
Xcel Energy®
TRANSPORTATION ELECTRIFICATION PLAN
Public Service Company of Colorado
2021-2023
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Table of Contents

Public Service Company of Colorado's 2021-2023 Transportation Electrification Plan

1. Executive Summary

We are excited to present this transportation electrification plan ("TEP") as directed by Colorado Senate Bill 19-077 ("SB 19-077"), C.R.S. § 40-5-107. In enacting this legislation, the Colorado state legislature recognized the key role that utilities have in supporting widespread transportation electrification, and it directed electric utilities to file an application with the Commission for a program of regulated activities to support widespread transportation electrification no later than May 15, 2020.

Public Service Company of Colorado ("Public Service" or the "Company")'s TEP is intended to support the State's goal of getting 940,000 electric vehicles ("EVs") on the road by 2030 and to help position Colorado as a national leader in vehicle electrification. It is also designed to benefit all drivers, all customers, and the state by helping reduce greenhouse gas emissions and air pollution while keeping electric bills low and benefiting the electric grid. It will achieve these outcomes by:

- Fostering greater awareness of the opportunities and benefits of electric transportation;
- Reducing barriers to adopting electric transportation;
- Increasing access to the benefits of electric transportation;
- Encouraging innovation, partnerships, and collaboration; and
- Encouraging EV charging in ways that reduce system costs and enable our vision to realize a 100 percent carbon free grid.

Our TEP is also informed by considerations of equity, accessibility, and fairness. We intend to provide community mobility services by supporting the electrification of buses, community-based and multi-family charging infrastructure, and installation of public EV charging stations that will support transportation for low-income customers. These efforts will also improve air quality, particularly in urban areas that are most affected by transportation-related emissions.

We have organized the programs presented in this TEP into five portfolios, (1) Residential, (2) Multi-Unit Dwelling, (3) Commercial, (4) Research, Innovation, and Partnerships, and (5) Advisory Services.

In this section, we provide a high-level overview of each Portfolio and a roadmap for our overall TEP. In later sections, we provide additional details regarding the components of our various portfolios and how they will be implemented.

Residential Portfolio: We intend to make EV charging simple and affordable, and we aim to encourage customers to charge EVs during off-peak periods so that we can integrate large numbers of EVs while benefiting the electric grid. Our Residential portfolio is designed to reach customers who live in single-family houses.

Currently, there are a host of barriers that can prevent customers from investing in home charging equipment and charging during off-peak hours. This offering directly addresses these barriers through two program pathways:

- First, customers may provide their own charging equipment (e.g. "bring-your-own" or "BYO"). Customers electing this pathway will be eligible for a rebate that is intended to defray the costs of having the charger installed and wired. The standard rebate will cover a significant portion of a typical customer's installation cost, but larger rebates (potentially covering the total cost of installation) will be available to low-income customers. To be eligible for these rebates, a customer must participate in a charging optimization program and/or a time-based electricity rate to help shift their charging to off-peak hours. Customers joining a charging optimization program will have the opportunity to earn a performance incentive (an annual payment) for continuing to allow the Company to manage their EV charging and ensure optimal, off-peak usage.

- For customers that do not want to invest the time in researching charging stations and overseeing installation, or those who are constrained by the upfront cost of charging equipment, we will offer an option where the Company will provide them a charging station. Customers choosing this option will pay a bundled service charge that will be applied to their monthly Xcel Energy bill for use of the charging equipment and will select from a list of program-approved chargers that will be installed by a Company-selected electrician. Like the BYO option, customers participating in this option must also participate in a time-based electricity rate or charging optimization program and will be eligible for the same rebates and incentives to defray installation costs and encourage off-peak charging.

Multi-Unit Dwelling Portfolio: This portfolio supports home charging for those who live in multi-unit dwellings such as apartments or condominiums. The Company is aiming to reduce barriers that landlords and building owners face in the form of high upfront costs to install EV charging infrastructure and to solve the "split incentives" problem between landlords and tenants. To that end, the Company is proposing to install, own, and maintain a dedicated service connection for EV charging, including the necessary transformer upgrades, service conductors, and a new meter.[1] Additionally, the Company will install,[2] own, and maintain the "EV Supply Infrastructure," which includes new service panels, conduit, and wiring that runs from the new meter up to the charger stub. The remainder of our proposed programs depend on whether the building has shared or assigned parking for residents:

- **For buildings with shared parking,** the Company will offer building owners the choice of procuring their own chargers or electing to have the Company install, own, and maintain the chargers in exchange for an additional customer charge. Rebates will be available for buildings that where a significant portion of building residents are low income. Once the chargers are installed, building owners will be billed under an approved commercial rate

[1] The Company's existing line extension policy will be used to support these new service connections dedicated to EV charging.
[2] The Company will rely on assistance from third party contractors for these installations.

that encourages off-peak charging and, in turn, will have the ability to set access policies and charge residents using the charging equipment vendors' software.

- **For buildings with assigned parking,** the Company will likewise provide EV Supply Infrastructure and will install, own, and maintain EV chargers that the building owner selects from a Company-approved list. However, unlike the shared parking program, this option is designed for individual EV drivers (residents or tenants) with a dedicated parking space and charger—allowing the Company to allocate usage charges associated with that charger to the EV driver's own utility bill (as opposed to the building owner's bill). Similar to the Residential portfolio, these EV-driving customers will be required to take advantage of either a time-based electric rate or a charging optimization program.

Commercial Portfolio: Our Commercial portfolio aims to address barriers associated with fleet and workplace charging, public charging, and electric mobility services. We discuss each in turn below.

o **Fleet and Workplace Charging:** After residential charging, fleet and workplace charging represent two of the most significant opportunities to support the adoption of electrified transportation. For these customers—which can be public or private institutions—the Company is again focused on lowering barriers to entry by addressing the upfront costs of EV Supply Infrastructure, while still encouraging optimized or off-peak charging. Through these programs, we are aiming to support light-duty fleet vehicles, commercial medium- and heavy-duty vehicles, transit and school buses, and workplaces looking to support EV charging for employees.

Similar to multi-unit dwellings, the Company is proposing to install, own, and maintain EV Supply Infrastructure, which represents one of the most significant costs to providing EV charging for fleets or workplaces. Here too, customers will have the opportunity to procure their own chargers or, for Level 2 charging applications, select from Company-approved chargers that the Company will own and maintain in exchange for a monthly charge on the customer's utility bill.

In order to maximize the impact of this program, the Company will solicit applications from customers on a recurring basis and will determine which projects are selected based on their alignment with the goals in SB 19-077. Additionally, for fleet customers that serve low-income populations, the Company will offer a rebate to help lower the costs of purchasing chargers.

o **Public Charging & Electric Mobility Services:** The Company also sees a need to provide access to charging infrastructure in communities, particularly for customers who are unable to charge at their homes or do not own a vehicle and rely on alternative mobility solutions. This effort will take two forms.

- **To develop community charging hubs**, the Company will partner with cities and municipalities and will install, own, and maintain EV Supply Infrastructure in order to lower the upfront costs to these partners of building the infrastructure that is necessary to support wider EV adoption. These charging hubs will frequently make use of communities' public rights of way and will be designed to support access to electric transportation, including ride sharing services and other shared mobility such as e-bikes and scooters. And for charging hubs in low-income communities, the Company will provide rebates for the chargers in order to further reduce the costs of deployment.

- **To further develop a network of public fast chargers,** the Company is proposing to install, own, and maintain EV Supply Infrastructure to support the build out of public fast charging necessary to support drivers who cannot charge at home or who are travelling between communities. In order to maximize the impact of this program, the Company will solicit applications from site hosts and developers on a recurring basis and will determine which projects are selected based on their alignment with the goals in SB 19-077. After taking applications and providing EV Supply Infrastructure to site hosts and developers, the Company will evaluate whether the needs of communities are being met and whether the overall public charging network is being adequately served by third parties. The Company is also proposing to own and operate a limited number of public fast charging stations in order to address gaps in the public charging network. We understand that there are a limited number of public-charging use-cases where these types of investments are economically justified. At the same time, we understand the equity concerns associated with the for-profit development of public fast charging that enables intracommunity transportation. For these reasons, we believe the Company can fill some of the critical gaps in the public fast charging network by owning and operating a limited number of these stations.

Research, Innovation, and Partnerships Portfolio: The Company recognizes that the transportation electrification landscape is evolving as new technologies, including vehicles, charging equipment, and software, become increasingly viable and ready for deployment. Objectives for our Research, Innovation, and Partnerships portfolio include making it easier for customers to access electricity as a transportation fuel, minimizing system costs, increasing environmental benefits for charging, and gaining insights to help inform future TEPs.

The Company is contemplating several projects stemming from our research and experience, stakeholder workshops, and customer engagement, described further below, and intends to further develop these projects through the stakeholder engagement process described in this Plan.

Advisory Services Portfolio: For all TEP portfolios, the Company recognizes that education and outreach will be critical. As part of this TEP, therefore, we are proposing advisory services for residential and multi-unit dwelling customers, fleets, and communities. We will also engage in a variety of outreach efforts that will include digital and print marketing; targeted outreach efforts to key customer groups; and partnerships with communities, automobile dealerships, electricians, EV charging providers, and leading customers. These efforts will be foundational to

the various programs and offerings we describe throughout this filing and are an important component to our overall TEP.

Portfolio Management: We are requesting flexibility to adjust our spending and the details of our programs over the term of our 2021-2023 TEP.

- **Adjusting Spending:** While we recognize the importance of establishing funding levels as part of the TEP, we also believe it is essential to maintain the flexibility to move funds within and between the portfolios described above and increase or decrease funding. This will enable Public Service to optimize its strategy in real time as we learn about customer preferences and the evolving EV landscape throughout this TEP. We are therefore proposing the flexibility to move funding between programs within TEP portfolios, move up to 50 percent of the funds budgeted for each year between portfolios, and to increase annual TEP funding level up to 125 percent of our current projected annual budget for each Plan year.

- **Adjusting Programs:** To enable the Company to make the changes necessary to accomplish Colorado's transportation electrification goals in an agile manner while promoting transparency and stakeholder engagement, the Company proposes a 60/90-Day Notice process to advise interested stakeholders of changes to TEP programs similar to that used in our DSM program.

Together, we believe these TEP programs can help set Colorado on a path toward leading the nation in transportation electrification.

In total, Public Service is proposing a total budget of approximately $102 million for this three-year TEP. The projected annual revenue requirement for each TEP year is $7,662,879 for 2021, $11,249,295 for 2022, and $15,658,961 for 2023. The revenue requirement associated with this investment meets the retail rate impact criteria laid out in SB 19-077. And as discussed later in this filing, we believe our TEP aligns with each of the criteria identified in SB 19-077. At the end of this Plan, we describe how we will evaluate the success of our programs, engage stakeholders, and report on our progress.

We are excited by this Plan and by the promise of an electrified transportation system, and we are eager to play a key role in Colorado's transportation future.

2. Current Landscape & Forecast for Electric Vehicles

2.1 Number Of Electric Vehicles

At the end of 2019, there were about 24,000 EVs in operation in our service territory. [3] This represents more than a 40 percent increase over the prior year as there were about 17,000 at the end of 2018.

Colorado is among the national leaders for EVs, but other leading states have seen similar levels of adoption. In 2018, Colorado ranked fourth nationwide in EV sales, with EVs representing 1.82 percent of total car sales.[4] However, California's EV share of sales was more than double Colorado's (4.74 percent), and Washington's was also significantly higher (3.06 percent), indicating that there is more Colorado can do to increase adoption in the near-term.

