DENVER
CLIMATE ACTION, SUSTAINABILITY & RESILIENCY

2020

City and County of Denver

Denver Electric Vehicle (EV) Action Plan

April 2020

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Acknowledgements

More than 25 community stakeholder organizations supported the development of the *Denver EV Action Plan* through the EV Steering Committee. Representatives from these organizations, along with several City and County of Denver (CCD) departments, provided their time and expertise to shape this plan. This list recognizes those organizations and departments that participated in the plan's development:

City and County of Denver

- Office of Climate Action, Sustainability and Resiliency
- Community Planning and Development
- Department of Public Health and Environment
- Department of Motor Vehicles
- Office of Economic Development and Opportunity
- Parks and Recreation
- Department of Transportation and Infrastructure

Community Stakeholders

- Auraria Higher Education Center
- ChargePoint
- Clay Dean Electric
- Colorado Department of Transportation (CDOT)
- Colorado Energy Office
- Conservation Colorado
- Denver Public Schools
- Denver Regional Council of Governments (DRCOG)
- Energy Outreach Colorado
- Ensight Energy Consulting, LLC
- EV Noire
- Grid Alternatives
- Kentro Group
- Lyft
- Denver Metro Clean Cities Coalition
- National Car Charging
- Nissan
- Regional Air Quality Council
- Regional Transportation District (RTD)
- Sierra Club - Denver Metro
- SWEEP
- Tesla
- The Alliance Center
- Xcel Energy
- Zozo Group

Guidehouse facilitated stakeholder engagement and developed the *Denver EV Action Plan*.

Executive Summary

The *80 x 50 Climate Action Plan* sets a determined pace for EV adoption in City and County Denver (CCD), and there are challenges to overcome to keep up:

- Current EV adoption rates are not enough to meet Denver's EV and climate action goals.
- The city is lacking the number of EV chargers needed to support Denver's target numbers of EVs.

An EV Steering Committee of subject matter experts and community advocates, in partnership with CCD and Guidehouse, developed and evaluated actions that will help Denver address these current issues and opportunities in order to achieve its EV and climate goals. These actions include:

Foundation	Action and *Sub-action*	Status of Action
Bolster Charging Infrastructure Availability	Xcel Energy Transportation Electrification Plan	Current action
	Public Fast Charging Rates	Current action
	Build EV Partnerships	Executable future action
	Support New Public EV Chargers	
	City Property EV Chargers	Internal resources needed
	Park-n-Ride EV Chargers	Resources & partners needed
	Higher-Density and Rental EV Charging	Resources & partners needed
	Workplace EV Charging Program	Internal resources needed
	EVSE Installation Incentives	Resources & partners needed
Drive Community Awareness	City Lead by Example	
	City EV Messaging	Executable future action
	City EV Branding	Executable future action
	City Employee Campaign	Executable future action
	Targeted Outreach Campaigns	
	Fleet Owner and Workplace Campaign	Resources & partners needed
	Underserved Communities Campaign	Internal resources needed
	EV Resources for Schools	Resources & partners needed
Facilitate EV Adoption	Residential Retrofit Installation Guide	Executable future action
	EV Charger Permitting Guide	Executable future action
	Tiered EV Incentives	Resources & partners needed
Support EV Services and Innovation	EVs for Transportation and Mobility Services	Resources & partners needed
	EV Mobility Hubs	Resources & partners needed

This plan provides a path forward to increase EV adoption in Denver and help CCD achieve its EV and climate goals. Key next steps include:

- **More Detailed Planning Before Implementation:** The actions described in this plan will require more detailed discussions and planning to fully implement them.
- **Cultivate Partnerships and Resources:** Many of the actions will benefit from input from and strategic partnerships with key stakeholders in and around Denver.
- **Acquire Resources:** Many of the actions will also require resources beyond what CCD itself can provide. Therefore, it is important for CCD to develop the committed partnerships and secure the resources needed to carry out the action. These resources include additional funding and staff time for implementing the actions.
- **Refresh the Plan:** CCD will monitor the EV market to evolve the action plan such that it can address and overcome challenges as they arise.

CCD and its partners are excited to share our progress and future successes with you and welcome your participation as we move forward!

Introduction

The City and County of Denver (CCD) has ambitious climate goals—80% reduction in GHG emissions by 2050, according to the *80 x 50 Climate Action Plan*. One element of achieving this goal is promoting the adoption of light-duty electric vehicles (EV), which have been shown to significantly reduce GHG emissions compared to gasoline vehicles. The plan's EV goals include:

- 2025: 15% of Denver vehicle registrations are electric
- 2030: 30% of Denver vehicle registrations are electric
- 2050: 100% of light-duty vehicles are electric

Meeting these goals, however, will require a significant increase in the current EV adoption rates in Denver. This plan identifies the key actions that CCD can take over the next three years to increase EV adoption through:

- Bolstering charging infrastructure availability,
- Driving community awareness,
- Facilitating EV adoption, and
- Supporting EV services and innovation.

