

## **Research Report - Tinker Summer Field Research Grant '18**

The people of Mexico City are used to watching the mountains surrounding the city fade into the smoggy afternoon. The snow-capped volcanoes give way to a grey haze that envelops their day. The high-altitude air strains under the weight of the pollution and the world feels a little more sluggish. People check the air quality like they check the weather report, and millions of evening jogs or bicycle rides are regularly foregone because of the persistent pollution. It is yet another reminder that humans the world over struggle to be good stewards of our shared resources, especially those we consider to be freely accessible and infinite – like the air we breathe.

I came to Mexico City this past summer for the first time with the goal to explore ways that decisionmakers could structure investment in vehicle electrification (e.g., electric buses, cars and associated infrastructure) with an eye to addressing environmental justice challenges. Environmental Justice, broadly speaking, is the idea that all people, regardless of identity or background, have a right to clean, safe, resilient, air, water and environment and a right to participate in decisionmaking processes that affect these shared resources. In the United States, Environmental Justice is strongly tied to the significant and consistent correlation between low-income and minority communities bearing the brunt of environmental pollution from both stationary and mobile sources. For example, polluting factories and congested highways in urban areas are frequently cited in or adjacent to low-income and minority communities, exposing them to a disproportionately high share of pollution and burdening them with a large share of the pollution generated by society's economic activity.

The research team I collaborated with in Mexico City and UC Berkeley - where I'm pursuing my Master of Public Policy - decided to approach the challenge of addressing environmental injustices through the lens of electrification of vehicles, a burgeoning technology with the double benefit of significantly reducing atmospheric pollution and improving or enhancing access to transportation services for individuals within reach of transportation networks. The research team applied a State of California methodology for identifying communities at a socioeconomic and environmental disadvantage to generate a geospatial ranking of the most burdened areas of Mexico City. Our hope is that the map will serve as a tool for decision makers in Mexico to prioritize investment in vehicle electrification in areas of cities with the worst pollution and highest levels of poverty and marginalization. We will also make the methodology available for continued work both in Mexico City as well as for application in other cities in Mexico that struggle with these parallel challenges.

It was a great pleasure to work with sharp, talented individuals at the Institute for Ecology and Climate Change and the Mexico/US Binational Energy lab. I think we were able to, in our own small way, build robust bridges of understanding that stand in defiant contrast to the human rights abuses committed by the United States at the border during my time in Mexico. I was consistently impressed by my Mexican colleagues' generosity and kindness and hold their thoughtful commitment to their research in high esteem. Mexico City itself is a bustling beauty. Its museums and pyramids remind you of the splendor and sophistication of pre-Columbian Mexico. The streets are lined with rich, intense food born of an age of tragic and vibrant exchange. If you wander around long enough, you're bound to stumble upon cobblestone boulevards lined with eighteenth century houses stitched in ivy and draped in

bougainvillea. There is a pervasive sense of honesty in interaction, and the people are warm and boisterous.

My hope is that, some day in the future, when the last veil of the smog lifts, that the people of Mexico City will recall that efforts taken to clean up their air were informed by an environmental justice perspective. That vulnerable communities who stood to benefit from targeted investment and engagement the most were not given short shrift. The technology exists for us to achieve this goal within my lifetime. The question facing us now is not whether, but how quickly and justly, we will clear the skies again.