2.2 Public Charging Infrastructure in Colorado

Today, there are nearly 2,300 public charging outlets at roughly 800 charging stations throughout the state of Colorado (Table 1).[5] Many of these are public Level 2 charging stations to help vehicles charge near workplaces, retail stores, and hotels and other lodging. Meanwhile, the number of public fast charging stations is increasing, but there are only 291 public fast charging outlets throughout the whole state, many of which are not compatible with all vehicles.[6]

Table 1: Number of Public Charging Stations in Colorado

	Charging Stations	Charging Outlets
Level 2 Public	766	2,038
DC Fast Chargers	93	291
Tesla	*17*	*137*
Non-Tesla	*76*	*154*
Total	**820**	**2,329**

Note: Some stations include both Level 2 public and DC Fast Chargers, which affects the total number of charging stations

[3] EPRI, 2020. Data procured by Electric Power Research Institute (EPRI) and is provided at the zip code level for zip codes within the Company's service territory. Utility jurisdictions do not follow zip code boundaries, so there may be some margin of error in this value.
[4] Auto Alliance, 2020. Electric Vehicle Sales. Retrieved from https://autoalliance.org/economy/consumer-choice/electric-vehicles/
[5] All data from the Department of Energy's Alternative Fuels Data Center Electric Vehicle Charging Station Locations.
[6] We estimate that about 55 percent of these public chargers are in Public Service's service territory

2.3 Electric Vehicle Forecasts

The Company forecasts that nearly 100,000 electric vehicles could be in our service territory by the end of 2023 (Table 2). In the table below, we have provided our low, mid (basecase), and high forecasts of EV adoption over the course of the plan:

Table 2: Electric Vehicle Forecast Scenarios

Vehicle type and Scenario	2020	2021	2022	2023
Light-duty vehicles (Low)	26,638	31,139	37,745	49,994
Light-duty vehicles (Mid)	30,450	41,284	61,323	99,195
Light-duty vehicles (High)	46,806	74,648	116,628	185,915
Medium-duty and heavy-duty vehicles (Mid)	38	40	44	85

That said, EV forecasts are uncertain, and the COVID-19 pandemic has introduced even greater uncertainty when it comes to near-term adoption. Despite this uncertainty, we believe this TEP will increase the likelihood of seeing increased levels of adoption and will position Colorado to meet its 2030 goal of 940,000 electric vehicles on the road, including potentially more than 500,000 vehicles in our service territory by 2030.

3. Vision and Plan

3.1 Public Service's Vision for Transportation Electrification

The electricity sector is no longer the leading producer of greenhouse gases in the United States. Instead, the transportation sector now accounts for the greatest percentage of emissions. EVs present an opportunity to leverage utility decarbonization efforts and reduce emissions across both the electricity and transportation sectors. Accomplishing this goal, however, requires thoughtful planning to not only promote the overall adoption of EVs but also ensure that the charging of EVs occurs at the most beneficial times for our system.

The Company's TEP is focused on advancing the electrification of the transportation sector and supporting EV adoption by our customers. To that end, we have set forth our strategy on electric transportation to lead the clean energy transition, enhance the customer experience, and keep bills low, and we have been engaging with stakeholders to refine and enhance this vision.

To achieve this vision, our EV Strategy is focused on addressing several significant barriers to transportation electrification:

- **Lack of Information and Awareness**. There is a significant awareness gap for EVs and their benefits. In a recent NREL study, more than 50 percent of survey participants could not name a specific plug-in vehicle make and model.[7] Additionally, some of the information pertaining to EVs is complex, such as varying charging speeds, different connector types, changes in range depending on varying weather conditions, and estimating potential cost savings. For many drivers, considering an EV requires customers to make some mental shifts and commit to changing habits. In the case of fleet operators, electrifying fleets may require changes in business operations. Improved education and outreach can help address this barrier, and the Company has been supporting and expanding ongoing efforts in Colorado. We also know from surveys and conversations with commercial customers that they are looking for advice. Further, there is research that strongly supports that utilities have an important role as a trusted energy advisor, as customers trust information from their utility more than any other party.[8]

- **Upfront costs.** As battery costs have come down and automobile manufacturers have scaled up their production, the cost for EVs has been decreasing. The lifecycle economics are continuing to improve for EVs and may already present favorable economics relative to internal combustion engine vehicles in many applications. However, upfront costs for the vehicles along with the necessary charging infrastructure are significant and remain a barrier for many customers.

[7] National Renewable Energy Laboratory, 2017.The Barriers to Acceptance of Plug-In Electric Vehicles: 2017 Update. Retrieved from https://www.nrel.gov/docs/fy18osti/70371.pdf
[8] Based on research with 14,000 customers. Oracle Utilities, 2013. The Five Universal Truths about Energy Consumers

- **Suboptimal incentives to charge when energy costs are lowest.** As the number of EVs rises in our service territory, EVs could become a beneficial resource to the grid or create significant challenges depending on when and how they charge. However, customers need appropriate incentives to drive optimal charging behavior. The Company is uniquely-positioned to help manage demand through a combination of pricing and load management (*e.g.*, "managed charging"), in order to minimize the costs to the system of this new EV load.

Finally, we see utility programs as critical to both enhancing and accelerating the benefits of transportation electrification. These benefits take three primary forms:

- **Lower costs for drivers.** Affordable electricity prices allow fueling a vehicle for less than $1/gallon equivalent. Utility investment helps defray costs of infrastructure born by customers.
- **Downward pressure on electric utility rates.** Programs than minimize the cost to serve new EV load will help enable both EV-drivers and non-EV drivers to benefit from this transition.
- **Reduced emissions and improved air quality.** Utilities are responsible for electric supply that is increasingly clean. We see a potential for EV load to be managed such that more renewables can be integrated onto the grid.

3.2 Guiding Principles

To align with our stakeholders and guide our TEP, we have established a set of guiding principles that shape our thinking and program design:

- Utility EV plans and programs should be consistent with Xcel Energy and Public Service's strategic priorities to lead the clean energy transition, keep bills low, and enhance the customer experience.
- Any utility investments in EV Infrastructure, and rates applicable to EV charging, should share the potential benefits of electrification with all customers, including customers who do not own EVs. EVs offer customers a new energy choice, and we seek to empower that choice with information, tools, and options.
- EVs and EV Infrastructure should be developed and managed in a way that uses the power grid efficiently; in particular, utility efforts should consider evolving charging technology and encourage the EV market to facilitate Colorado's progress toward using more renewable energy.
- The EV transition can and should provide benefits in a fair and equitable manner.
- Xcel Energy's EV efforts should align with policy and programmatic efforts in Colorado and also leverage partnerships to promote vehicle electrification.

These guiding principles are consistent with the vision outlined by environmental groups, such as Natural Resources Defense Council,[9] for the utility's role in accelerating the EV market and also closely align with the principles outlined by consumer advocacy groups, including Illinois Citizens Utility Board[10] and National Consumer Law Center.[11]

3.3 TEP Portfolio and Budgets

In light of the vision and guiding principles described above, the Company is pleased to bring forth a comprehensive plan designed around key customers segments (Figure 1).[12] This TEP comprises five portfolios and twenty new, discrete programs. These twenty programs complement the programs previously introduced by Public Service.

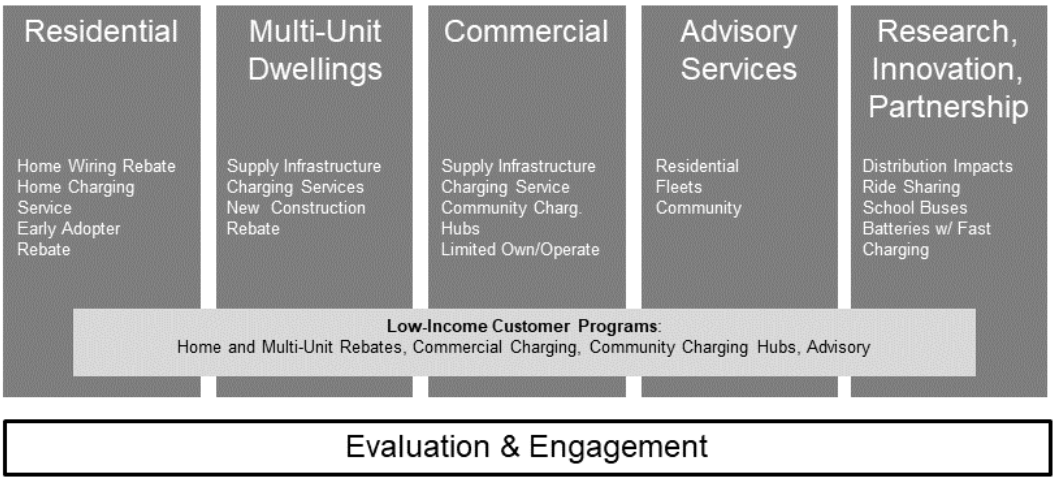


Figure 1: TEP Portfolio Overview

Taken as a whole, we view this TEP as a critical building block for the State and our local communities that have prioritized transportation electrification. The Plan will both address critical barriers that are limiting adoption today and will accelerate and enhance the benefits we see on the horizon. The size and shape of our plan is largely driven by the ambitions of the State and what we know about our customers. We expect future plans to reflect learnings, maturity of the market, and introduction of new technologies.

The following table (Table 3) shows the budgets for the portfolios in our TEP, including capital, rebates, and O&M expenses.

[9] Baumhefner, Hwang, Bull, 2016. Natural Resources Defense Council. *Driving Out Pollution: How Utilities Can Accelerate the Market for Electric Vehicles.* Retrieved from https://www.nrdc.org/resources/driving-out-pollution-how-utilities-can-accelerate-market-electric-vehicles
[10] Illinois Citizens Utility Board, 2017. The ABCs of EVs: A guide for policy makers and consumer advocates. Retrieved from https://www.citizensutilityboard.org/abcs-of-evs/
[11] National Consumer Law Center, 2018. Principles for Fair and Equitable Investment in Electric Vehicles and Transportation Electrification. Retrieved from https://www.nclc.org/images/pdf/electric_vehicles/nclc-ev-principles-oct18.pdf
[12] For full list of programs and descriptions, please see Appendix.

Table 3: Budgets, including capital, rebates, and O&M expense, for TEP portfolios

Portfolio	Spending Type	2021	2022	2023	Total
Residential	Capital	$1,808,000	$2,228,000	$4,220,000	$8,256,000
	Rebates	$1,975,000	$2,417,000	$4,000,000	$8,393,000
	O&M Expenses	$461,000	$623,000	$919,000	$2,003,000
	Total	**$4,244,000**	**$5,268,000**	**$9,139,000**	**$18,651,000**
Multi-Unit Dwelling	Capital	$1,348,000	$1,924,000	$3,178,000	$6,450,000
	Rebates	$174,000	$355,000	$595,000	$1,124,000
	O&M Expenses	$188,000	$228,000	$296,000	$712,000
	Total	**$1,710,000**	**$2,507,000**	**$4,069,000**	**$8,286,000**
Commercial	Capital	$8,303,000	$13,156,000	$19,145,000	$40,605,000
	Rebates	$1,209,000	$1,838,000	$2,642,000	$5,689,000
	O&M Expenses	$455,000	$675,000	$1,006,000	$2,135,000
	Total	**$9,967,000**	**$15,669,000**	**$22,793,000**	**$48,429,000**
Research, Innovation, and Partnerships	Rebates	$1,667,000	$1,667,000	$1,667,000	$5,000,000
	O&M Expenses	$1,667,000	$1,667,000	$1,667,000	$5,000,000
	Total	**$3,333,000**	**$3,333,000**	**$3,333,000**	**$10,000,000**
Advisory Services	Rebates	$350,000	$890,000	$1,260,000	$2,500,000
	O&M Expenses	$3,416,000	$3,592,000	$3,595,000	$10,602,000
	Total	**$3,766,000**	**$4,482,000**	**$4,855,000**	**$13,102,000**
Program Evaluation	**Total**	**$500,000**	**$500,000**	**$500,000**	**$1,500,000**
Total		**$23,520,000**	**$31,759,000**	**$44,689,000**	**$99,968,000**
School Bus Electrification	**Total**	$0	$2,200,000	$0	$2,200,000
Total		**$23,520,00**	**$33,959,000**	**$44,689,000**	**$102,168,000**

3.4 Portfolio Management

3.4.1 Movement of Funding Within the TEP

Public Service requests discretion to manage its TEP to maximize overall benefits and minimize overall costs consistent with the considerations of SB 19-077. To effectuate this goal, the Company is requesting:

- Flexibility to move budget dollars within each portfolio (i.e. within "Residential") and adjust incentive levels.
- Ability to exceed the budget estimate for each specific portfolio by up to 50 percent in any year, provided that the Company does not exceed the Company's overall annual budget in effect for each year of the plan (discussed more below) or the retail rate impact limitation established in statute.
- Limiting investment to no more than $5 million in utility owned and operated public direct-current fast charging stations (DCFC) over the three-year TEP period

3.4.2 Annual Spend Flexibility

- The Company shall have the flexibility to increase the annual TEP funding level up to 125 percent of the overall annual budget for each Plan year.
- There will be a rebuttable presumption that actual expenditures within 125 percent of the overall budget for a given TEP year were reasonable and prudent.
- However, if the Company's expenditures for any given year exceed 125 percent of the overall budget for a given TEP year, the Company shall have the burden of demonstrating prudence of the expenditures exceeding this amount.

