

## PROJECT BRIEF

# Expanding Zero-Emission Mobility Access, Education, & Support for All Coloradans

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## Purpose

This project aims to evaluate and enhance the ReCharge Colorado program, focusing on equity and accessibility in its efforts to increase electric vehicle (EV) adoption and charging infrastructure availability across the state. By identifying regional gaps in community engagement, our goal is to create actionable recommendations that improve outreach to underserved communities, ensuring that all Coloradans can benefit from the shift to zero-emission mobility.

## Context

ReCharge Colorado is a state-wide initiative supporting EV adoption and charging infrastructure expansion through the Colorado Energy Office (CEO). As part of the program, Drive Clean Colorado (DCC) works closely with local communities to foster engagement, but there is a need to better understand the barriers that exist, particularly in marginalized areas.

## Deliverables

<b>Equity Outreach Gap Analysis</b>	Identifies equity gaps and regional needs within current programmatic structure, and compares to programs evaluated in literature review
<b>Public Facing StoryMap</b>	Provides an interactive hub for programs and information on electric vehicles
<b>Final Report</b>	Summarizes key findings and recommendations for DCC and CEO

## Methodology

To evaluate the program's effectiveness and identify areas for improvement, we used a multi-faceted approach.

# Literature Review of National Offerings

Zero-emission mobility programs are pursued nationwide through various levels and mediums. Our literature review examined these programs at the federal and state levels to identify common strategies and best practices for promoting EV adoption and widespread implementation. The chart below highlights successful approaches across all levels.

FEDERAL	STATE	COLORADO
<ul style="list-style-type: none"><li>• Financial Incentives, Infrastructure Development, and Economic Growth</li><li>• Equity, Environmental Impact, and EV Adoption</li><li>• Collaboration and Partnership</li></ul>	<ul style="list-style-type: none"><li>• Translation Assistance</li><li>• Community Specific Funding Opportunities</li><li>• Creation of One-Stop Online Hubs for Specific and Condensed Information</li><li>• Concentration on Partnerships and Stakeholder Input</li><li>• Push for Permitting and Community Structural Change</li></ul>	<ul style="list-style-type: none"><li>• DEI and DIC Focus</li><li>• Training and Support Programs</li><li>• Data Integration and Mapping</li></ul>

## Gap Analysis and Strategic Assessment

For our Gap Analysis, we reviewed a year’s worth of ReCharge Colorado reports, focusing on community engagement activities like Ride and Drives and EV 101 Workshops, to assess the consistency and equity of event distribution. Interviews with six ReCharge Coaches and two Equity Coaches from Monarca provided insights into regional needs and strategies for engaging underrepresented communities. Using data from Colorado Enviroscreen, Evaluate Colorado, and the U.S. Census Bureau, we evaluated EV infrastructure, adoption rates, and data on disproportionately impacted communities (DIC). This analysis identified gaps in marginalized areas with lower EV adoption and insufficient infrastructure, leading to actionable recommendations to improve outreach and zero-emission mobility efforts.

## ArcGIS StoryMap

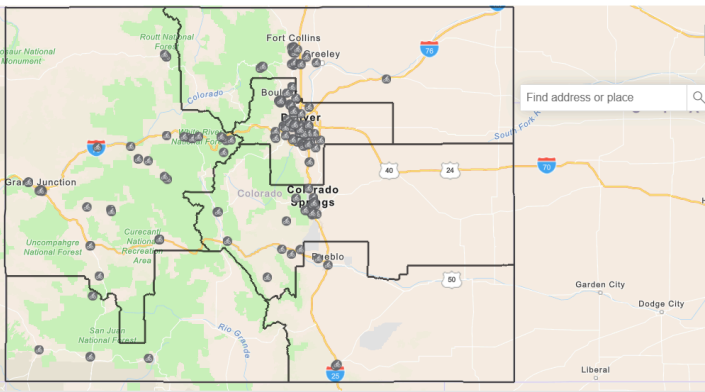
To make complex data more accessible and visually engaging, we developed an interactive StoryMap. This user-friendly platform allows community members to explore Colorado’s zero-emission mobility landscape and learn about state programs they may be eligible for. Below are screenshots of our StoryMap and maps displaying participating dealerships for various state programs.

# Zero-Emission Mobility User Guide

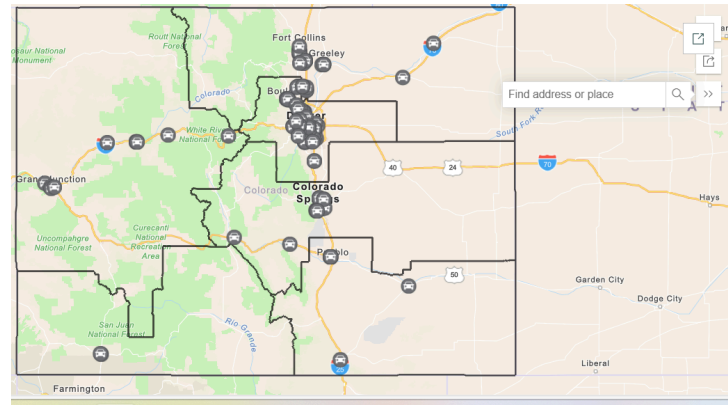
Improving education and access to programs and data for electric vehicles and zero-emission mobility in Colorado.

