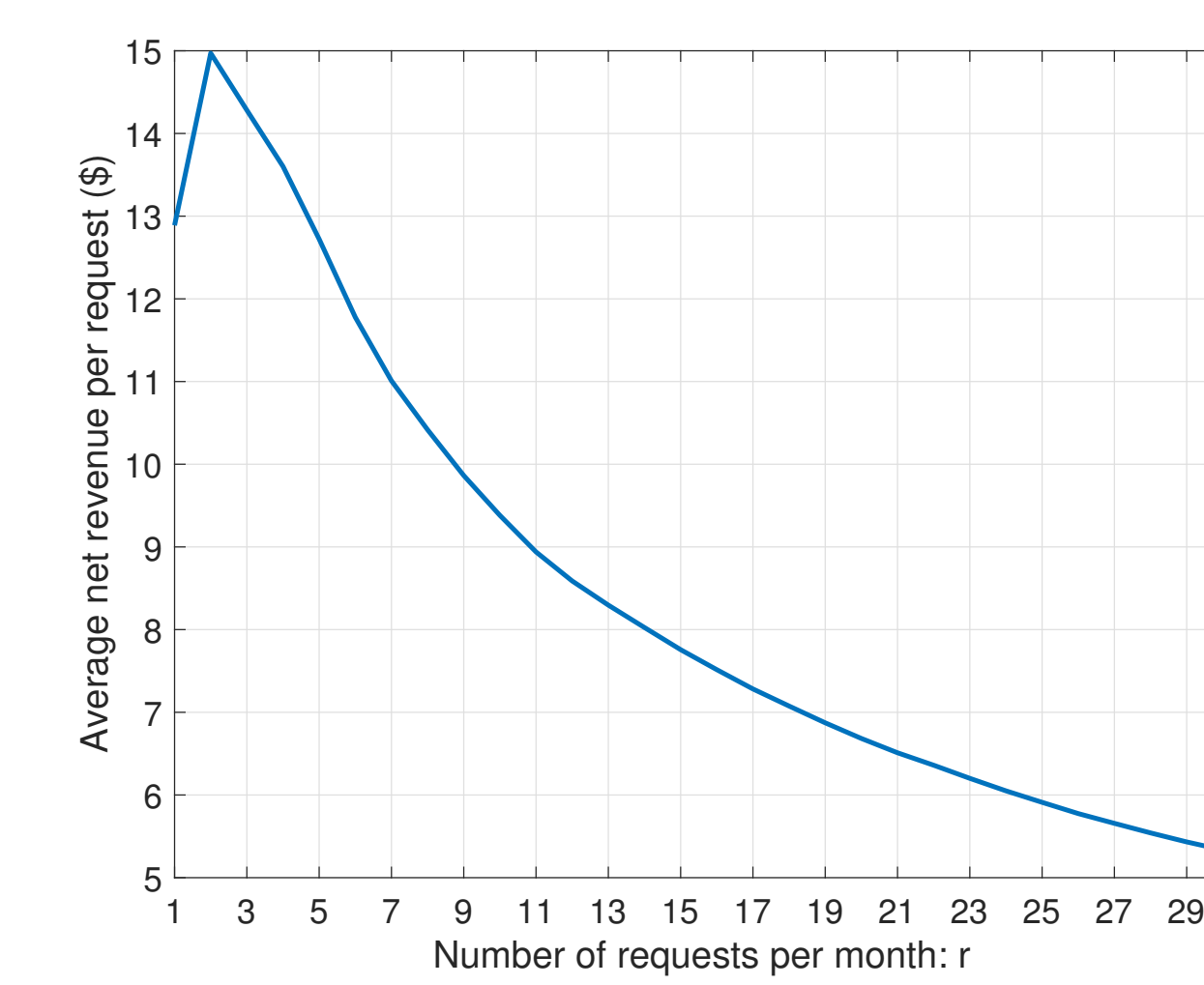
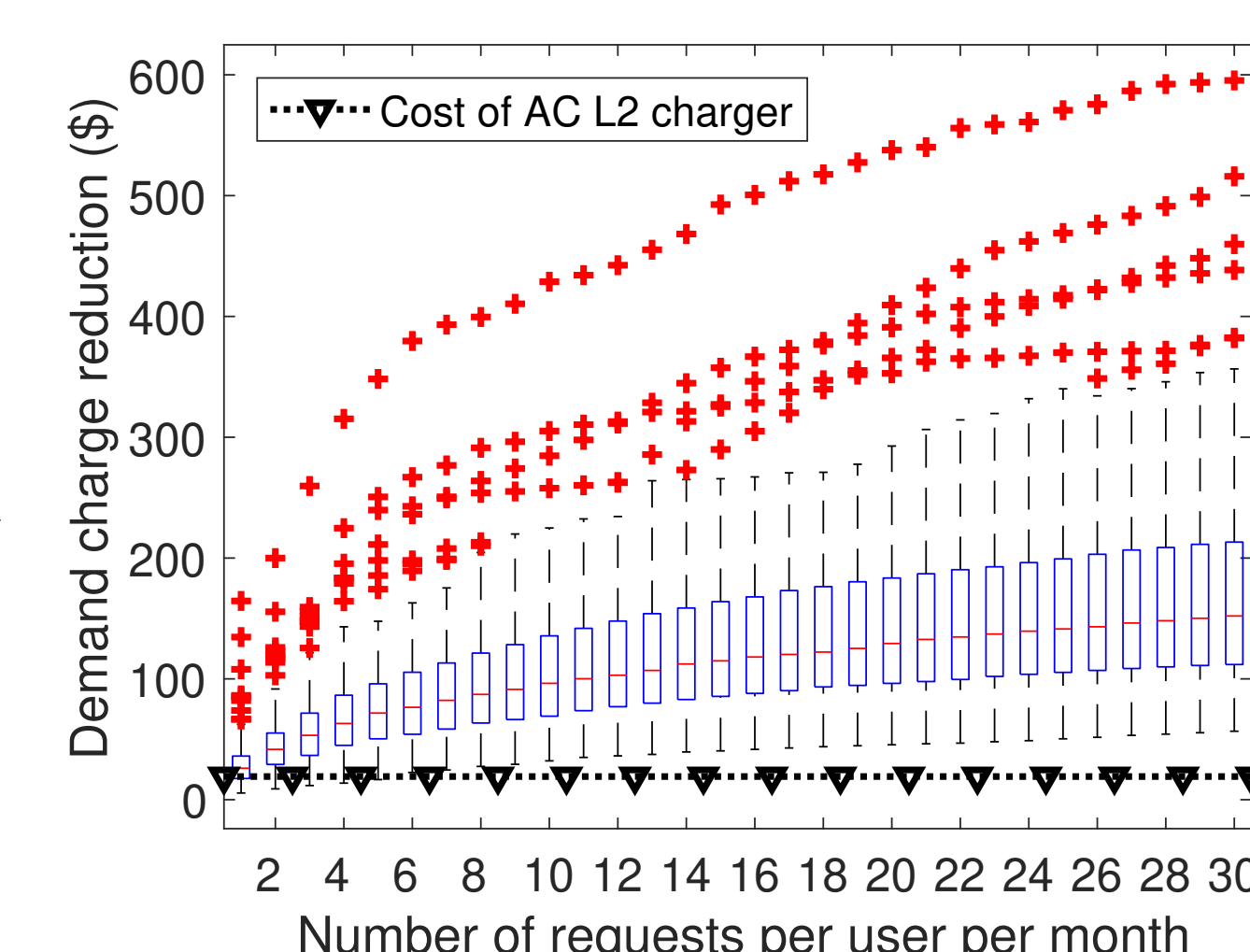
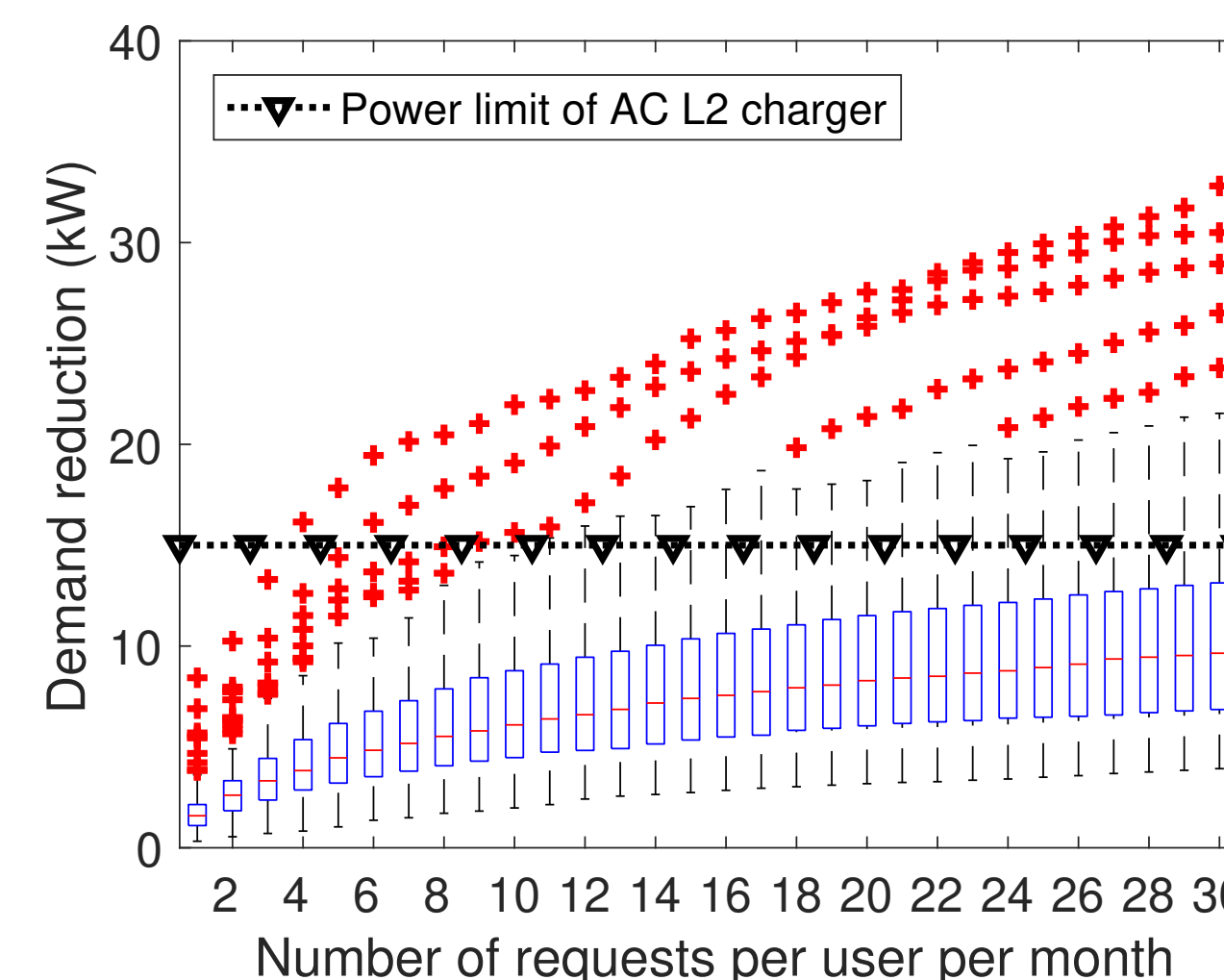


- Shaving peaks reduces demand charge

- Peaks of different users are temporally dispersed

- Theory: probability of k coincident peaks

Hardware cost and driver compensation



- AC L2 bidirectional charger is sufficient

- Demand charge reduction covers L2 charger costs

- Driver compensation comparable with Uber

Piggyback on electrified TNCs