3.4.3 TEP Modification Process

To enable the Company to make the changes necessary to accomplish Colorado's transportation electrification goals in an agile manner while promoting transparency and stakeholder engagement, the Company proposes a 60/90-Day Notice process to advise interested stakeholders of changes to the TEP portfolio:

- **Stakeholder Group.** At the close of this proceeding, the Company will file instructions for interested stakeholders to sign up for the TEP interested stakeholder distribution list.
- **Notice of Additions/Changes.** 60-Day Notice to the interested stakeholder distribution list is required for any proposal to add a new TEP program or product, including Innovation projects, or to change technical assumptions or eligibility requirements. Interested stakeholders have 30 days from the time of the Notice date to provide comments to Public Service on the proposed changes. The Company will have 30 days thereafter to, in good faith, consider comments when making its final decision.
- **Notice of Discontinuance.** A 90-Day Notice to the interested stakeholder distribution list is required for any product or program discontinuation. The notice will contain the basis for the Company's decision. Interested stakeholders have 30 days from the time of the Notice date

to provide comments to Public Service on the proposed discontinuation. The Company will have 60 days thereafter to, in good faith, consider comments when making a final decision.

To the extent that such portfolio management increases the overall level of annual TEP spending, the Company will remain within the overall budget flexibility limits described above unless it receives Commission approval to exceed its budget flexibility limitation.

4. Portfolio Details

4.1 Residential

4.1.1 Description

The Company is uniquely positioned to offer customers a holistic array of EV charging programs through its Residential portfolio—that will convert home charging into a grid asset while directly addressing the equipment selection, upfront cost, and installation barriers that the typical EV customer encounters. The Residential portfolio focuses on increasing adoption of level 2 charging equipment to enhance the customer's charging experience, while managing that charging to benefit the grid. We will offer both a full-service option ("Home Charging Service") for customers interested in acquiring level 2 charging equipment from the Company and a bring-your-own option for customers that already have charging equipment or desire to purchase their own ("BYO Customers"), as highlighted in Figure 2.

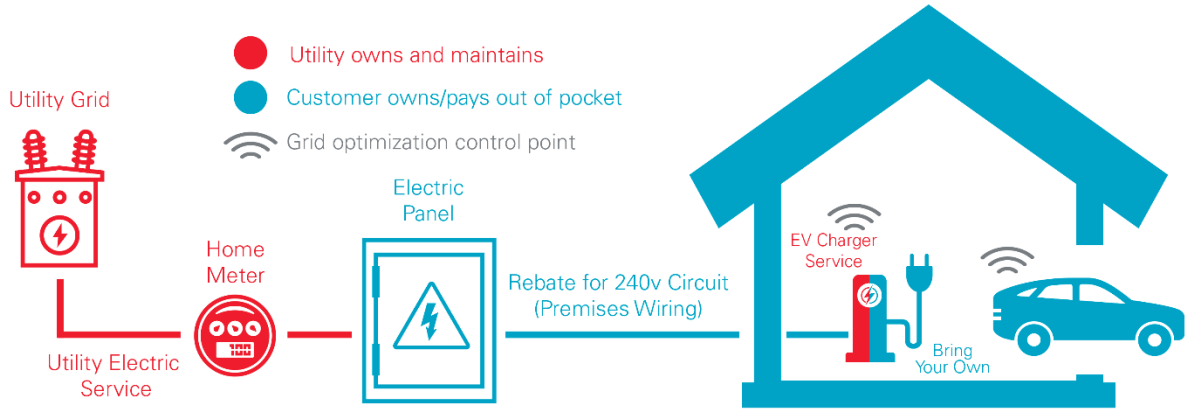


Figure 2: Infrastructure for Residential Programs

The main components of the program include:

- **Reducing upfront costs for home charging**—One of the largest upfront costs to installing a level 2 charging station is the installation of a dedicated 240-volt circuit per electrical code. The Residential Standard Home Wiring Rebate program provides a one-time wiring rebate per house to offset this cost to customers. The proposed rebate would offset up to $500 for residential customers and up to $1,300 for qualifying low-income residential customers who enroll in a time-based electric rate or participate in one of the charging optimization programs described below.[13] Customers also have the option to use Company-owned charging equipment through our Home Charging Service and have that equipment installed and maintained at their home without making any upfront payment for

[13] Note: rebates shall not exceed 100 percent of the costs paid by the customer.

the equipment or installation. These customers will pay a bundled service charge that will be applied to their monthly Xcel Energy bill for their use of the charging equipment, installation, and maintenance.

For customers who have already invested in a level 2 charger, a $200 Early Adopter rebate will be provided to encourage the existing EV driver base to participate one of the grid optimization programs described below. This modest rebate will further help the Company identify EVs for grid planning purposes.

- **Charging station product choice**—Customers will have many choices regarding charging equipment. If the customer prefers a Company-owned charging station through Home Charging Service, they will be able to choose from a list of eligible equipment options. Notably, in Minnesota, NSPM offers ChargePoint and Enel X products in its pilot program. The Company will run a competitive solicitation to select choices for its Colorado offering. BYO customers may procure charging equipment from any source. If the customer is participating in a charging optimization program, the equipment or vehicle must qualify for one of the charging programs. Again, the Company will identify eligible equipment options for customers choosing this path.

- **A hassle-free experience**—With Home Charging Service, the Company arranges for one of its approved contractors to estimate installation costs, discuss these costs with the customer, and ultimately install the equipment at a time convenient for the customer. The customer's monthly cost includes any maintenance necessary to keep the charging station in working order.

- **Simple charging management to help the grid**— The Residential portfolio will help manage EV charging on the grid in two main ways. First, the Company will provide wiring rebates that support equipment sized at 50 amps or less. The Company believes this cap provides sufficient charging speed for residential customers without significantly taxing the distribution grid. In addition to this capacity cap, the Company will require Residential customers receiving TEP rebates to enroll in a time-based electric rate that encourages off-peak charging or to participate in a charging optimization program. Through its proposed Static Optimization program, during the application process, the Company would ask customers to select a preferred charging schedule from several options that do not coincide with Public Service's system peak, and the Company would incorporate staggering into the schedule setting to reduce timer peak issues that could arise if all customers initiated charging at the same time charging schedules. The Company plans to develop behavioral reminders and reinforcements to support the on-going use of the schedule.

- **On-going fuel savings**—Customers will be rewarded for participating in charging optimization programs through an incentive that is based on the savings they will generate for the grid. Customers that are already on or join a time-based rate may also realize additional bill savings from shifting their charging to off-peak periods.

Although, we envision most customers will participate in our Static Optimization program option (as described above), we will also allow customers to meet this program requirement by joining our Dynamic Optimization (also known as "Charging Perks") pilot that is launching in 2020. While the Static Optimization option sets a customer's schedule to off-peak periods and does not change the schedule over time, our Dynamic Optimization pilot uses algorithms developed by automakers to take hourly grid prices, vehicle state of charge, and customer driving

requirements to set a new charging schedule whenever the customer plugs in at home. While this filing summarizes Static and Dynamic Optimization options for participating Residential customers, the Company will file the specific details of these options in the 2021/2022 Demand Side Management Plan.

4.1.2 Participation and Spend

The following table (Table 4) highlights the expected number of participants in the residential programs over the course of the TEP.

Table 4: Expected Residential Program Participants

Program	2021	2022	2023	Total
Home Charging Service	2,100	2,800	5,200	10,100
Standard Home Wiring Rebate	3,600	4,300	7,200	15,100
Low-income Rebate	50	100	150	300
Early Adopter rebate	550	450	250	1,250

Note: In some cases, customers can participate in more than one program

The following table (Table 5) shows the budget, including capital, rebates, and O&M expenses for the residential portfolio.

Table 5: Residential Portfolio Budget

Category	2021	2022	2023	Total
Capital	**$1,808,000**	**$2,228,000**	**$4,220,000**	**$8,256,000**
EV Supply Infrastructure	$0	$0	$0	$0
Charging Equipment	$1,638,000	$2,228,000	$4,220,000	$8,086,000
Installation Management	$0	$0	$0	$0
IT	$170,000	$0	$0	$170,000
Rebates	$1,975,000	$2,417,000	$4,000,000	$8,393,000
O&M Expenses	$461,000	$623,000	$919,000	$2,003,000
Total	**$4,244,000**	**$5,268,000**	**$9,139,000**	**$18,651,000**

4.1.3 Processes and Policy

Eligibility

Customers must meet the basic eligibility requirements outlined below to participate in the Residential portfolio programs. Upon enrollment, customers will agree to a Customer Service Agreement. The agreement will further outline eligibility and terms and conditions that a participant must adhere to throughout their participation.

Home Charger Service:

- Own or rent a detached single family home, townhome/row house, or duplex (if a renter, permission from the homeowner to participate is required).
- Own or lease an electric vehicle.
- Have an active Xcel Energy account that receives electric service.
- Have a charging location that has access to Wi-Fi.
- Agree to charge using Company-provided level 2 charging equipment.
- Agree to participate in at least one of the Optimization options or take electric service through a time-varying rate.

Home Wiring Rebates:

- Own or rent a single-family home as defined above (if a renter, permission from the homeowner to participate is required).
- Own or lease an electric vehicle.
- Have an active Xcel Energy account that receives electric service.
- Participate in at least one of the Charging Optimization options or take electric service through a time-varying rate.
- Demonstrate the charging equipment that relies on the 240v circuit for which the customer seeks the rebate draws 50 amps or less.
- Demonstrate that a licensed master electrician performed the work to install the 240v circuit.
- Demonstrate and provide invoices that are dated on or after the launch of the program, for labor and materials to install a 240v circuit.
- Customers seeking wiring rebates greater than $500 must meet low-income criteria outlined by the State of Colorado Low-Income-Energy Assistance Program (LEAP). Low-income customers must be qualified for and receive assistance from LEAP during the federal fiscal year (the current LEAP program year).

Early Adopter Rebate

- Customers seeking the $200 Early Adopter rebate must verify that the customer has already installed a level 2 charger drawing 50 amps or less and enroll and participate in one of the Optimization options.

Optimization:

- Own or lease an electric vehicle.
- Have an active Xcel Energy account that receives electric service.
- Use eligible charging equipment (defined as charging equipment that facilitates participation in a charging optimization program) or drive an eligible vehicle (defined as a vehicle that facilitates participation in a charging optimization program through the vehicle's connection with its automaker).
- Eligible charging equipment may be furnished by the customer (described as "BYO") or by the Company through the Home Charging Service.
- Use a charging location that has access to Wi-Fi if the customer's Optimization program requires use of a networked charging station for participation.

Charging Equipment

The company will maintain a prequalified a list of charging equipment that meets applicable technical and safety standards and demonstrates interoperability, cyber security, and smart

charging capabilities that enable site hosts to participate in managed charging rates or programs.

Customers also have the choice of receiving charging equipment from the Company through Home Charging Service. The Company will solicit competitive bids from vendors on the pre-qualified list to identify a select number of turnkey options customers may choose from. As described in the tariff, the Company intends to aggregate solutions into three price points. This will enable customers to choose from a variety of pricepoints and value propositions.

Electrician Selection

The Company will select installation partners through a competitive process meeting the requirements of SB 19-077.

Termination or Enrollment from Programs

A customer can end their participation in the Home Charging Service at any time. Customers who have taken service for less than ten (10) years will be subject to a $200 removal fee if they terminate the agreement. Customers who have taken service for more than ten (10) years will not be subject to a removal fee. The removal fee covers the Company's costs for its qualified contractors to uninstall the charging equipment from a customer's home. The Company will retain ownership of the charging equipment and use it to redeploy at another customer's site if the equipment remains functional, without affecting the Company's service obligations to customers receiving the redeployed charging equipment.

A customer may elect to terminate their participation in Static or Dynamic optimization at any time. If a customer chooses to end their participation in either of the optimization programs, they may continue to participate in the Home Charging Service.

Rate for Home Charging Service

For customers who elect to use the Company's Home Charging service, a monthly charge will be applied to their electric bill. Because charge is designed to cover the costs of providing the charger service, Home Charging Service is not expected to increase bills for non-participating customers. Future changes in the proposed monthly charge may be driven by new costs for equipment, installation, and maintenance. The pricing in this proposal is based on known implementation costs from the NSPM's operational experience in its Minnesota service territory. As our experience and the technology evolves, it may be necessary for the Company to reassess the monthly charge.

Optimization Incentives

For participating in the Static or Dynamic Optimization programs, a customer will be eligible to receive on-going rebates. These rebates are related to the grid benefits that are realized from managing the customer's charging, and the exact amount of rebates will be proposed and approved within the 2021/2022 DSM Plan.

4.2 Multi-Unit Dwelling ("MUD")

4.2.1 Description

One of the primary barriers to installing EV charging at MUD locations is the high upfront cost for the installation of infrastructure necessary for EV charging. We believe utilities can play a critical role in helping overcome this barrier. Our MUD EV Charging program is designed to address this barrier by providing Company investment in and ownership of the EV Supply Infrastructure and options for site hosts regarding ownership of the charging equipment.

