A Gap Analysis for Infrastructure Requirements of the Transition to Zero-Emission Vehicles in the State of California

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ABSTRACT

California's Clean Energy executive order mandates that all operations of medium and heavy-duty (MDHD) vehicles will be 100% zero emissions by 2045. For passenger vehicles, the mandate goes into effect by 2035. The location and availability of charging infrastructure are one of the most important factors for fleet companies to boost electric vehicle adoption. The objective of this research is to identify the optimal locations for Zero Emission Vehicles (ZEV) public charging stations for the transition to electric fleet. The focus of the current phase of this research is on estimating the demand for charging stations in the Los Angeles County at the zip-code level. The outcome of this phase is expected be an interactive data-driven tool that utilizes data sources and user-defined input parameters in order to provide the outputs such as the number of public charging stations needed per zip code and their optimal locations. Future phases involve extending the demand analysis to the entire state and a data-driven analysis of energy sources across the state.