Selected Factors Associated with EV Adoption and Demand of Charging Stations

Research Summary

One of the main barriers to electric vehicle (EV) adoption is related to the so-called “range anxiety”, which is in turn partially caused by the lack of charging infrastructure. To address this issue, we not only need to know how many charging stations are in demand, but also need to decide where to place them.

In this study, we conducted a site suitability analysis to optimize the location of charging stations in the City of Austin, Texas.

First, we identified factors that influence EV adoption rate based on a review of existing literature. Second, we collected data from various trusted organizations and institutions such as the US Census Bureau and the City of Austin. Third, based on geographic identifiers, we gave a weighted score to each location for each variable. Finally, we summed the scores each location received from all the variables and derived the suitability map. The higher the score, the more suitable the site is for the placement of a charging location.