Missoula's Electric Vehicle Infrastructure Plan

August 2025

Missoula County ~ City of Missoula
MPO
METROPOLITAN PLANNING ORGANIZATION

Contents

Appendecies 68

Acknowledgments

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Acronyms

AC	Alternating Current
AFC	Alternative Fuels Corridors
ASUM	The Associated Students of the University of Montana
BEV	Battery Electric Vehicles
BIL	Bipartisan Infrastructure Law
CCS	Combined Charging System (J1772 and two DCFC pins)
CHAdeMO	DC Charging Connector
CO_2e	Carbon Dioxide Equivalent
DC	Direct Current
DCFC	Direct Current Fast Charger
DOT	Department of Transportation
EV	Electric Vehicles
EVSE	Electric Vehicle Supply Equipment
FHWA	Federal Highway Administration
HEV	Hybrid Electric Vehicles
ICE	Internal Combustion Engine
IIJA	Infrastructure Investment and Jobs Act
IRA	Inflation Reduction Act
IRS	Internal Revenue Service
J1772 (J plug)	AC Charging Connector
J3400 NACS	North American Charging Standard Charging Connector
kWh	Kilowatt-Hour
L1	Level 1 Charger
L2	Level 2 Charger
LRTP	Long Range Transportation Plan
MDEQ	Montana Department of Environmental Quality
MDT	Montana Department of Transportation
MDU	Multi-Dwelling Unit
MPO	Missoula Metropolitan Planning Organization
MUTD	Missoula Urban Transportation District
NEVI	National Electric Vehicle Formula Program
PHEV	Plug-in Hybrid Electric Vehicles
SOV	Single Occupancy Vehicle
SUV	Sport Utility Vehicle
UM	The University of Montana

Executive Summary

The Missoula Metropolitan Planning Organization (MPO), in partnership with the City of Missoula and Missoula County, has developed a comprehensive Electric Vehicle (EV) Infrastructure Plan designed to support a sustainable, low-carbon future for the region. This plan emerges from the pressing need to address climate change, improve air quality, and reduce greenhouse gas emissions—challenges that are intensified by Missoula's unique geography and rapid growth. As local temperatures continue to rise and extreme weather events become more frequent, shifting from single-occupancy vehicles (SOVs) to a diversified, sustainable transportation mix becomes essential. While it's essential to shift away from SOVs as much as possible, many people will continue to drive. In light of that, EVs are a critical part of the solution due to their lower life-cycle emissions and the potential for cost-effective ownership.

This plan provides a detailed overview of the current EV landscape, including an explanation of the different vehicle types such as Battery Electric Vehicles (BEVs) and Plug-in Hybrid Electric Vehicles (PHEVs), which both contribute to reducing tailpipe emissions. It also examines the existing charging infrastructure—ranging from Level 1 and Level 2 chargers to Direct Current Fast Chargers (DCFC)—and highlights the necessity for expanding community charging options to support residents, particularly those without at-home charging facilities. Despite relatively modest EV adoption rates in Montana, the plan emphasizes that strategic expansion of public charging networks and addressing common concerns like "range anxiety" will be crucial for future growth. An important aspect of the plan is its focus on equity; it seeks to ensure that all community members, including residents in multi-dwelling units, have access to the environmental and economic benefits of EV adoption, such as reduced fuel and maintenance costs and improved local air

In addition to technical and community considerations, the plan addresses the regulatory environment by reviewing local and state policies that impact EV adoption and infrastructure deployment. This includes discussions on the Electric Vehicle Charging Station Tax, additional registration fees for EVs, and potential funding opportunities.

Intentional public engagement was integral to the development of this plan. Through a series of community events, surveys, and interactive mapping exercises, residents and stakeholders provided valuable input that shaped the strategic vision. This feedback underscored the need for robust educational initiatives and ongoing outreach, ensuring that the community remains informed and involved throughout the implementation process.

Through these coordinated efforts, the Missoula area is poised to build a resilient, inclusive, and environmentally responsible transportation future that not only meets immediate emission reduction goals but also sets the foundation for long-term sustainability.

Strategy Overview

The EV Infrastructure Plan is structured around three key focus areas that will be detailed further with specific strategies:

- Expanding community electric vehicle supply equipment (EVSE) to ensure widespread access to charging stations;
- Leading by example through the transition of local government fleets to EVs; and
- Fostering education and engagement initiatives to empower residents, businesses, and stakeholders with the necessary information to embrace EV technology.

Phase 1 will take place from 2025-2027; Phase 2 will take place from 2028-2030.

Strategies are explained in detail in Chapter 3 of this plan.

Focus Area 1: Community Infrastructure

Strategy	Timeline
I-1. Standardize EVSE Permitting Processes	Phase 1
I-2. Enable EV Charging Infrastructure in Land Use Regulations	Phase 1
I-3. Designated EV Parking	Phase 1
I-4. Mapping and Gap Analysis	Phase 1
I-5. Accessibility Standards and Resources	Phase 1
I-6. Assess Opportunities for Public Charging at Local Government Locations	Phase 1
I-7. Standards for Installing EVSE in the Public Right-of-Way	Phase 1
I-8. Standards for City-Owned EVSE	Phase 1
I-9. Address Across-Sidewalk Charging	Phase 1
I-10. Incentivize EVSE Development	Phase 2
I-11. Develop Mobility Hubs	Phase 2
I-12. Utility Collaboration	Ongoing
I-13. Incentivize Electric Micromobility	Ongoing
I-14. Integrate On-site Renewable Energy Generation with EVSE	Ongoing
I-15. Support Existing Mode-Shift Priorities	Ongoing