There are three key themes to consider when reviewing this plan:

- **EV adoption is one piece of Denver's larger mobility picture:** *Denver's Mobility Action Plan* sets out several mobility goals, including goals to reduce single-occupant vehicle (SOV) commuters to 50% and increase the percentage of bike and pedestrian commuters to 15% and transit commuters to 15%. This plan acknowledges that CCD must focus on the larger mobility picture, and that light-duty EVs are just one part of CCD's mobility work.
- **EV equity is a critical consideration for this plan:** It is important to consider the unique mobility challenges of underserved communities and identify effective solutions to increase EV adoption and electric mobility access for these citizens.
- **This plan focuses on light-duty plug-in EVs:** There are numerous opportunities to support the adoption of EVs for medium- and heavy-duty vehicles, such as public transit buses or garbage and delivery trucks. These opportunities can have different considerations from light-duty vehicles when it comes to electrification. In addition, hydrogen fuel-cell vehicles have the potential to service heavier duty vehicles. This plan focuses on light-duty EVs, which include passenger cars and light-trucks (e.g., SUVs, crossovers, pickup trucks) for personal and fleet use cases.

Current State of EVs in Denver

The *80 x 50 Climate Action Plan* sets a determined pace for EV adoption in Denver, and there are challenges to overcome to keep up. The current state of EVs in Denver includes the following challenges and opportunities:

- Current EV adoption rates are not enough to meet Denver's EV and climate action goals.
- The city is lacking the number of EV chargers needed to support Denver's target numbers of EVs.
- At the same time, other cities are pursuing examples of where Denver can take its EV efforts to increase EV adoption, support, and awareness that may help Denver meet its goals.

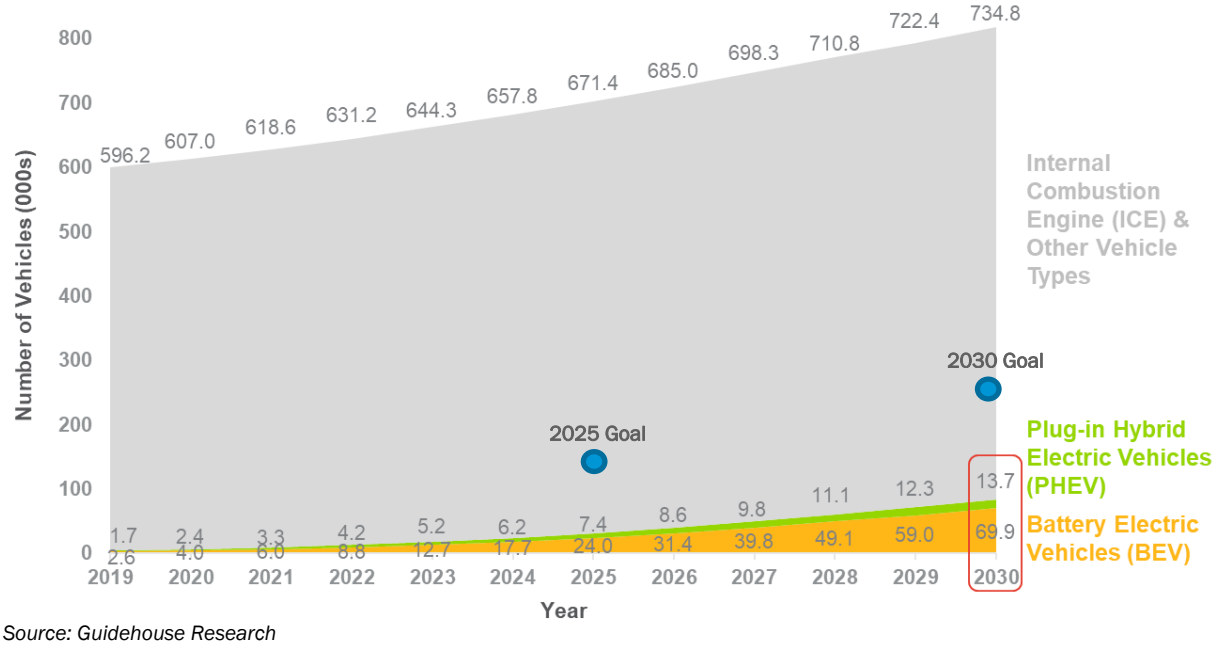
Current Light-Duty EV Adoption Rates

Denver residents and businesses are adopting EVs, however, the current and expected rates at which they are purchasing them does not put Denver on track to reach its EV goals in 2025 and 2030.

After accounting for the impact of Colorado's recent zero-emission vehicle (ZEV) mandate[1] and no other significant changes to the marketplace, Denver is expected see plug-in electric vehicles (PEV) reach 83,600 or 10% of the total light-duty vehicle population by 2030. (Figure 1) Plug-in EVs include both battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV).

In the absence of other major policy and market interventions, this percentage falls short of the 30% PEV penetration by 2030 goal set by the *80 x 50 Climate Action Plan*. Denver would need another 162,000 PEVs registered beyond these business-as-usual estimates.

Figure 1. Light-Duty Vehicle Population, Denver County: 2019-2030



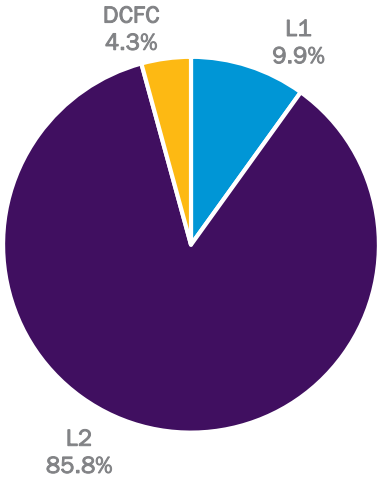
Source: Guidehouse Research
Note: This forecast is adapted from the base scenario in Guidehouse Insight's "EV Geographic Forecast—North America" report by allocating Colorado state level results to the county level. Note that this forecast includes the ZEV mandate for Colorado, but has not been specifically calibrated to Denver-specific PEV initiatives.

