

## **Abstract**

Alternative fueled vehicles are positively shaping the environment, emissions, and social perceptions of vehicles. Several pieces of legislation and mandates have been passed in California to guide the state towards positive climate impact goals. Assembly Bill 118 and Executive Order B-16-2012 are notable pieces of legislation passed within the last decade that are driving California towards five million zero-emission vehicles by 2030. While these goals are aspirational, several state agencies have collaborated to create programs to accomplish this goal, including the Alternative and Renewable Fuel and Vehicle Technology Program. The California Energy Commission (CEC) has been tasked with implementing this program and releasing an annual Transportation Energy Demand Forecast. This report includes multiple charts and datasets, but no maps or visualizations to facilitate the public's understanding as to the progress of said goals or the ability to achieve the interim 1.5 million zero-emission vehicles by the 2025 target. Research has shown that maps enable data to be better understood by both professionals and the general public. The primary goal of this thesis was to create a Web GIS Story Map that visualizes the progress towards meeting California's alternatively fueled vehicle goals as a means of demonstrating the viability of Story Maps as a communication approach. The Story Map includes geographic representations of alternative fueled vehicles, spatial analysis of the demographic and economic adoptions throughout the state, and immersive multimedia to facilitate exploration of the alternative fueled vehicle program. This study evaluated the degree to which internal staff determined the Story Map useful versus approaches that are more traditional. Preliminary responses from internal staff showed that the Story Map was well organized and intuitive. This pilot project serves as a flagship Story Map that can be expanded upon and published by the CEC for the general public review in the near future.