Our MUD portfolio has four options for site hosts:

Shared Parking – Site Host-Provided Equipment Option: Under this option, the Company will install, own, and maintain EV Supply Infrastructure and the site host will acquire, install, own, and maintain their own eligible charging equipment from a Company-approved list. Public Service will provide a new meter dedicated to the shared EV parking and will serve the load through an approved commercial rate. The site host will be responsible for the monthly cost of charging but will have the ability to set access policies and billing arrangements through the charging equipment vendors software. Figure 3 below provides an overview of this arrangement.

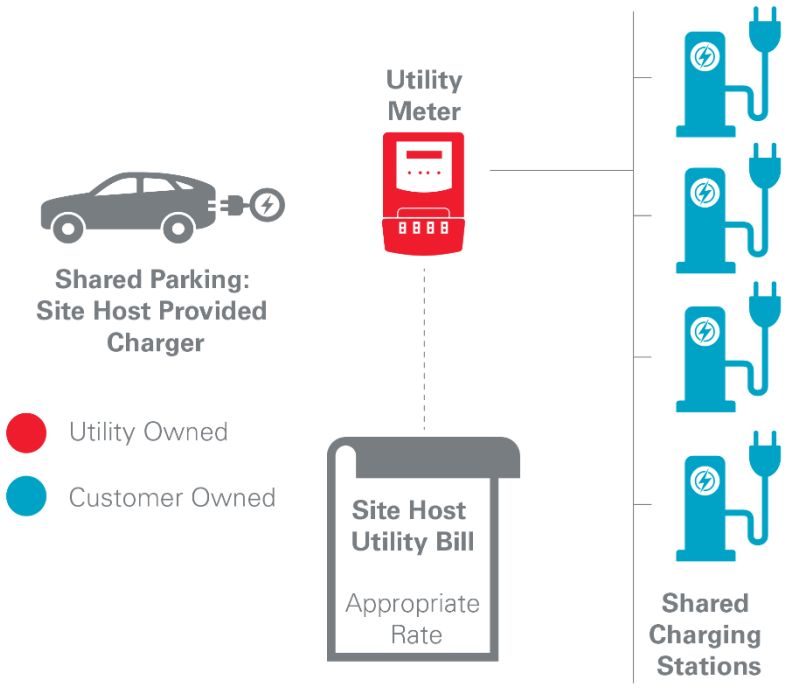


Figure 3: Shared Parking – Site Host-Provided Equipment Model

Shared Parking – Full-Service Option: Under this option, the Company will install, own, and maintain EV Supply Infrastructure and charging equipment that the site host selects from a

Company-approved list. Public Service will provide a new meter dedicated to the shared EV parking and will serve the load through an approved commercial rate, plus a fixed monthly charge that is designed to recover the cost of the charging equipment and ongoing data services. Similar to the Site Host-Provided Equipment option, the site host will have the ability to set access policies and billing arrangements through the charging equipment vendor's software. Figure 4 below provides an overview of this arrangement.

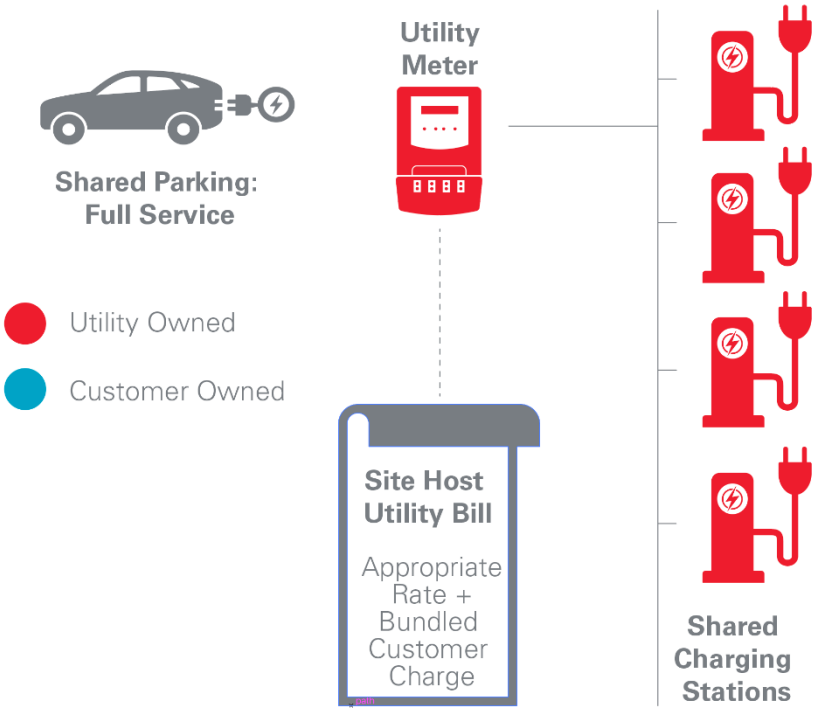


Figure 4: Shared Parking – Full Service Equipment Model

Assigned Parking – Full-Service Option: Under this option, the Company will install, own, and maintain EV Supply Infrastructure, and charging equipment that the site host selects from a Company-approved list. However, unlike the shared parking program, this option is designed for individual EV drivers (residents) with a dedicated parking space and charger—allowing the Company to allocate usage charges associated with that charger to the EV driver's own utility bill (as opposed to the building owner's bill). The individual EV drivers will be billed on their applicable Residential rate for their energy consumption as measured by the charger plus a bundled customer charge to recover the cost of the charging equipment, installation, and ongoing data services.

As noted above, each participating customer's energy usage will be measured by the EV charger serving the customer's assigned parking space, and participating customers will be billed for their energy usage as recorded by this EV charger. While the Company will work with

the charging equipment manufacturers to provide participating customers access to their energy usage data and to ensure accurate measurement of customers' energy usage through the EV charger, Commission rules and Company terms and conditions concerning customer access to meter-related data and the accuracy of meters do not apply to participating customers for this service. Figure 5 below provides an overview of this billing arrangement.

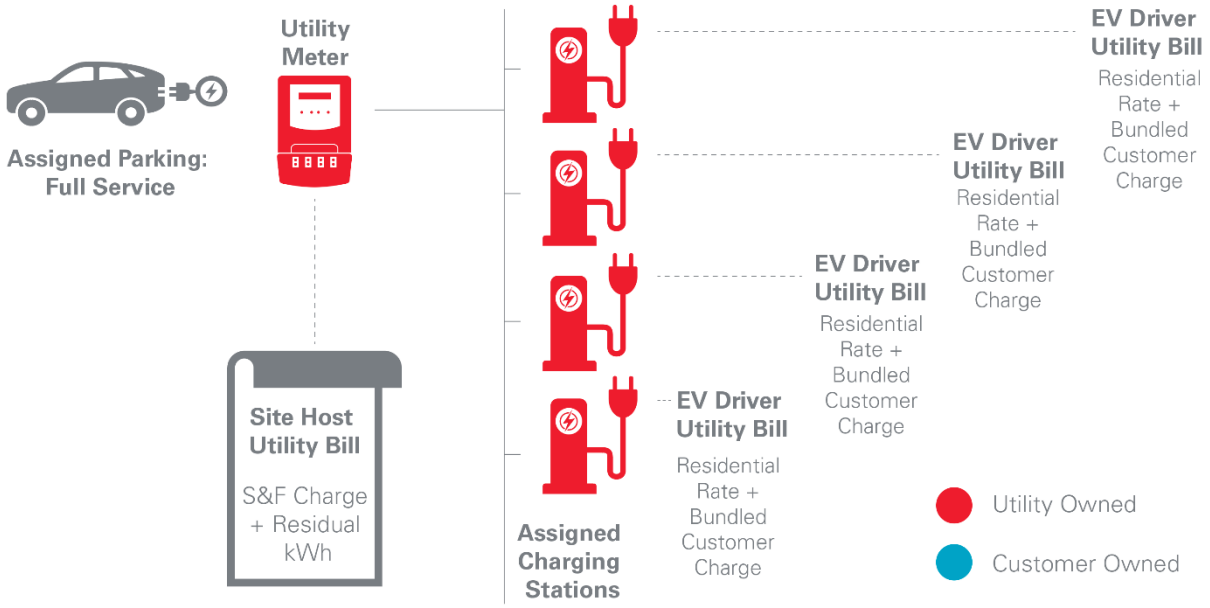


Figure 5: Assigned Parking – Full-Service Billing Model

Individual EV drivers will be billed on an applicable residential rate for charging as measured by the EV charger assigned to their parking space. The individual EV driver will see their additional EV consumption added to their existing utility bill for their home, in addition to the bundled customer charge.

The site host will receive a monthly bill for the service and facilities fee and any difference between what the chargers recorded and what the meter recorded, or the "residual kWh."

New Construction Rebate: For new construction, the Company proposes providing rebates to developers of new MUD buildings that exceed local and State building code requirements to accommodate EV charging. For example, the City of Denver and City of Boulder recently passed new building codes dictating the number of parking spaces that must have an EV charger installed, be EV ready (240V circuit installed), or EV capable (conduit for 240V circuit installed and panel capacity), so to be eligible for the MUD new construction rebate, a building in one of these localities would need to provide a greater number of EV ready or EV capable parking spaces than these building codes require The rebate will be up to $2,000 per port to help pay the cost of infrastructure components in excess of the most stringent mandatory code for each site's jurisdiction, and will not exceed 100 percent of the costs of the installation to go

beyond code. The Company will seek to complement its efforts to support the MUD New Construction Rebate with its existing DSM program for new construction buildings.

4.2.2 Participation and Spend

The following table (Table 6) highlights the expected number of charging station ports supported by the MUD programs over the course of the TEP.

Table 6: Expected Multi-Unit Dwelling Charging Station Ports Supported by TEP Programs

Program	2021	2022	2023	Total
Multi-Unit Dwelling – Shared Parking – Site Host Provided Equipment	30	75	125	230
Multi-Unit Dwelling – Shared Parking Charging Service	30	75	125	230
Multi-Unit Dwelling – Assigned Parking Charging Service	40	80	130	250
Multi-Unit Dwelling New Construction Rebate	75	150	250	475
Multi-Unit Dwelling Low Income Rebate	16	32	48	96

Note: In some cases, customers can participate in more than one program

The following table (Table 7) shows the budget, including capital, rebates, and O&M expenses, for the Multi-Unit Dwelling Portfolio.

Table 7: Multi-Unit Dwelling Portfolio Budget

Category	2021	2022	2023	Total
Capital	$1,348,000	$1,924,000	$3,178,000	$6,450,000
EV Supply Infrastructure	$659,000	$1,546,000	$2,605,000	$4,810,000
Charging Equipment	$117,000	$279,000	$472,000	$868,000
Installation Management	$97,000	$99,000	$101,000	$297,000
IT	$475,000	$0	$0	$475,000
Rebates	$174,000	$355,000	$595,000	$1,124,000
O&M Expenses	$188,000	$228,000	$296,000	$712,000
Total	**$1,710,000**	**$2,507,000**	**$4,069,000**	**$8,286,000**

4.2.3 Processes and Policy

Eligibility

Site hosts eligible to enroll in the MUD Portfolio programs must be multi-unit dwelling customers located in Public Service's service territory. This includes, but is not limited to, apartment buildings, condominiums, and mixed-use buildings and excludes individually owned townhouses, row houses, mobile homes, and single-family homes.

To be eligible for MUD EV Charging (including EV Supply Infrastructure), the MUD Site host must:

- Take Secondary Voltage Service;
- Own, lease, or operate a MUD site that provides long-duration (at least 8 consecutive hours) parking for MUD residents;
- If the MUD site host is not the owner of the MUD site at which EV Supply Infrastructure is to be installed by the Company, the MUD site host must obtain express written consent from the property owner, in a form acceptable to the Company;
- Commit to installing a minimum of four ports per site;
- Provide the Company with any required license agreements, permits, or easements to install, own, and maintain the EV Supply Infrastructure;
- Agree that all charging-station load will be separately metered from any other load served at the premises;
- For the Assigned Parking – Full-Service Option, the building must not be master-metered. All residents must receive an electric bill;
- For the Assigned Parking – Full-Service Option, the MUD site host or property owner must agree to be billed for participating residential customers' residual energy usage (the difference between the energy usage measured by the EV chargers and the energy usage measured on the meter) and for a service and facilities fee;
- For the Shared Parking – Full-Service Option, the site host or property owner must agree to take electric service under an approved Commercial rate and pay a bundled Customer Charge; and
- For the Shared ParkingSite Host-Provided Equipment Option, the site host or property owner must agree to take electric service under an approved Commercial rate.