University of Colorado Masters of the Environment & Drive Clean Colorado  
November 8, 2024

E-Bike Tax Credit Participating Dealers

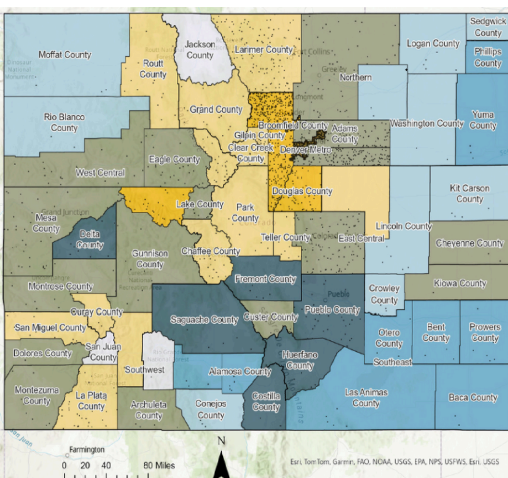


Vehicle Exchange Program Authorized Dealers



## Final Report

This report summarizes our Gap Analysis for the Colorado Energy Office and features a bivariate choropleth map comparing EV Adoption Rate and DIC Share of Population by county. Each of the six ReCharge regions is analyzed with a regional map, EV funding breakdown, and key findings and recommendations. Below are screenshots from our final report that highlight these insights.



Charging Infrastructure

1 Dot = 1 Charger

Charging\_stations

RechargeRegions

EV Adoption vs DIC

EV\_Adoption

DIC\_Share

Many EVs - High DIC

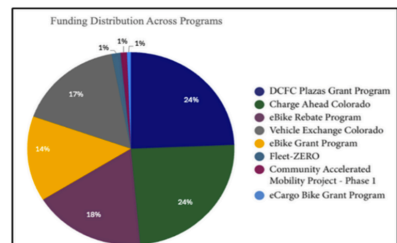
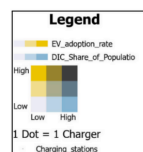
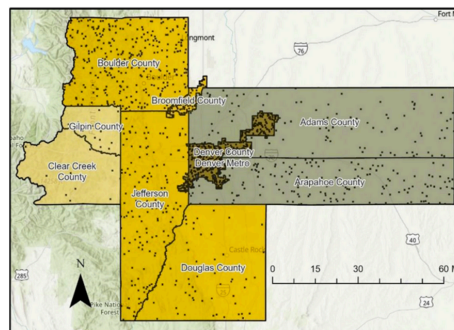
Many EVs

High DIC

Few EVs - Low DIC

Denver Metro ReCharge Region

The Denver Metro ReCharge region covers Denver, Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Douglas, Gilpin, and Jefferson counties. Denver and Boulder lead in engagement with events, yet areas like Aurora, Parker, and Castle Rock face challenges due to limited staffing and government-required permissions for outreach. The region's cultural diversity necessitates multilingual outreach, especially for high DIC counties like Adams and Arapahoe. Prioritizing in-person events and building stronger local partnerships can enhance engagement. Expanding staff resources and clarifying EV incentives and tax benefits can address resident confusion and support broader EV adoption. Strengthening partnerships with utilities and dealerships is also vital for consistent funding and program access across the Denver Metro area.



County	2020 Population	Median Income	DIC	Registered EVs	EV Adoption Rate	Charging stations
Adams	517,421	\$86,297	2.69%	8,482	2.69%	103
Arapahoe	656,590	\$92,292	50%	19,457	4.83%	167
Boulder	326,196	\$99,770	24%	19,855	9.71%	326
Broomfield	69,835	\$117,541	1%	3,941	7.66%	49
Clear Creek	9,397	\$87,169	0%	123	1.48%	13
Denver	727,211	\$85,853	49%	33,490	7.66%	333
Douglas	351,154	\$139,010	7%	19,785	6.94%	57
Gilpin	5,808	\$95,902	2%	146	2.64%	15
Jefferson	574,613	\$103,167	24%	19,749	5.19%	146



# Outcome

Our analysis of regional EV adoption programs in Colorado identified consistent challenges, including language barriers, limited tax guidance, inconsistent communication strategies, and resource constraints. These issues, highlighted through feedback from ReCharge coaches and community input, reveal gaps in outreach and education that span regions. To address these, the following recommendations offer adaptable frameworks to improve communication, resources, and support, tailored to each region's specific needs and demographics.

## Key Recommendations

- **Improved Outreach and Communication:** Address language barriers through translated materials, enhance the DCC website for better community engagement, and prioritize in-person and multimedia outreach to connect with underserved communities.
- **Targeted Support and Funding:** Focus on areas with low EV adoption, providing tax advice and funding awareness, while collaborating with local organizations to ensure outreach is tailored to specific community needs.
- **Collaboration and Staffing:** Foster regular collaboration among DCC, 4CORE, and CLEER to share best practices, and increase staffing and regional support to improve program efficiency and outreach.

## Impact

This project provides valuable insights to improve the ReCharge Colorado program, focusing on enhancing equitable access to zero-emission mobility. It highlights the correlation between EV adoption rates and disproportionately impacted communities, delivering a user-friendly StoryMap and ArcGIS maps to inform the distribution of EV charging infrastructure. The Colorado Energy Office is using these tools to improve outreach and expand partnerships for more equitable access. The project offers data-driven recommendations for addressing gaps in infrastructure and outreach, with the key takeaway being the powerful role of data visualization in driving actionable change.

## Broader Impact

By addressing gaps in EV adoption and infrastructure, this project contributes to the broader goal of reducing carbon emissions and promoting environmental sustainability, particularly among communities that are often overlooked in clean energy transitions. This work also supports the state's goals for achieving a cleaner, more equitable transportation future.



# Acknowledgements

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