

Ritvik Shukla¹, Aaron Flores², Danae Hernandez-Cortes³. *Equity and Distributional Justice in Phoenix Metro Area's EV charging landscape*

Electric Vehicles (EVs) are crucial for decarbonizing the U.S. transportation sector. As early adopter markets mature, attention is shifting to low-income and minority demographics. Over the past four years, public and private investments have totaled over \$25 billion in the development of the U.S EV landscape, yet access to affordable public charging primarily caters to white, high income, and highly educated populations. This poster presents findings from an in-progress paper which investigates the existing distributional injustices in the Phoenix Metro Area's public charging network.

We examine the emerging public EV charging landscape in the Phoenix Metropolitan Area, analyzing the current distribution of public chargers across various racial, ethnic, and socio-economic demographics. We utilize regression models to identify underserved communities that require targeted policy interventions. Unlike previous research, which often rely on spatial coincidence models, we employ a population density-dependent variable, assessing chargers per capita within a 0.25-mile radius.

We find that inequality exists across the entire region, with a very small population being provided walkable access to public chargers. Our findings reveal that African American and Asian populations are significantly underserved in terms of public charging access compared to predominantly non-Hispanic white communities. We also find that the region does well to address inequity across income levels and renters. Overall, proximity to highway exits emerges as the largest indicator of public charging locations, highlighting the need for more intra-city infrastructure development. Through these findings, we provide policy suggestions and offer pathways towards developing a resilient and just public charging network.

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3. Governance and Just Transitions