To be eligible to receive a New Construction Rebate, the MUD site host or MUD property owner must:

- Take Secondary Voltage Service;
- Own, lease, or operate a MUD site that provides long-duration (at least 8 consecutive hours) parking for MUD residents;
- Provide a greater number of EV-ready (240V circuit installed) or EV-capable (conduit for 240V circuit installed and panel capacity) parking spaces than applicable state and local building codes require;

- If the MUD site host is not the owner of the MUD site, the MUD site host must provide express written consent from the property owner to apply for and receive the rebate on behalf of the MUD site in a form acceptable to the Company.

Low-income buildings will qualify for rebates for charging equipment to additionally lower the upfront cost of installing charging. Low-income buildings are defined as having participated in the Affordable Housing Weatherization or Affordable Housing Rebate Program within the last five years or currently meet the income qualifications of those programs. The current income qualification is 66 percent or more of the building population is at or below 80 percent of area median income. The Company proposes to utilize the same income guidelines to reduce complexity and confusion to customers. The Company will work with partners, such as Energy Outreach Colorado, to perform the income qualification process MUD buildings. These rebates are discussed more in the Low-Income Section.

The Company will also seek to coordinate with the Regional Air Quality Council ("RAQC") and the Colorado Energy Office ("CEO") to ensure that program participants of the Company's MUD program and RAQC/CEO's Charge Ahead Colorado do not receive rebates twice for the same equipment.

Application Process
Applicants seeking EV Supply Infrastructure support for any existing MUD building will participate in a competitive process to allocate program funds. The application window will open at least quarterly and the application dates will be posted to the Company's website. Applications will be judged based on potential projects' ability to maximize overall benefits and minimize overall costs under the considerations in SB19-077, with the highest scoring projects awarded funds first. The Company reserves the right to reject any application. Unsuccessful applicants will be provided with a notification that the project has been declined, with the ability to reapply during the next application period by submitting a new application. Successful applicants will move on to the design and engineering phase.

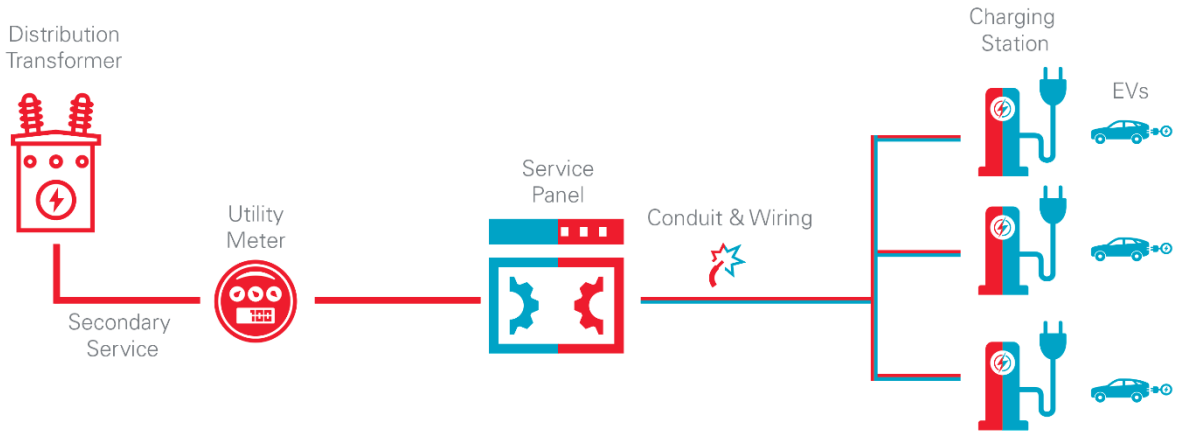
The Company will offer new construction rebates on a first-come, first served basis.

Infrastructure Services
For MUD EV Charging Customers, the Company proposes to install and maintain infrastructure for a new, dedicated EV service. This infrastructure consists of two segments

- *Service Connections.* For the new service, the Company will install, own, and maintain all equipment on the on the utility's traditional side of the point of connection, which includes transformer upgrades, pads, poles, new service conductors, as well as metering equipment for EV charging separate from any existing service at the site. This work will be done by the Company and will be initiated under the Company's Electric Distribution Line Extension Policy.
- *EV Supply Infrastructure*: The Company will install, own, and maintain new panels, conduit, and wiring up to the charger as well as any necessary civil construction work in compliance with state and local codes. This work, which is generally beyond the

traditional point of connection, will be completed by third-party contractors overseen by the Company.

Figure 6 illustrates the infrastructure components and describes key features of the MUD programs.



	EV Service Connections	EV Supply Infrastructure	Charging Equipment
Shared Parking - Site Host Provided Charger	Utility	Utility	Customer
Shared Parking - Full Service	Utility	Utility	Utility
Assigned Parking - Full Service	Utility	Utility	Utility
New Construction	Utility	Customer	Customer

Figure 6: Infrastructure for MUD programs

While the Company plans to provide the full EV infrastructure necessary to support all projects, the estimates described in this Plan are limited to the cost of providing EV supply infrastructure because all line extensions will be initiated under the Company's Electric Distribution Line Extension Policy.

Charging Equipment

Site Hosts receiving EV Supply Infrastructure must use charging equipment that meets applicable technical and safety standards, demonstrates interoperability, cyber security, and smart charging capabilities that enable site hosts to participate in managed charging rates or programs. The Company will maintain a prequalified list of choices for customers to choose from.

Site Hosts with Shared Parking may procure qualified charging equipment on their own or choose to receive charging equipment from the Company. The Company will solicit competitive bids from vendors on the pre-qualified list to identify a select number of turnkey options customers may choose from. As described in the tariff, the Company intends to aggregate solutions into three price points. This will enable customers to choose from a variety of pricepoints and value propositions.

Site Hosts with Assigned Parking must select to receive charging equipment from the Company as this equipment will be used for billing purposes. The Company will solicit competitive bids from vendors on the pre-qualified list to identify a select number of turnkey options customers may choose from. As described in the tariff, the Company intends to offer solutions at a single price point.

Rates and Incentives
Site hosts participating in the shared parking programs are required to take service under an approved commercial rate.

For Assigned Parking, individual EV drivers are required to either take service under a time-varying residential electric rate or participate in an Optimization program. Site hosts will be billed for the service and facilities fee and any difference between what the EV chargers record and what the meter recorded, or the “residual kWh” at one of the residential rates under which the individual EV drivers take service.

4.3 Commercial

4.3.1 Description

While a significant portion of charging is residential, there are two important use cases that will help ensure Colorado is able to meet its goals and align with the goals of SB 19-077. The first is commercial fleets and workplace charging, which includes state and local governments, quasi - governmental and non-profit entities, and private businesses. The second is public charging, which is important for providing access to charging for those who cannot charge at home or at their business and enabling intra-community transportation.

The major transportation electrification use-cases that could be supported by programs in this portfolio include:

- Light-duty fleet vehicles
- Commercial medium-and-heavy-duty vehicles
- Transit buses
- School buses
- Drivers who cannot charge at home
- Drivers going between communities

Our Commercial portfolio has three main areas of focus:

EV Supply Infrastructure and, in some cases, optional charging equipment for fleets, workplace, and public charging. Similar to the projects proposed in our EV Supply Infrastructure filing (Proceeding No.19A-0471E), the Company will work with customers to provide EV Supply Infrastructure to help lower the upfront costs of transportation electrification. Customers will have the opportunity to procure their own charging equipment or, for level 2 charging equipment, select Company-provided charging equipment that the Company will own and maintain and that customers will pay for through a monthly charge on their bill. The Company will solicit applications for these services on a recurring basis and determine which projects will be selected based on how they meet the goals of SB 19-077.

Community charging hubs with shared mobility services. The Company sees a need to provide increased access to charging infrastructure in communities, particularly for customers who are unable to charge at their homes. The Company will partner with communities and provide EV Supply Infrastructure to help lower the upfront costs. These hubs will be designed to support access to the benefits of electric transportation, including ride sharing services and other shared mobility (e-bikes/scooters) in addition to customers who drive EVs that they either own or lease. Further, the Company would provide rebates for a portion of the charging stations in low-income communities.

Public fast chargers in areas the competitive market may not serve. Public fast charging could play a critical role in increasing awareness, adoption, and utilization of EVs. However, there is a gap between the amount of public fast charging that is necessary to support future adoption and that which exists today. Our understanding is that there are only a limited number of use-cases where these investments economically justify themselves. Many more could be economically viable with support from the Company's EV Supply Infrastructure service. However, access to fast public charging that enables intracommunity transportation may not be equitable.[14] To address this concern, the Company is proposing to own and operate a limited number of public fast charging stations that serve the needs of otherwise underserved communities and can enable more adoption. Public Service has been working, and will continue to work, with stakeholders to ensure that these are designed in a way that maintains a healthy and competitive charging market. For these charging stations, the Company has proposed a rate that would be offered to drivers using these stations based on our Commercial S-EV rate.

The Company is already supporting similar work as part of the projects identified in the EV Supply Infrastructure Proceeding (Proceeding No.19A-0471E). These projects are representative of many of the projects that the Company will be seeking to support as part of the Commercial portfolio in this TEP and include planned projects to support fleets and public

[14] This issue has been highlighted by stakeholders in multiple workshops.

charging. The Company is also seeking participation from additional applicants and will be seeking support projects with EV Supply Infrastructure in 2020 and early 2021.

The Commercial portfolio programs will be available to customers seeking EV Supply Infrastructure to support fleets, including light-, medium-, and/or heavy-duty fleets, workplace charging, and public charging, including community charging hubs and direct current fast charging (DCFC). To enable the Company to offer charging infrastructure to customers, we propose funding $48 million to support development of more than 2,000 charging ports. The Company will support projects over the three-year TEP period with customers applying for support.

4.3.2 Participation and Spend

The following table (Table 8) highlights the expected number of charging station ports supported by Commercial programs over the course of the TEP.

Table 8: Expected Charging Station Ports Supported by Commercial Programs

Program	2021	2022	2023	Total
Fleet & Workplace Supply Infrastructure-Light-duty Vehicles	275	490	650	1,415
Fleet & Workplace Optional Charger Service—Light-duty Vehicles	125	225	300	650
Fleet & Workplace—Low Income	35	55	70	160
Community Charging Hubs	54	85	175	314
Community Charging Hubs – Low Income	36	90	90	216
Public DCFC (Corridors)	36	60	90	186
Xcel Energy Public DCFC	4	8	12	24

Note: In some cases, customers can participate in more than one program

The following table (Table 9) shows the budget, including capital, rebates, and O&M expenses, for the Commercial Portfolio.

Table 9: Commercial Portfolio Budget

Category	2021	2022	2023	Total
Capital	$8,303,000	$13,156,000	$19,145,000	$40,605,000
EV Supply Infrastructure	$6,155,000	$11,372,000	$16,670,000	$34,197,000
Charging Equipment	$762,000	$1,487,000	$2,172,000	$4,422,000
Installation Management	$291,000	$297,000	$303,000	$891,000
IT	$1,095,000	$0	$0	$1,095,000
Rebates	$1,209,000	$1,838,000	$2,642,000	$5,689,000
O&M Expenses	$455,000	$675,000	$1,006,000	$2,135,000
Total	**$9,967,000**	**$15,669,000**	**$22,793,000**	**$48,429,000**

4.3.3 Processes and Policy

Eligibility

To be eligible to receive Company-provided EV Supply Infrastructure through any of the programs in our Commercial portfolio, the Customer must:

- Qualify as a non-residential customer;
- Take secondary voltage service;
- Own, lease, or operate a site that provides EV or shared electric mobility (e-bikes/scooters) charging;
- If participant is not the owner of the premises at which the EV Supply Infrastructure is to be installed, participant must obtain express written consent from the property owner, in a form acceptable to the Company;
- Commit to installing a minimum four ports per site, or, in cases with fewer than four ports, a minimum of 50 kW of charging capacity;
- Provide the Company with any required license agreements, permits, or easements to install, own, and maintain the EV Supply Infrastructure;
- Agree that all charging-station load will be separately metered from any other load served at the premises; and
- Provide acceptable proof that they have purchased charging stations as well as dates for expected arrival of charging stations prior to the Company beginning deployment of EV Supply Infrastructure.

As referenced above, projects focused on serving low income communities (in census blocks where more than 50 percent of households have incomes at or below 80 percent of the area median income) may also be eligible for rebates to defray the costs of charging equipment. We address the eligibility requirements for the Fleet & Workplace low income rebate and Community Charging Hubs low income rebate in the "Support for Low-Income Customers and Communities" section.

