In this project, we explored important factors to choose EV charger locations in WA and predicted potential optimal locations. We used machine learning methods with an optimization model to propose the number of chargers and locations of EV charging stations.

The data we collected included daily traffic counts, gas and EV stations, tourist attractions, highway exits, natural risk index, and crime rate. Our optimization model chooses candidates from existing gas station locations as EV charging stations, with the objective to minimize the total station and charger count while satisfying the constraints: 1) not far from highway exits; 2) satisfy all EV traffic demand; 3) limited charger counts per station.

Model-suggested new locations are scattered around higher traffic areas, which fulfill the anticipated increasing demand in city areas and the gap around rural areas. For future steps, we can incorporate crime rate, NRI, attractions features to score each optimized result.