[1] Colorado's ZEV mandate requires ZEVs to constitute 5% of passenger cars and light-duty trucks that manufacturers sell to the state by 2023 and about 6% by 2025

Public EV Charging Ports

According to Alternative Fuels Data Center (AFDC), approximately 100 charging ports—mostly L2—were installed in Denver between May 2018 and May 2019. As shown in Figure 2, the breakdown of the approximately 400 public charging ports in Denver by level include mostly L2 chargers, with 4% DCFCs and 10% L1 chargers.

Figure 2. EV Charging Ports by Type, Denver, October 2019



Source: AFDC

EV Charger Types

Level 1 Charger (L1): Charging through a 120 V AC plug. Does not require installation of additional charging equipment. Typically delivers two to five miles of range per hour of charging.

Level 2 Charger (L2): Charging through a 240 V (for residential) or 208 V (for commercial) plug. Requires installation of additional charging equipment. Typically delivers 10 to 20 miles of range per hour of charging.

DC Fast Charger (DCFC): Provides charging through 480 V AC input and requires highly specialized, high-powered equipment. Delivers 60 to 80 miles of range in 20 minutes of charging. Used most often in public charging stations, especially along heavy traffic corridors.

Source: Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy

According to EVI-Pro and CCD estimates, Denver will need 10 times the current number of charging ports over the next 10 years. Over 4,000 public charging ports—with nearly 750 DCFC ports and 3,300 L2 charging ports—will be needed to support the target EV population in 2030. These charging port estimates will require approximately 360 L2 and 75 DCFC charging port installations per year—much higher than the current rate of installation.

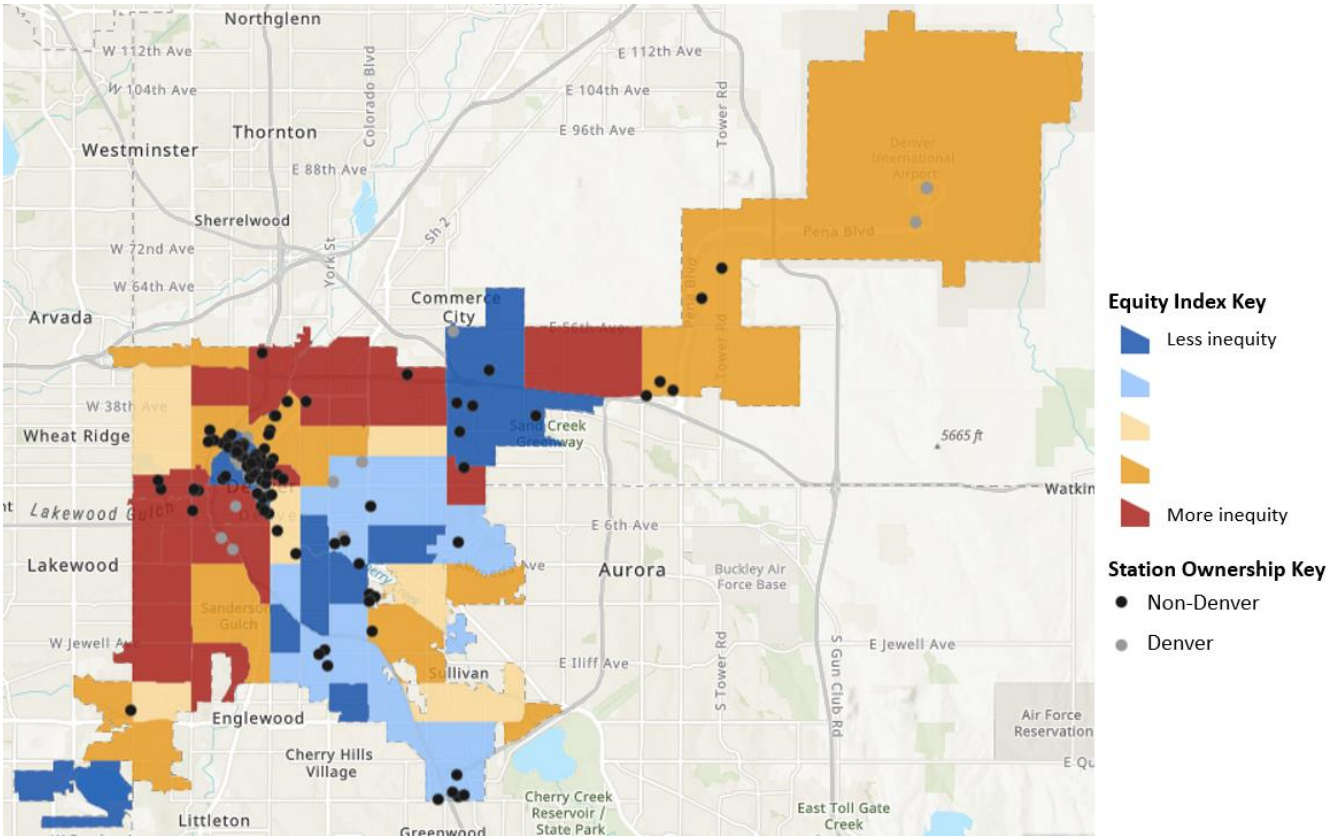
Charger Locations and Equity

The Neighborhood Equity Index from the Denver Department of Public Health and Environment considers equity based on five factors: 1) Socio-economic, 2) Built Environment, 3) Access to Care, 4) Morbidity, and 5) Mortality. As shown in Figure 3, those neighborhoods in red are where residents face the highest hurdles to leading healthy and equitable lives. The darker blue shades are neighborhoods that currently offer residents high levels of access to opportunities for good health.