Application Process and Enrollment
Similar to the projects in the EV Supply Infrastructure proceeding (Proceeding No.19AL-0471E), customers will be encouraged to apply and the Company will evaluate the customers' application and then select projects. Customers will then enroll in the offering. The Company will select projects based on pre-determined criteria focused on the considerations provided in SB 19-077, including operating the grid efficiently, providing access, and improving air quality and reducing greenhouse gas emissions.

EV Supply Infrastructure
For Commercial Programs, the Company proposes to install and maintain infrastructure for a new, dedicated EV service. This infrastructure consists of two segments:

- *Service Connections.* For the new service, the Company will install, own, and maintain all equipment on the on the utility's traditional side of the point of connection, which includes transformer upgrades, pads, poles, new service conductors, as well as metering equipment for EV charging separate from any existing service at the site. This work will be done by the Company and will be initiated under the Company's Electric Distribution Line Extension Policy.
- *EV Supply Infrastructure*: The Company will install, own, and maintain new panels, conduit, and wiring up to the charger as well as any necessary civil construction work in compliance with state and local codes. This work, which is generally beyond the traditional point of connection, will be completed by third-party contractors overseen by the Company. The EV Supply infrastructure will be offered to support fleet operators with light-duty or medium-and heavy-duty vehicles who are seeking to convert their fleets to electric, non-residential customers seeking to support employees with workplace charging, communities supporting charging hubs, and site hosts and developers for DCFC public charging.

Figure **7** below illustrates the charging infrastructure components as well as ownership options applicable to each component for each program.

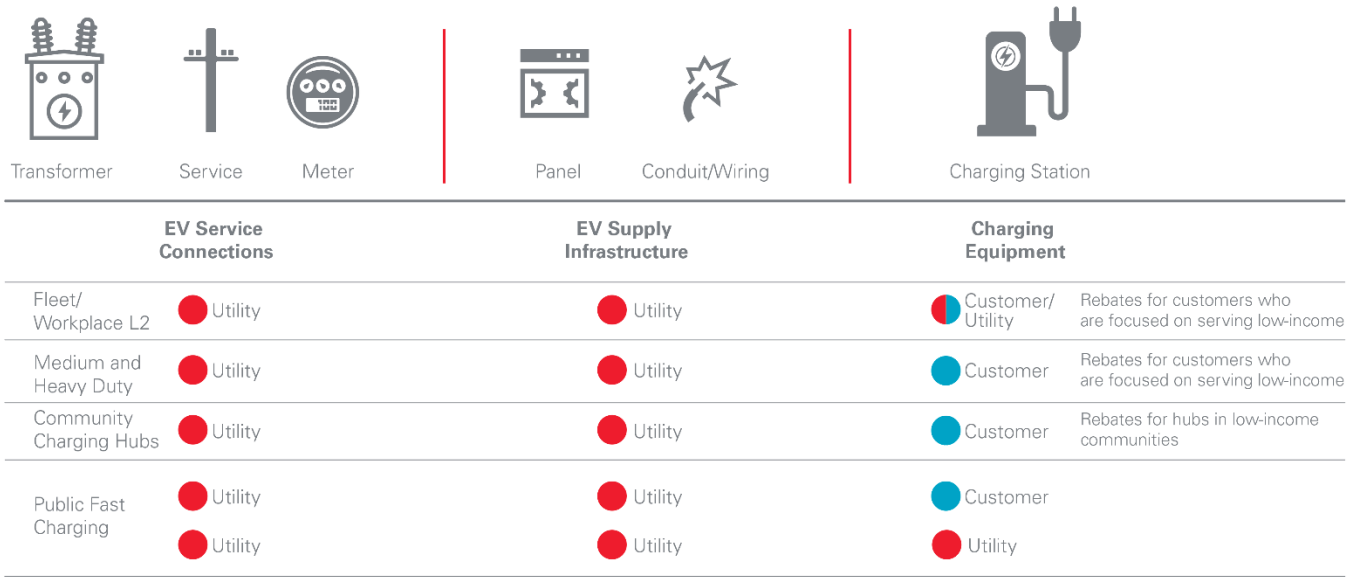


Figure 7: Infrastructure Components for Commercial Programs

Charging Equipment

Customers receiving EV Supply Infrastructure must use charging equipment that meets applicable technical and safety standards, demonstrates interoperability, cyber security, and smart charging capabilities that enable customers to participate in managed charging rates or programs. The Company will maintain a prequalified list of choices for customers to choose from.

Customers may procure pre-qualified charging equipment on their own. Customers seeking level 2 fleet and workplace solutions may also choose to receive charging equipment from the Company. The Company will solicit competitive bids from vendors on the pre-qualified list to identify a select number of turnkey options customers may choose from. As described in the tariff, the Company intends to aggregate solutions into three price points. This will enable customers to choose from a variety of pricepoints and value propositions.

Utility Owned and Operated Public Charging Stations

Each year, the Company will first solicit applications for EV Supply Infrastructure projects to support public fast charging stations. After selecting projects, the Company will evaluate and then determine whether the proposals provide adequate coverage throughout the Company's service territory. If they do not, the Company will select additional sites to cover the gaps, based on distance from other public charging stations and density of charging and procure charging equipment from multiple vendors. In this case, the Company will own the charging stations and be responsible for operating and maintaining the charging stations. The charging stations must meet applicable technical and safety standards and demonstrate interoperability, cyber security, and smart charging capabilities. .

Rebates
We propose rebates that range up to $2,200 for Level 2 ports and up to $45,000 for fast charging for medium-duty and heavy-duty vehicles for the low-income fleet and workplace programs and up to $15,000 and $40,000 for low-income Community Charging Hubs, depending on the configuration[15]. We designed these low-income rebates to cover a significant portion of the expected costs of level 2 and DCFC chargers, depending on the needs of specific customers and locations.

Rates
Key features of rate design for the Commercial portfolio include:

- **Time-varying rates**: Commercial customers may take service under any approved commercial rate for which they are otherwise eligible. These rates will promote efficient use of the grid.
- **Optional Charger Service:** Applicable to fleets and workplace, the cost of the EV Charging Service will equal the levelized cost of providing, operating, maintaining, and recovery for Company-provided and installed charging equipment
- **Public DCFC Charging Service:** Applicable to drivers taking service from the charging stations that the Company owns and operates, this is new charging rate modeled off the Commercial S-EV charging rate. The stations would charge a standard rate per minute during most hours and a much higher Critical Peak Pricing (CPP) rate during the limited number of hours a year of high system-wide demand.

4.4 Research, Innovation, and Partnerships

4.4.1 Description

The landscape for transportation is continuing to evolve as new technologies are being developed and brought to market, including new types of vehicles, new charging approaches, and new software platforms. These technologies could help improve the customer experience and provide benefits to the grid system. Further, SB-19-077 includes the goal that TEPs "stimulate innovation", and the Company believes that conducting innovative projects over the course of this TEP can provide benefits in the short-term but also provide much longer term benefits as well.

The Company proposes bringing forward Transportation Electrification Research, Innovation, and Partnership projects over the course of the TEP. The objective of the Research, Innovation and Partnership portfolio is to:

- Increase and broaden access to electricity as a transportation fuel
- Minimize system costs and increase benefits of electric transportation
- Inform future TEP modifications

[15] Note: rebates shall not exceed 100 percent of the costs paid by the customer.

4.4.2 Spend

The following table (Table 10) shows the budget, including capital, rebates, and O&M expenses, for the Research, Innovation, and Partnerships Portfolio.

Table 10: Research, Innovation, and Partnerships Portfolio Budget

Category	2021	2022	2023	Total
O&M Expenses	$1,667,000	$1,667,000	$1,667,000	$ 5,000,000
Rebates	$1,667,000	$1,667,000	$1,667,000	$5,000,000
Sub-Total	**$3,333,000**	**$3,333,000**	**$3,333,000**	**$10,000,000**
School Bus Electrification	$0	$2,200,000	$0	$2,200,000
Total	**$3,333,000**	**$5,533,333**	**$3,333,000**	**$12,200,000**

The Company anticipates spending up to $3.3 million annually and up to $10 million over the three-year TEP on research, innovation, and partnerships unless the Company seeks approval for additional funding from the Commission. Additionally, the Company will deploy $2.2 million of REC sales and carbon offset revenue towards electrification of school buses.

The benefits of the Research, Innovation, and Partnership projects could include:

- An increased understanding of opportunities for increasing the efficiency of the grid with transportation electrification technologies
- More data points on solutions to support providing greater access to the benefits of transportation electrification, including ride sharing and ride hailing applications
- Increased awareness for the opportunities for reducing greenhouse gas emissions and improving air quality
- Additional support for stimulating innovation in our service territory and helping position Colorado as a leader on transportation electrification

4.4.3 Process and Policy

Focus Areas

To develop the Research, Innovation and Partnerships Portfolio, the Company intends to work in close collaboration and partnership with communities, charging vendors, innovative start-up companies, academia, research organizations, and other stakeholders. During the advisory

group meetings (described in the Evaluation section), the Company will share its plans on projects it will seek to bring forward and also continue to solicit focus areas from stakeholders to help ensure the Company is looking at and exploring the full range of areas for innovation in the context of transportation electrification.

Proposal Process
The Company will bring forward proposals for research and innovation projects through the TEP Modification Process described in Section 3.

For Research, Innovation, and Partnerships program proposals, Public Service will provide details on all of the following, as applicable[16]:

- Project description and goals
- An estimate for participants and budgets
- A summary of the application process
- A discussion of marketing objectives and strategies
- Projected benefits
- Pilot-specific policies
- A summary of stakeholder involvement
- A discussion on the evaluation, measurement, and verification approach

Projects may leverage other approved Company programs (e.g. Solar Rewards, other TEP programs).

Example Projects
The Company is contemplating several projects stemming from our research and experience, stakeholder workshops, and customer engagement. We describe initial ideas below to provide a sense for the type of projects the Company would likely pursue after further stakeholder dialogue and the modification process described above.

- **Promote electrification of Shared Mobility.** The Company would seek to provide rebates and incentives to promote electric ridesharing services. Potential companies and organizations the Company would seek to support include ride sharing services, ride-hailing, and electric bicycle and scooter services. These rebates would be targeted at offering shared mobility services that support low-income and disadvantaged communities. As part of the project, the Company would collect information on driver behavior, charging utilization, and participation.

- **Technology to reduce DCFC operating costs:** This project would place a battery at a site that hosts a public DC fast charging station. The purpose of the project would be to demonstrate how a battery can help a DC fast charging station mitigate demand charges and generally reduce energy costs without jeopardizing service or costs to customers with inelastic demand who are unable to respond to price signals. In addition, the pilot may also

[16] For instance, in the case of research projects, the Company may not have an application process, policies, or marketing objectives. However, the Company would still provide information on the other topics outlined here.

demonstrate how a battery at one of these sites could provide additional value to the grid through dispatchable load reduction or charge and discharge at times that are beneficial for the grid.

- **Targeting communities affected by vehicle emissions:** As described in this TEP, more work must be done to identify and quantify impacts of vehicle emissions at a very local level. The Company envisions project(s) that help perform these baseline tasks before proposing targeted programs that can fully and directly deliver on this important objective.

- **Fleet Charging Optimization:** Several transit agencies have or are looking to invest in electric buses. These customers, in addition to being the 'first-movers' in heavy duty electric transportation, are cost sensitive and are subject to rates that incorporate demand charges and/or time-varying components. As a result, it is important that these customers have solutions that can manage charging. The market for these types of solutions is nascent. This project would demonstrate how different market solutions integrate with vehicle and charging station data sources and can control charging to help the customer manage their energy bill, while also participating in demand management programs that help the Company manage the grid. By working in this area while the industry is maturing, the Company would have an opportunity to influence how vendors develop their demand management capabilities.

- **Study Distribution System Impacts of Electric Transportation.** This project would create a test bed and additional monitoring capabilities for assessing the impacts of EVs on the distribution system and identifying areas to improve EV integration. The Company would install a small secondary system and connect chargers to help understand how secondary systems, including transformers, perform under various charging scenarios. As part of this research, the Company would procure a small number of chargers and leverage electric vehicles in the Company's fleet to conduct the research. Over time, the Company would consider testing electric vehicles ability to integrate with other distributed energy resources (DERs). The Company could also conduct additional analysis on the impact of increasing EV penetration on the grid edge and opportunities to minimize the impact.

- **Use Disaggregation Analytics to Identify EV charging:** This project would build capability to detect the presence of electric vehicle charging using AMI and other technologies, provide understanding of charging patterns and impacts on conditions. Understanding of the ability to influence charging patterns that can improve grid edge performance and asset utilization improvements is also needed. The ability to derive this information would support marketing and grid planning efforts.

- **School Bus Electrification:** The electrification of school buses presents a compelling use case as we seek to protect school children of Colorado from diesel emissions. However, as highlighted in the E3 analysis, current economics present significant challenges to adoption. Unlocking the rate payer and social benefits of school bus electrification requires a tailored solution. The Company would work with stakeholders, customers, and other potential

partners in proposing a project that will inform how we might transform this market. Components of our project are anticipated to include:

- Reduce upfront cost of electric buses through supplemental grants or other financing for school districts to purchase electric school buses. This would be funded through previous REC and carbon offset sales described in our TEP application.
- Reduce operational costs of electric buses through smart charging and possibly vehicle-to-grid technology (V2G) demonstration efforts. This would be funded through the TEP Research, Innovation, and Partnership portfolio budget.
- Inform operational capabilities and limitations of electric buses. Study of cold weather performance to ensure fitness for our climate. This would be funded through the TEP Research, Innovation, and Partnership portfolio budget.

4.5 Advisory Services

4.5.1 Description

The Company has provided broad advisory services to customers and is seeking to ramp up how it operates educational campaigns to provide information about the benefits of electric vehicles, support planning efforts, and increase awareness of the Company's EV-related offerings that we have proposed in this TEP. As part of this effort, the Company will offer advisory services in three market segments

- **Residential** (including low-income and multi-unit dwelling) by conducting outreach to trade allies, including dealerships and electricians, while promoting the benefits of electric vehicles at events and through digital tools

- **Fleets** by supporting customers in developing a comprehensive electrification plan that uses telematics data to understanding which vehicles are well-suited for electric, identify the most effective infrastructure locations while offering advice on rates and charging

- **Community Planning** by providing resources to assist communities in developing plans that provide roadmaps for achieving their unique goals in areas such as engaging residents, supporting fleets, or evaluating opportunities for siting public charging infrastructure.

There are several reasons to support advisory services for customers, including helping address barriers focused on:

- *Lack of awareness of EV benefits*. In surveys, 68 percent of consumers say they have no experience with EVs.[17]
- *Lack of familiarity and perceived risks with the technology*. Even with auto dealerships and fleet managers, there are concerns that electric vehicles are challenging to operate and not easy for drivers to understand the lower costs associated with them.

[17] 2019 JD Edwards national survey, n=5,000 consumers

- *Lack of short-term and long-term electrification plans.* Decision-makers often grapple with the investment decisions of when and at what scale to buy EVs and how to match the deployment of EVs with the most cost-effective charging buildout. *]*
- *Poor understanding of utility rates and charging choices.* Consumers often need help understanding and navigating decisions concerning rate options and charging infrastructure necessary.
- *Access to trusted sources of information.* There are conflicting sources of information about electric vehicles in the public domain, and utilities can provide help to customers to better understand vehicle options and choices.

These efforts are important for supporting customers and align with the policy that its Transportation Electrification Plan may include "customer education, outreach, and incentive programs that increase awareness of the programs and of the benefits of transportation electrification and encourage greater adoption of electric vehicles"

4.5.2 Spend

The following table (Table 11) shows the budget, including capital, rebates, and O&M expenses, for the Advisory Services Portfolio.

Table 11: Advisory Services Portfolio Budget

Program	Category	2021	2022	2023	Total
Residential and MUD	O&M Expenses	$2,135,000	$2,070,000	$2,106,000	$6,311,000
Fleets	Rebates	$350,000	$890,000	$1,260,000	$2,500,000
	O&M Expenses	$170,000	$211,000	$121,000	$502,000
Community	O&M Expenses	$1,111,000	$1,311,000	$1,368,000	$3,790,000
Total		**$3,766,000**	**$4,482,000**	**$4,855,000**	**$13,102,000**

4.5.3 Process and Policy

As part of the advisory work, we have tailored offerings for each market segment:

Residential and Multi-Unit Dwelling Advisory
The Company intends to expand its mass-market electric vehicle advisory efforts, where we focus on awareness, outreach, and education. These efforts span multiple communication channels including sponsorship of community events, digital media, direct outreach, traditional media channels like radio and print, and engagement with trade allies.

Although some customers are becoming more aware of the benefits of EVs, many are not aware of all the facts and benefits of driving electric. Our strategies build EV awareness and promote programs through a number of different channels for a diverse set of customers and in a way that is convenient and understandable:

- **Drive Electric Experience at Community Events**. The Company will participate in public events to engage relevant audiences aligning with partners who also support increased adoption of electric vehicles and access to the benefits of transportation electrification. As part of this work, the Company will participate in community and industry events to directly engage with customers on the benefits of EVs, provide opportunities to drive an EV, and interact with our educational garage that simulates what it is like to own and charge an EV.

- **Advertising and Media**. Another focus of the Company's efforts to educate and inform customers about the benefits of EVs and our programs is to connect with them by providing relevant content where they are engaging with media. Advertising channels will include search-engine marketing, social-media and traditional media such as print and radio. Call to action will drive traffic to our online resources for EV information at XcelEnergy.com.

- **Trade Ally Support for Auto Dealers and Electricians.** Sellers of EVs are a key information resource for consumers to learn not only about EV models, but also other aspects of the EV experience, including charging options, electricity rates, and renewable offerings. Not all auto dealers, however, are knowledgeable about these topics. The Company is proposing to build on established relationships to help provide a positive customer experience from point of sale to charging at home. As part of the advisory services, the Company will conduct sales-team trainings on the benefits of driving an EV, provide educational materials for customers about charging and rate options, and other coordinated EV education and promotion efforts. Electricians are also important trade allies, and the Company plans to continue to build its Trade Network for electricians who are interested in installing charging infrastructure and associated components. As part of this work, the Company will conduct trainings, which will include specific information about the EV market, Xcel Energy rates, load management programs, renewable programs, and specific metering and distribution standards and considerations. The Company believes that collaboration with electricians will help enable an improved customer experience.

- **Online Tools**. The Company will seek to broaden and enhance online services available to customers. Our current website tool is intended to provide more personalized information on EVs and programs for our residential customers. To date, this advisor tool has sought to provide customers with recommendations based on answers provided by the customers to a series of questions. As the Company continues to build out this advisor tool, the Company will seek to provide more information on:
    - EVs available in the market;
    - Environmental impacts of EVs;
    - Costs and benefits of EVs, including fuel and maintenance costs;
    - Auto Dealers who are knowledgeable about EVs;
    - Charging equipment options and estimated costs to install;
    - Available incentives for purchasing or driving an EV; and

- Rate recommendations, including information encouraging customers to charge during off-peak periods

Over the course of the TEP, the Company will seek to improve the online and mobile experience by providing self-service capabilities that provide customers with personalized information needed to understand the true costs and benefits of EV ownership and operation, identify where to buy an EV, and how to charge it. Other enhancements may focus on creating deeper customer-specific data, sharing load insights from the AGIS platforms, and providing post-purchase content to support the needs of customers as they charge at home and in at public locations.

Fleet Advisory and Assessments
This program seeks to provide information, data and technical assistance to help inform fleet electrification and, in some cases, workplace charging decisions and assist customers in building a robust and actionable electrification plan. The electrification plan will consist of a procurement plan for EVs, strategies for charging infrastructure buildout and guidelines for optimizing vehicle usage and charging economics.

As part of this service, the Company working with customers that operate fleets (public and private) will leverage telematics data to monitor key vehicle performance indicators such as, but not limited to, fleet vehicles usage, miles traveled, dwell times, GPS routes, fuel efficiency and idling time. This data is analyzed to identify which vehicles in the customers' fleet are best suited to be replaced with an EV model, based on operational needs, financial benefits, greenhouse gas savings and other factors deemed necessary by decision makers. As part of this service, the Company will also advise customers on their fleet and workplace charging infrastructure needs, including promoting our charging infrastructure programs and sharing information on the choices for charging equipment. The Company continues supporting customer's deployment plans by connecting them with charging equipment and service providers. Optimizing the investments made will be done by providing in-depth rate reviews and charging recommendations and developing and sharing insights into demand control software and technologies. To be able to participate in the fleet advisory services, customers must:

- Be an electric customer of Xcel Energy.
- Operate a "fleet," which is defined by 5 or more vehicles that are used to provide or distribute services or products
- Be willing to share all aggregate data collected and used for the assessment, recommendations received from the assessment, key decisions made by internal stakeholders and all procurement documentation that are used for EV procurement and/or infrastructure projects.

This program is based on the learnings, successes and outcomes of a pilot, completed in 2019, that was completed predominantly for fleets in Minnesota. Outcomes of the 2019 program include:

- 21 fleets found that of the 397 vehicles analyzed using telematics data, 196 EV recommendations were made that satisfied 100 percent of selection criteria. If size comparisons were not a requirement, 311 EVs would have been recommended.
- Total cost of ownership savings would, on average, be 16 percent or $159,000
- Aggregated savings for all fleets in the program exceed $1.13M

Our proposed program seeks to build on the lessons learned from the pilot and incorporate more vehicle options, site analysis for charging infrastructure and a rate optimization tool.

The following table (Table 12) indicates the level of fleet participation expected per calendar year. It is important to note that due to the length of time needed to collect data and the customization of each fleet project, the annual numbers may vary.

Table 12: Expected Fleet Assessments

2021	2022	2023	Total Fleets Assessed
20	**30**	**50**	100

Each fleet will require a customized assessment, with costs varying based on two critical factors: the number of fleet vehicles included in the assessment and if telematics services will be required or if they are already procured by the fleet through a partner vendor. Rebate levels will be adjusted over time to help ensure fleet engagement and eventual electrification are achieved.

Community Planning

More communities are realizing energy planning plays a critical role in helping them reach their energy goals. The benefits of wise energy choices are diverse. Through collaborative work with citizens, businesses, and governments, a community can reduce their energy bills, promote clean energy options, drive economic development, improve air quality, and reduce greenhouse gas emissions. Since 2014, Xcel Energy's Partners in Energy (PiE) has been helping communities gather stakeholders to develop and implement energy action plans that address the challenges of local energy priorities with actionable strategies and resources. As part of the TEP, the Company is proposing to offer more robust tools, data, and expertise for electric vehicle planning that encompass multiple strategies to support the growth of EV's in the marketplace and charging infrastructure while integrating other XE offerings as appropriate. During the planning process, Xcel Energy and facilitators will seek to provide the guidance and framework to help develop a common vision and organized plan to achieve the communities' goals. The plans will leverage the Company's EV offerings as tools and resources to reach the community's goals and incorporate additional resources as appropriate. Implementation of the plans will be supported as necessary to drive progress and remove barriers for up to 18 months. These services will be offered at no cost to participating communities, and we will seek to partner with sixty communities over the course of this TEP.

The process and timeline for Partners in Energy Transportation Electrification Plan Projects will include:

- Applications seeking communities which have aspirations that go beyond what can typically be served by any of the other single programs offered.
- A kick-off meeting to help organize the project team and establish a tentative workplan and timeframe.
- Facilitated workshops that seek to build the community's alignment and develop goals, strategies and tactics to incorporate into plan.
- Implementation support that helps enable the community to be successful with the strategies and tactics they have identified.
- Project management throughout the process to encourage progress and execution
- Memorandums of Understanding (MOU) prior to planning and at the start of implementation to define expectation of roles, commitments and contributions.

5. Support for Low-income Customers and Communities

5.1 Description

We recognize the need to work to support low-income communities as part of our TEP.

We have solutions that are intended to build on our portfolios to more directly benefit customers in low-income communities. These solutions include:

- **Community charging hubs in low-income communities.** The Company will further provide grants for the charging stations.
- **Support access to the benefits of electric transportation and electric mobility services.** The Company will seek to support electric ride sharing and ride hailing services and other shared mobility (e-bikes/scooters) in addition to customers who drive EVs that they either own or lease.
- **Support for electric public transportation.** The Company will seek to partner with public transit authorities and help lower the upfront costs of EV supply infrastructure and charging equipment.
- **Additional support to lower the upfront costs of infrastructure.** For low-income customers procuring electric vehicles and commercial customers that support low-income communities, we are seeking to provide additional support to help lower the upfront costs of charging infrastructure in homes and businesses. In these cases, we will provide rebates to lower the cost of the charging equipment for customers.