Bringing the equity lens to the conversation around EV chargers, we overlaid the locations of public charging stations on the Neighborhood Equity Index map. **Many of the public EV chargers in the city are currently in neighborhoods with higher equity indices.**

Greater access to public EV chargers across all of Denver can help support residents in multi-family housing that may not have dedicated parking or the ability to install an EV charger. It can also support access to chargers for those providers of transportation and mobility services, such as transportation network company drivers. At the same time, charging infrastructure in neighborhoods may affect gentrification and, thus, should be pursued while considering opportunities to minimize negative impacts on affordability.

Figure 3. Public Charging Station Locations by Denver Equity Index



Sources: Denver Environmental Health, AFDC

Denver's Current Strengths and Actions

EV Steering Committee stakeholders see cost as one of the biggest challenges facing EV growth in Denver. Awareness and education also remain another significant challenge for the market in terms of helping residents across all demographics learn about the opportunities of EVs.

At the same time, EV Steering Committee stakeholders see community acceptance of EV technologies and the coordination among government entities as Denver's greatest strengths in terms of supporting the growth of EVs in Denver. Denver also has several significant EV actions already underway:

- **EV-First Fleet Policy:** Announced in December 2019, CCD's standard practice when replacing its city fleet vehicles is to purchase EVs where feasible. Under the commitment, by 2029, nearly 25% of city fleet vehicles could be electric by 2029—potentially 850 city vehicles.
- **EV Multi-family & Workplace Building Codes:** New building codes require charging opportunities at multi-family units and workplaces, either during new construction or major renovation work. Requires income-qualifying public housing to include EV-ready construction.

CCD recognizes and is supportive of other ongoing actions related to EV adoption and charging infrastructure within Denver and intends for the actions outlined in this plan to be symbiotic rather than duplicative. One example of an ongoing effort to increase charging infrastructure within Denver—and Colorado as a whole—is Charge Ahead Colorado which is jointly administered by the Colorado Energy Office (CEO) and the Regional Air Quality Council (RAQC). The program provides grants for community-based Level 2 and DCFC charging stations across Colorado. CCD intends to build partnerships, where compatible, with entities that have ongoing programs.

Examples of Other Cities in Action

As discussed above, reaching Denver's aggressive EV goals will require concerted effort above and beyond CCD's current efforts. Even with Denver's current efforts there are still opportunities to increase the awareness of EVs and support communities who are considering the purchase or use of an EV. Several cities across the U.S. provide examples of other opportunities CCD might pursue to take the support of EVs to the next level, including:

- **Education and awareness:** Drive Clean Seattle EV Outreach & Engagement Campaign
- **Workplace and fleet vehicle adoption:** Smart Columbus Fleet Electric Vehicle Adoption
- **Public charging infrastructure support:** City of San Diego Charging Stations Program

The remainder of this section highlights these examples.

Drive Clean Seattle—EV Outreach & Engagement Campaign | Seattle, Washington—2017	
Approach	As part of the Drive Clean Seattle, the City of Seattle runs an EV Outreach & Engagement Campaign to increase education and awareness of EVs in Seattle while engaging the community and understanding barriers to market entry.
Primary Objectives	To engage the community through various events such as community focus groups—consisting of EV 101 presentations and EV discussion facilitation—and tabling events at events and community gatherings.
Funding	City of Seattle Office of Sustainability & Environment
Key Stakeholders	City of Seattle Office of Sustainability & Environment, community focus groups
Outcomes to Date	As of the last Drive Clean Seattle Report in 2018, the Campaign facilitated tabling events, focus groups, surveys in several different languages, listening sessions, and community member education
Relevance to the City of Denver	Education campaigns can both bring awareness to the public and bring forth insights for CCD to effectively implement EV programs and policies via community engagement.
Lessons Learned/Challenges	Developing an engagement and outreach campaign should include a variety of outreach methods and engage multiple segments of the community including low-income and minority communities to understand mobility needs and barriers to adoption.

Smart Columbus Fleet Electric Vehicle Adoption | Columbus, Ohio—2018	
Approach	To help public and private sector organizations make the switch to EVs to save money and cut their carbon footprint. This includes a $3,000 rebate incentive for transportation service providers (taxis, ride-hailing, etc.) in Columbus, up to 40 awards.
Primary Objectives	Place 755 EVs into operation in public and private fleets by 2020.
Funding	USDOT Smart City Challenge, $50 million
Key Stakeholders	City of Columbus/Smart Columbus, taxi companies, ride-hailing companies, other nearby municipalities, The Ohio State University, Columbus Regional Airport Authority, Mid-Ohio Regional Planning Commission, Franklin County
Outcomes to Date	The program has awarded all 40 Transportation Service Provider EV Rebates, as well as increasing the following fleets: • Public Sector EV Purchases– 158 / 60% of goal (125 of these vehicles owned by the City) • Private Sector EV Commitments– 220 / 49% of goal
Relevance to the City of Denver	CCD could lead by example by electrifying city fleet vehicles, as well as incentivizing private fleet electrification.
Lessons Learned/Challenges	Fleet EV adoption brings EV awareness to residents via exposure to the vehicles (e.g., seeing them on the street) which, therefore, can aid in increasing adoption particularly among other fleet operators.

City of San Diego Charging Stations Program | San Diego, California—2014	
Approach	Use CEC funding to install city-owned charging stations at highly trafficked locations around the city, such as sports fields, libraries, and other recreation centers.
Primary Objectives	Install city-owned charging infrastructure to spur EV adoption. The grant from the CEC was intended to fund 25 stations in nine locations. • Charging rates: $1.50-$1.80/hour • EV designated parking spots with maximum charging time of 4 hours • City of San Diego has a website with the locations of all city-owned stations
Funding	California Energy Commission $500,000 grant
Key Stakeholders	City of San Diego, businesses near and owners of highly trafficked areas in San Diego
Outcomes to Date	The City of San Diego currently has 57 charging stations (68 ports) and 15 locations
Relevance to the City of Denver	City-owned charging stations funded through non-city budget via grant opportunities. CCD could utilize a similar business model (e.g., City-owned charging stations funded through non-city budget via grant opportunities) if grant funding is identified.
Lessons Learned/Challenges	Installing city-owned charging stations increases adoption, but funding the project can be a challenge. Taking advantage of grants and partnerships with state agencies could reduce the financial burden of installing city-owned charging infrastructure.

Approach

An EV Steering Committee of subject matter experts and community advocates, in partnership with CCD and Guidehouse, developed and evaluated actions that will help Denver address these current issues and opportunities in order to achieve its EV and climate goals.

Brainstorming the Action List

After completing a current state assessment of Denver's EV and EV charging landscape and conducting stakeholder interviews, the EV Steering Committee identified a preliminary list of actions across the four market foundations for transportation electrification success.

Bolster Charging Infrastructure Availability

Insufficient EV charging infrastructure can be a major barrier to adoption. A well-maintained, conveniently located charging network helps increase driver range confidence. An effective EV charging network is more than new charging stations; it requires functional, affordable charging stations located where drivers are willing to park and charge.

Drive Community Awareness

Promoting awareness of EVs is critical to generating user interest, and ultimately, adoption. Greater awareness is important for individual consumers, workplaces and fleet owners, whose decisions control a larger number of highly visible vehicles.

Facilitate EV Adoption

Local policies and processes could enhance the EV ownership experience, while other policies can mitigate the costs of owning and operating an EV or associated charging infrastructure.

Support EV Services and Innovation

Those considering the purchase of a new car must be able to find the right EV that fits their needs and preferences. The EV options must be cost-competitive with traditional vehicles, they must deliver the same (or better) functionality, and they must be attractive to diverse customers. Still, owning a new EV is not an option for many residents. Innovation is needed to ensure more residents can gain access to EVs.

Evaluating the Action List

The EV Steering Committee identified more than 40 potential actions that CCD could take to increase the percentage of EV registrations in Denver. The list was narrowed down to the most impactful actions that could jumpstart EV adoption in Denver over the next two to three years while considering the equity opportunities and concerns introduced by each action.

Shared Value versus Ability to Execute

The EV Steering Committee assessed each action based on 1) the action's shared value to the community in terms of addressing EV adoption and climate goals, and 2) CCD's ability to execute the action. Guidehouse transportation subject matter experts provided the initial action ratings and then EV Steering Committee members refined those ratings through workshops and surveys. Each of the criterion used a rating of Low, Medium or High. In the case of stakeholder value, a High rating meant that the action delivered significant

value. For ability to execute, a High rating meant that action had a high executability, or that it was less difficult to execute than something with a Low rating.

Shared Value	**Stakeholder Interest** The number of stakeholders willing to support the action
	EV Market Impact The relative impact the action will have on the growth of light-duty EVs in Denver
	Climate Impact The relative effect of the action on Denver's Climate Action Goals

Ability to Execute	**Capabilities** Available resources to work on and fund the action
	Market Traction Amount of similar work being done with opportunities to leverage; projects that are proven to work in Colorado and other markets
	Estimated Cost Estimated project cost in terms of materials, FTEs, capital

Using the ratings for the criteria above, each action was prioritized:

- **High Priority:** High stakeholder value and medium to high executability
- **Medium Priority:** Medium stakeholder value and medium to high executability
- **Low Priority:** Low stakeholder value or low executability

Considering Equitable Outcomes

How can the EV Action Plan impact equity outcomes? EVs and increased mobility can have a significant impact on underserved populations. The EV Steering Committee considered equitable outcomes across the following four areas, and we adjusted the priority of actions based on their impacts to equity—considering both positive and negative impacts.

Affordability – could this action:

- Decrease the cost of EV ownership or use for underserved Denver residents?
- Prioritize financing for income-burdened populations?
- Reduce the number of families cost burdened by housing or transportation?