Additionally, the Company recognizes that the TEP should not just seek to benefit low-income communities but also communities disproportionately affected by vehicle emissions-related air quality concerns. Our understanding is that there is a strong correlation between the two, but also that large portions of our service territory, particularly in the Denver metro area, have these air quality issues. We believe that this plan creates positive impacts for both low-income communities and others affected by air quality issues. However, the Company will need to evaluate these impacts and how communities are affected by our programs, and, in future TEPs, if there is better data on local impacts, the Company may pursue additional programs specifically targeting certain locations.

5.2 Participation and Spend Forecasts

The following table (Table 13) highlights the expected number of participants in low-income programs over the course of the TEP.

Table 13: Expected Participants and Charging Station Ports Supported by Low-Income Programs

Portfolio	2021	2022	2023	Total
Residential	50	100	150	300
MUD	16	32	48	96
Commercial	71	145	160	376
Total	**137**	**277**	**358**	**772**

The following table (Table 14) shows the expected spend, including capital, rebates, and O&M expenses, for low-income programs.

Table 14: Expected Spend on Low-Income Programs

Portfolio	Categories	2021	2022	2023	Total
Residential	Capital and Rebates	$104,000	$212,000	$325,000	$641,000
MUD	Capital and Rebates	$52,000	$98,000	$150,000	$300,000
Commercial	Capital and Rebates	$2,525,000	$4,638,000	$5,695,000	$12,859,000
Research, Innovation, and Programs	Rebates and O&M expenses	$333,000	$333,000	$333,000	$1,000,000
Advisory Services	Rebates and O&M expenses	$377,000	$448,000	$485,000	$1,310,000
Total		**$3,391,000**	**$5,729,000**	**$6,988,000**	**$16,110,000**

5.3 Processes and Policy

Eligibility Requirements

Customers and/or communities must meet the eligibility requirements to participate in the programs (Residential, Multi-unit dwelling, and Commercial), and, in order to receive rebates, the customer or community must demonstrate that:

- For residential, eligibility is intended to align with the State of Colorado's Low-Income-Energy Assistance Program (LEAP). Low-income customers must be qualified for and receive assistance from LEAP during the federal fiscal year (current LEAP program year).
- For multi-unit dwellings, low-income buildings are defined as having participated in the Affordable Housing Weatherization or Affordable Housing Rebate Program within the last five

years or currently meet the income qualifications of those programs. The current income qualification is 66 percent or more of the building population is at or below 80 percent of area median income.

- For Commercial fleet and workplace, organizations must demonstrate that they would qualify for the non-profit energy efficiency program, or are a public organization seeking to provide accessible and affordable services for low-income communities
- For community charging hubs, the Company will offer rebates for charging equipment for infrastructure located in a census block, where more than 50 percent of households have incomes at or below 80 percent of the area median income

Enhanced Advisory Services

The Company has worked with stakeholders to identify challenges for low-income communities to access the benefits of transportation electrification. The Company recognizes the need for advisory services that are tailored for low-income communities and will seek to partner with other organizations to help raise awareness of the benefits of electric vehicles and the programs being offered. In particular, the Company will adjust marketing in different segments and include:

- **Residential and Multi-unit dwelling.** The Company will work with partner organizations to help increase awareness of EV ownership options for low-income customers through working with dealerships, including used dealerships, and conduct outreach that is accessible and speaks to low-income buyers' unique challenges. As part of this work, the Company will provide collateral in English and Spanish and seek feedback on program materials to help ensure that the messages resonate. Community events will also be emphasized as an important avenue for helping increase the awareness of EV benefits and the Company's programs.
- **Fleets.** The Company's account managers and community relations representatives will proactively conduct outreach to customers who operate fleets that support low-income communities, including public transit, school buses, and services dedicated to serving disadvantaged communities. The Company will offer its advisory services, including analytics, at no-cost to these customers.
- **Community Planning and Public Charging.** Similar to fleets, the Company will proactively seek to partner with communities that have significant numbers of low-income customers. As part of this work, the Company will work with the communities to help develop goals and also advice on strategic initiatives to help meet these goals for the community, including supporting community charging hub infrastructure.

Rebates, Incentives, and Rates

In addition to the infrastructure services, the Company will offer rebates to help further reduce the costs of charging equipment as part of the programs. The Company is proposing to offer the following additional rebates and incentives for low-income customers and communities:

- **Residential** While the Company is intending to offer up to $500 in rebates and incentives for residential customers, the Company would offer up to $1,300 for low-income residential customers to cover the costs wiring a home for EV charging and charging.
- **Multi-Unit Dwelling.** The Company is intending to offer rebates to cover the full cost of the charging equipment for buildings meeting the low-income qualification threshold in addition to the EV supply infrastructure
- **Commercial:**
  - *Fleet/Workplace L2.* For customers who have fleets dedicated to serving low-income customers or an employer dedicated to serving low-income communities, the Company would offer rebates to help cover the costs of the charging equipment.
  - *Medium/Heavy-Duty.* For customers that operate large fleets that serve a significant low-income population, including transit agencies and school districts and school bus operators, the Company would offer rebates for a significant portion of the costs of chargers.
  - *Community Charging Hubs.* The Company would offer rebates for the charging equipment for the community charging hubs located in communities with a large low-income population.

As discussed elsewhere in this document, the Company would adjust these incentives based on the participation in the program. For instance, in the event that customers are not participating in the low-income residential rebate program, the Company will evaluate the effectiveness of its marketing and advisory services and potentially increase the incentive to encourage more participation or seek to support low-income communities through another one of the programs.

6. Evaluation

6.1 Description

One of the considerations provided in SB 19-077 is focused on “transparency, incorporating public reporting requirements to inform design and commission policy,” and the Company has spent time discussing these topics in meetings and workshops with stakeholders. Sharing results and evaluating these programs will be important as we look to make improvements over time. We have developed a robust process for gathering feedback and input from stakeholders, ensuring transparency and sharing lessons learned, and assessing our customers’ experiences and perceptions about EVs that could help maximize the overall benefits and minimize the overall costs of transportation electrification over time.

The Company intends to provide reporting and conduct evaluations that will help deliver insights and key learnings on:

- the impact of advisory services on program participation rates;
- the impacts of programs and advisory services on customer attitudes about EVs;
- the actual costs of charging infrastructure installations for TEP programs;
- the impact of rates and smart charging programs on charging behavior and impact on peak demand;
- the impacts on greenhouse gas and NOx emissions, including, to the extent possible, local impacts;
- the need for additional managed charging programs, including new potential optimization charging programs and rate structures, that could be implemented in the future to serve EV customers; and
- potential enhancements and future design considerations.

As part of annual reporting, Public Service will share information and provide reporting on metrics, including:

- estimated number of EVs in service territory, by type (e.g. light-, medium-, heavy-duty) where possible
- estimated number and capacity of known charging stations and ports in service territory
- number of participants in TEP programs
- TEP spending, broken out by portfolio and program category
- TEP revenue, broken out by portfolio and program category
- estimated consumption of electricity (in kilowatt-hours) by electric vehicles
- estimated level of demand (in kilowatts) resulting from electric vehicles
- estimates for the amount of energy sold to program participants during on-peak and off-peak time periods, where feasible
- average costs for charging installations, including EV supply infrastructure and charging equipment
- geographical distribution of program participants and infrastructure investments

- reduced carbon emissions resulting from EVs and TEP programs
- reduced NOx emissions resulting from EVs and TEP programs
- insights drawn from customer experience and program performance, including customer surveys and Customer Effort Score results
- a summary of ongoing EV pilots and programs from other Xcel Energy service territories

6.2 Spend

The Company estimates costs for evaluation and stakeholder feedback for the TEP will be approximately $1,500,000 over the three-year plan. The third-party evaluator would be selected by the Company after the TEP is approved by the Commission.

6.3 Process

- *Host quarterly advisory group meetings.* Similar to the Company's demand-side management roundtable, the Company would host meetings intended to foster discussion about program in-market, gather ideas for continuing to improve the programs and portfolios, and discuss whether additional projects and programs are necessary in order to support transportation electrification in Colorado. The Company will also seek to participate in stakeholder processes, including the Colorado Electric Vehicle Coalition, to provide more frequent updates while seeking input and feedback. The Company will file a brief overview (via Powerpoint slides) of TEP implementation updates, expenditures, and any milestones achieved each quarter.

- *Provide data on key metrics in an annual EV compliance report.* Throughout the Transportation Electrification Plan period, Public Service will provide updates on key metrics in an annual TEP compliance report filed by April 1 of each following the first year of operation. This report would serve as the basis for any true-up adjustments to the CPCA rider to go into effect on July 1 each year. Additionally, Public Service will file a TEP budget and cost forecast on or before October 1 each year for inclusion in amounts to be collected in the CPCA rider for the upcoming year.

- *Engage third-party evaluators.* The evaluation of the programs and projects will provide information on certain metrics such as the customer experience and the impacts programs have on customer perceptions of electric vehicles, EV adoption, and the grid.

Portfolio	Program	Xcel Contribution	Customer Requirement and Contribution	Forecasted Quantity	Forecasted Spend	Low-Income Portion
Residential	Standard Home Wiring Rebate	$500 Rebate	Participation in qualifying rate or optimization program and balance of home wiring	15,100	$7.74M	$0
	Low-Income Rebate	$1,300 Rebate	Participation in qualifying rate or optimization program and balance of charging infrastructure	300	$0.40M	$0.40M
	Early Adopter Rebate	$200 Rebate	Participation in qualifying rate or optimization program and previously installed L2 charger	1,250	$0.25M	$0
	Home Charging Service	Installed L2 Charging Equipment	Participation in qualifying rate or optimization program and monthly payment ($13.29)	10,100	$8.09M	$0.24M
Residential: Outside TEP	Charging Perks & Static Optimization	DSM incentive	Load management			
	Residential Rates	Time-varying rate	Load management			
				Admin/O&M	$2.17	
				TOTAL	**$18.65M**	**$0.64M**
Multi-Unit Dwelling	Shared Parking – Site-Host Provided Equipment	EV Supply Infrastructure	Line Extension & Charging Equipment	230	$3.12M	$0
	Shared Parking—Full Service	EV Supply Infrastructure & L2 Charging Equipment	Line Extension & Monthly payment ($28.21 to $55.38 / port)	230	$0.63M	$0
	Assigned Parking—Full Service	EV Supply Infrastructure & L2 Charging Equipment	Line Extension & Monthly payment ($15.37 / port)	250	$1.93M	$0
	New Construction Rebate	$2,000 Rebate	Balance of EV wiring	475	$0.98M	$0.15M
	Multi-Unit Dwelling—Low -Income Rebate	$800-$2,200 Rebates	Balance of EV charger costs	96	$0.15M	$0.15M
				Admin/O&M	$1.48M	
				TOTAL	**$8.29M**	**$0.30M**
Commercial	Fleet & Workplace	EV Supply Infrastructure	Line Extension & Charging Equipment	1,415	$10.89M	$2.21M
	Fleet & Workplace—Optional Charger Service	EV Supply Infrastructure & L2 Charging Equipment	Line Extension & Monthly payment ($28.21 to $55.38 / port)	650	$1.77M	$0
	Fleet & Workplace — Low Income	$2,200-$45,000 Rebates	Balance of charger costs	160	$2.99M	$2.99M
	Community Charging Hubs	EV Supply Infrastructure	Line Extension Site locating/hosting Charging Equipment	314	$12.43M	$4.97M
	Community Charging Hubs – Low Income	$15,000-$40,000 Rebates	Balance of charger costs	216	$2.70M	$2.70M
	Public DCFC	EV Supply Infrastructure	Line Extension & Site locating/hosting Charging Equipment	186	$9.63M	$0
	Xcel Energy Public DCFC	EV Supply Infrastructure & DCFC	Rate per use ($0.90 / min and CPP of $3.75 / min)	24	$3.90M	$0
Commercial: Outside TEP	Commercial S-EV Rate and other time-varying rates	Time-varying rate with CPP	Load management			
				Admin/O&M	$4.12	
				TOTAL	**$48.43M**	**$12.86M**
Research, Innovation, Partnerships	Projects to be filed as Modifications	TBD through TEP Modifications			$5.00M	$0.50M
	School Bus Electrification	$2.2M total in grants	Balance of bus cost		$2.2M	
				Admin/O&M	$5.00M	$0.50M
				TOTAL	**$12.2M**	**$1.00M**
Advisory	Residential and Multi-Unit Dwellings	Education & Outreach			$0	$0
	Fleets	Assessments & Outreach		100	$2.5M	$0.25M
	Community	Plan and Implementation		60	$0	$0
				Admin/O&M	$10.60M	$1.06M
				TOTAL	**$13.10M**	**$1.31M**
Evaluation & Engagement	Evaluation & Engagement					
				Admin/O&M	$1.50M	n/a
				TOTAL	**$1.50M**	**n/a**