Access – could this action:

- Increase access to charging infrastructure for marginalized communities?
- Increase access to healthy food?

- Expand access to healthy or clean transport systems?
- Increase access to parks?
- Increase access to essential services (hospitals, fire, police)?

Economic Empowerment – could this action:

- Increase opportunities for living wage jobs?
- Provide a just transition for jobs or industries negatively affected by decreased ICE use?
- Advance educational quality and access?

Inclusion and Accountability – could this action:

- Generate burdens (including costs), either directly or indirectly, to marginalized groups?
- Target benefits in progressive ways to reduce historical or current disparities?
- Engage and empower marginalized groups in a meaningful and culturally appropriate manner?

Establishing Action Timeline

After establishing the set of actions needed to support Denver and its EV goals, CCD, along with support from the EV Steering Committee, prioritized the actions. The actions' feasibility and use of resources over the next few years was compared and ranked. Through the prioritization process, projects fell into three waves:

- Wave 1: Projects will start in 2020
- Wave 2: Projects will start between 2021 and 2023
- Wave 3: Wave 1 and 2 projects continuing beyond 2023

Recommended Actions

The recommended actions focus on high-impact work that will drive Denver toward reaching its EV and climate goals. As shown below in Figure 4, two of the first actions CCD takes on in the plan will build the foundation for future activities that can have significant impact on EV adoption rates. These include:

- **Building EV Partnerships:** Many of the recommended actions are not ones that CCD can effectively take on alone. It will be crucial for CCD to build its partnerships with other key stakeholders to move forward important actions that require coordinated resources and funding.
- **City EV Messaging:** Before any awareness and education campaigns can be launched, CCD must ensure that it has a consistent EV message to use across its outreach efforts.

CCD's ability to provide resources or funding for the actions below varies on an action-by-action basis. CCD recognizes that some actions in this plan may require strategic partnerships, additional funding, or both. The following legend provides insight into the current resource state for each action:

	Action currently being executed by CCD
	Future action CCD has the resources/funding to execute
	Future action CCD needs additional internal resources to execute
	Future action CCD needs additional internal resources and community partners to execute

As mentioned previously, CCD intends for the proposed actions to be cohesive with ongoing efforts to increase EV adoption in Denver.

The remainder of this section dives deeper into each action and provides important equity considerations to keep in mind as CCD moves forward with these actions.

Bolster Charging Infrastructure Availability

Growing the availability of EV charging infrastructure in Denver will be critical to ensuring the community has access to chargers that effectively serve their needs. Actions here focus first on continuing to grow CCD's work with Xcel Energy and charging providers to ensure there is a supportive environment for deploying charging infrastructure.

Other activities focus on deploying chargers at key locations. CCD can play a unique role to help ensure equitable and comprehensive charging access by helping fill gaps in charging infrastructure availability not otherwise met by private developers. Some deployment locations leverage existing city resources, while others will provide charging in locations that may not be adequately addressed by typical market forces or are difficult for residents to install—including EV charging stations in high-density residential areas as well as EV chargers for small businesses that may not have access to adequate resources for installing EV chargers.

Action	Equity Considerations
Xcel Energy Transportation Electrification Plan Engage with stakeholders and participate at the PUC to advance a transportation electrification plan for Xcel Energy. Current action	• Ensure underserved communities in Denver benefit from utility investments in e-mobility
Public Fast Charging Rates Work with Xcel Energy, charging providers, and the PUC to address rates for public fast charging. Current action	• Lower-income EV owners may be more likely to rely on public charging and therefore be more exposed to its potentially higher costs • Location and availability of fast charging will be key for accessibility and inclusion
Build EV Partnerships Strengthen partnerships with businesses, regional organizations, and surrounding communities to accelerate the deployment of charging infrastructure at key locations, including homes, multi-family residential buildings, retail centers, mobility hubs and high-traffic destinations such as the airport. Executable future action	• Identify partners and locations needed to expand access to savings on transportation • Create local workforce opportunities • Consider partnerships particularly as it relates to multi-family housing and areas for which the business case is insufficient to encourage private sector investment

Action	Equity Considerations
Support New Public EV Chargers Increase the number of publicly available charging stations via the following sub-actions:	
City Property EV Chargers Provide public EV charging in city buildings, parking lots and community spaces (e.g., libraries, parks, airport). Internal resources needed	• Prioritization of facilities should consider inclusion and accountability • Accommodations should be made for charging electric bicycles, scooters, and other non-automotive modes
Park-n-Ride EV Chargers Explore and assess the viability of a potential partnership with RTD to provide public charging at Park-n-Ride Stations in Denver. Resources & partners needed	• Prioritize stations near underserved communities and multi-family housing • Emphasize first/last mile connections with electric carshare, scooter share, bike share, and other transportation modes
Higher-Density and Rental EV Charging Partner to provide public charging infrastructure in higher density, rental-focused residential areas, and develop a complementary anti-displacement strategy to avoid unintended negative consequences of EV infrastructure. Resources & partners needed	• Prioritize underserved communities and partnerships with private sector to provide vehicles for car-sharing at multi-family housing • Partner with multi-family building owners to install charging and educate tenants about the reasons to drive electric
Workplace EV Charging Program Develop EV charging program for workplaces that meet certain criteria (e.g., small businesses, diversity). Internal resources needed	• Focus on workplaces that employ the historically underserved, and those that are not served by public transport • Consider higher grant levels for small workplaces based on their staff resources • Ensure this program complements existing workplace programs
EVSE Installation Incentives Explore routes for providing incentives for EV charging infrastructure installations that are cohesive and supportive of existing incentive structures (e.g. Charge Ahead Colorado). Underserved and multi-unit dwelling residents will be prioritized for these incentives. Resources & partners needed	• Ensure incentives are accessible to all

Drive Community Awareness

Education and outreach are crucial for raising EV awareness, and the actions below look to incorporate high-impact activities across Denver. The outreach campaigns target these key audiences:

- Company owners and decision-makers, including those that maintain fleets of vehicles
- Employees of large companies, as well as small and medium-size businesses
- CCD employees
- Residents of Denver with a focus on underserved communities

In addition to the work already being done by CCD to electrify its fleet, CCD can also lead by example through consistent messaging, educating its employees about EVs so they can become ambassadors in the community, and branding its EV fleet to raise awareness as those vehicles travel throughout the city.

Action	Equity Considerations
City Lead by Example Deliver actions that demonstrate CCD's commitment to EVs and raise awareness in the community via the following sub-actions:	
City EV Messaging Establish consistent EV language and messaging on CCD's websites and other public-facing materials. Executable future action	• Messaging should consider language and cultural differences • Provide clear access to updated and correct information; demonstrate the availability of charging stations
City EV Branding Brand all EVs owned by CCD with highly visible messaging about electrification and clean air. Executable future action	• Ensure the messaging is inclusive, and supports people from varying backgrounds
City Employee Campaign Create an EV awareness and education campaign focused on educating city employees about the benefits of EVs, the opportunities to use the city's EV fleet vehicles, and how to effectively use the vehicles. Executable future action	• Ensure all employees have access to the education campaign

Action	Equity Considerations
Targeted Outreach Campaigns Reach customers where they are and bring campaigns to them via the following sub-actions:	
Fleet Owner and Workplace Campaign Develop an education and outreach campaign, in conjunction with existing fleet and workplace electrification initiatives, to reach out to large fleet owners and large workplaces to educate them about the benefits of EVs and EV charging. The collaborative campaign will then be adapted for outreach to small and medium-sized businesses. Resources & partners needed	• Design EV challenge in such a way that it does not provide an advantage to those with higher incomes, more central neighborhoods, or particular work schedules
Underserved Communities Campaign Develop EV Ride and Drive/Mobility community events that bring EV exposure to underserved communities. Provide a variety of EV options to experience, including e-bikes. Provide educational materials about the total cost of ownership of EVs, opportunities to access EVs and ridesharing, and other mobility options. Internal resources needed	• Emphasizing cost factors will be key—initial as well as longer-term cost benefits • Produce materials and communications in multiple language to recognize cultural differences
EV Resources for Schools Create EV awareness and education resources targeted toward K-12 schools. Includes existing curriculum development resources available for educators in Colorado. Resources & partners needed	• Produce materials for all institution types, not only schools with dedicated STEM programs

Facilitate EV Adoption

CCD has already put into place code changes that support the installation of EV chargers, but an important piece of these efforts is educating communities about how these codes work and how they can effectively install EV chargers. Immediate actions include clearly communicating how to work with the city to install EV chargers—with a focus on multi-family housing complications and the permitting process for EV charger installation. Longer-term actions focus on offering incentives to purchase EVs and EV charging infrastructures, with an emphasis on tiered incentives to help underserved communities get better access to EV opportunities and to retire the older, more-polluting vehicles.

Action	Equity Considerations
Residential Retrofit Installation Guide Develop supportive educational materials for residents in existing residences to retrofit electrical for charger installation—includes both tenant and owner facing information, and focuses on addressing the complications in multi-family housing. Executable future action	• Ensure community centers have access to and distribute guides • Materials should use the lens of equitable outcomes to target best end-use applications • Consider the soft costs of charging equipment installation • Reducing friction for installation will result in lower costs and stretch dollars to make it easier for all participants to engage
EV Charger Permitting Guide Determine points in the permitting process that could be expedited to decrease the time to permit an EV charger. Establish and clearly communicate the permitting process for EV charger installation. Executable future action	• Consider permitting cost barriers for underserved communities
Tiered EV Incentives With a focus on retiring older vehicles, provide rebates and incentives for EVs tiered to provide greater support for low-income residents, with options to opt for alternate modes (e-bike or transit pass incentives). Resources & partners needed	• Consider options such as financing for lower credit scores, a used EV program, or non-EV options that may be a better fit for different populations

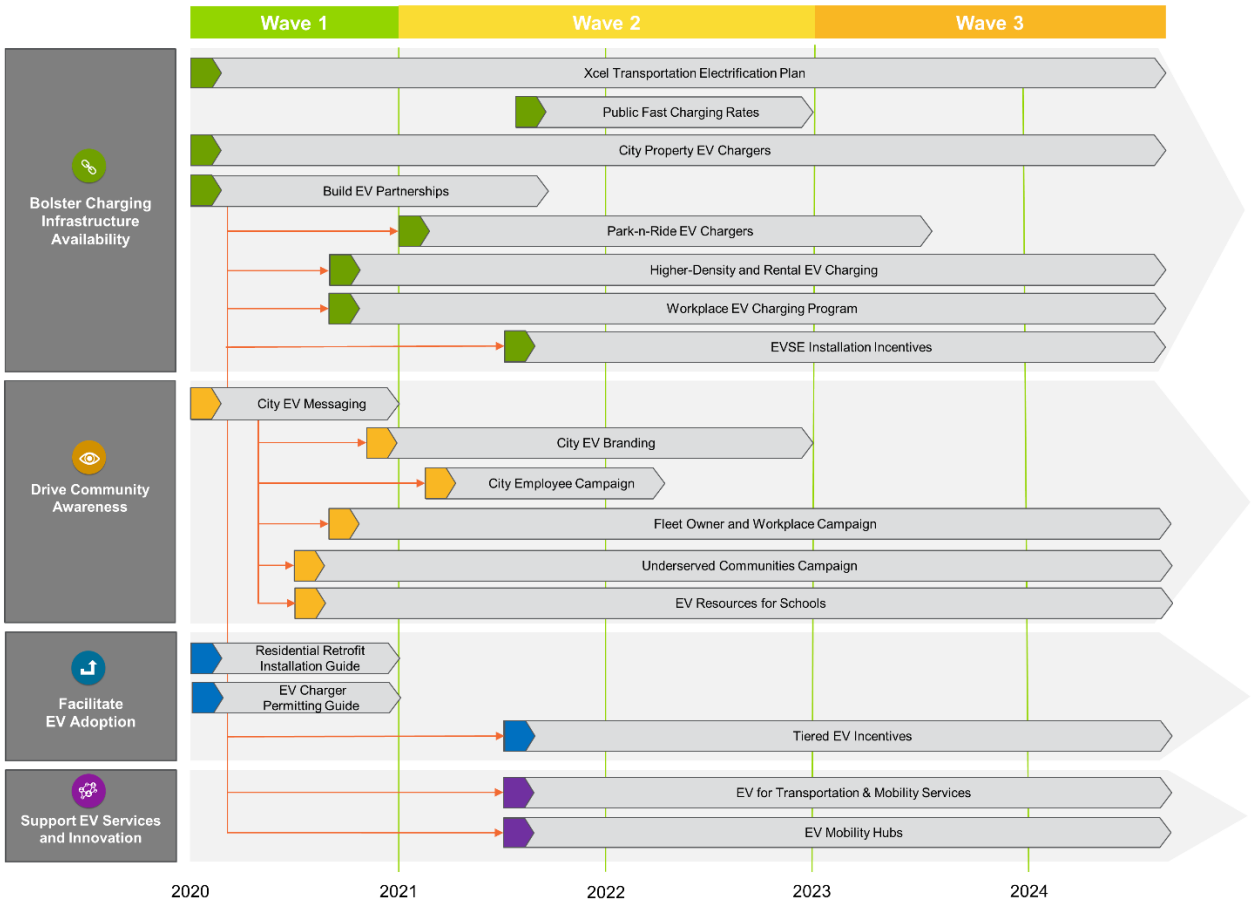
Support EV Services and Innovation

Another significant piece is engagement with the broader mobility community and supporting the use of EVs as part other mobility services being offered in the city. The actions will incent providers and users of transportation mobility services to choose EVs.

Action	Equity Considerations
EVs for Transportation and Mobility Services Partner with car share, taxi, ride-hailing and emerging transportation and mobility providers (e.g., restaurant delivery services) to incentivize drivers to use EVs in ridesharing applications and incentivize customers to select EVs. Resources & partners needed	• Pair with regulations that protect and serve drivers
EV Mobility Hubs Partner to develop mobility hubs leveraging private/public funding (e.g., bring together multiple mobility services like RTD, EV charging, ride-hailing charging, first/last mile options, EV carshares). Resources & partners needed	• Target locations near low-income areas and pair with other programs • Co-locate with existing or new community services and resources like libraries, clinics, recreation centers

The following chart depicts the anticipated timeline for CCD to implement the EV Action List.

Figure 4. Denver EV Action Plan



Next Steps

This plan provides a path forward to increase EV adoption in Denver and help CCD achieve its EV and climate goals. Key next steps include:

- **More Detailed Planning Before Implementation:** The actions described in this plan will require more detailed discussions and planning to fully implement them. It is important to quickly move forward with the detailed planning and implementation of foundational actions—such as developing EV messaging and formalizing Denver's key EV partnerships.
- **Cultivate Partnerships and Resources:** Many of the actions will benefit from input from and strategic partnerships with key stakeholders in and around Denver. The aim is that the EV Steering Committee formed during this plan's creation will provide the opportunity for interested partners and stakeholders to support the actions outlined in this plan.
- **Acquire Resources:** Many of the actions will also require resources beyond what CCD itself can provide. Therefore, it is important for CCD to develop the committed partnerships and secure the resources needed to carry out the action. These resources include additional funding and staff time for implementing the actions.
- **Refresh the Plan:** The actions that make up the *Denver EV Action Plan* are designed to tackle the challenges and opportunities facing EVs in Denver, but CCD also acknowledges the possibility that the plan may require revisions over the course of its established timeframe. CCD will monitor the EV market to evolve the action plan such that it can address and overcome challenges as they arise.

CCD and its partners are excited to share our progress and future successes with you and welcome your participation as we move forward!