Focus Area 2: Lead by Example

Strategy	Timeline
L-1. Silver Charging Smart Community Designation	Phase 1
L-2. Conduct County Fleet Analysis	Phase 1
L-3. Develop Vehicle and Emissions Reduction Policy for County	Phase 1
L-4. Review City's Vehicle and Emissions Reduction Policy	Phase 1
L-5. Create and Implement Local Government Fleet Vehicle Charging Plans	Phase 1
L-6. Peer Learning for EVs	Phase 1
L-7. Develop City Electric Fleet Branding	Phase 1
L-8. Gold Charging Smart Community Designation	Phase 2
L-9. Local Government Employee Commuting Incentives	Phase 2
L-10. Internal Fleet Workforce Development	Phase 2
L-11. First Responder Training	Ongoing
L-12. Grant Writing	Ongoing
L-13. Track Emerging Technologies	Ongoing

Focus Area 3: Education and Engagement

Strategy	Timeline
E-1. Engagement Outcomes and Transparency	Phase 1
E-2. Create Online Resources	Phase 1
E-3. Education Campaigns	Phase 1
E-4. Events and Demonstrations	Phase 1
E-5. Workplace Charging Outreach Program	Phase 2
E-6. Community Collaboration	Ongoing
E-7. Develop Educational Materials	Ongoing
E-8. Share EV-Related Laws and Legislative Updates	Ongoing
E-9. Financial Resources	Ongoing

Chapter 1
Introduction

This plan primarily considers the Missoula Metropolitan Planning Area, the planning area for the Missoula Metropolitan Planning Organization (MPO), which includes the City of Missoula and the adjacent urban areas of Missoula County. The actions in this plan will be carried out through collaborative efforts by the Missoula MPO, Missoula County, and the City of Missoula. These jurisdictions each have priorities that include reducing emissions.

Background

Climate change is impacting, and will continue to impact, the environment and people in and around Missoula. Montana's average annual temperatures have risen between 2.0 to 3.0°F between 1950 and 2015. By mid-century, Montana temperatures are projected to increase by approximately 4.5 to 6.0°F, and by end-of-century, they are projected to increase by 5.6 to 9.8°F from the 1950 base year. While the climatic changes experienced will vary greatly from place to place, **addressing climate change is particularly important in Montana because the expected state-level temperature increases are larger than the average changes predicted globally and nationally.** In general, some of the potential changes to our climate will include more days above 90°F, fewer frost-free days, more consecutive dry days, and an increase in minimum and maximum temperatures.[1]

The City of Missoula applies a "lens framework" to guide staff decisions, with Climate & Resilience being one of those lenses. Under this focus, the City is taking steps to reduce the adverse effects of climate change and to prepare for future challenges. Its climate goals are to achieve Carbon Neutrality in City Government Operations by 2025,[2,3] and to become Carbon Neutral as a community by 2050.[4]

Missoula County is dedicated to addressing climate change and enhancing resilience across both its government operations and communities. In its 2016 Growth Policy, the County acknowledged the threat of climate change, stating its commitment to reducing its contribution while promoting resilience and adapting to environmental impacts.[5] The County's climate objectives include achieving Carbon Neutrality in County Government Operations by 2035.[6]

Reducing community greenhouse gas emissions is a key component of the strategy to mitigate climate change. A 2019 greenhouse gas inventory revealed that the transportation sector accounts for 35% of the community's emissions , making it essential to target these emissions to meet Missoula's climate goals.[7]

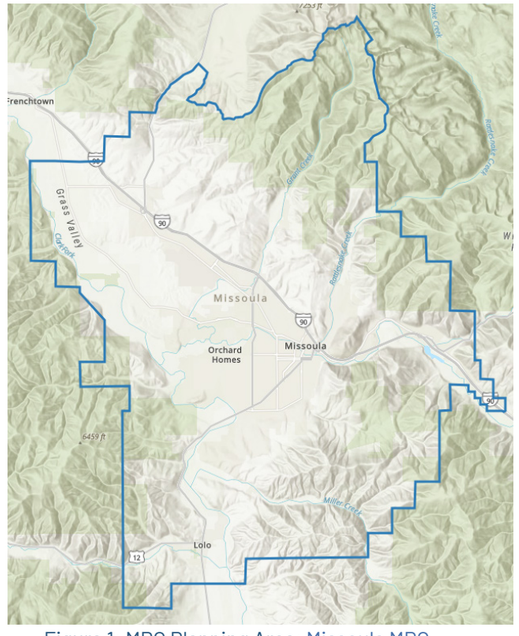


Figure 1: MPO Planning Area; Missoula MPO

An essential piece of reducing these emissions is housed in Missoula's mode-share goals, as established in the Metropolitan Planning Organization's (MPO) Long-Range Transportation Plan. By 2045, Missoula aims to reduce the drive-alone commute share to 34% (from 71.7%) and replace it with other types of trips. However, even if we achieve reducing drive-alone commute share, there will still be significant emissions associated with these trips—emissions that prevent Missoula from achieving the goals we've established as a community. Addressing these commute patterns is critical, but without also considering the emissions of all vehicles, we'd still be a long way from achieving our community climate goal of carbon neutrality by 2050.

Thus, electric vehicles (EVs), which produce less cradle-to-grave emissions than conventional vehicles,[8] are an integral part of the solution to meet our carbon neutrality and mode-share goals. Electric vehicles are unique in that they utilize (and often require) charging infrastructure instead of filling up at the gas pump. This plan will assess and consider what the ideal infrastructure could look like in Missoula, considering things including (but not limited to) location, types of technology used, cost, ownership, policies, and incentives.

What increased EV usage will look like could take many different forms but ensuring that local EV infrastructure considers environmental justice impacts is essential. A justice-oriented approach prioritizes equal access to the benefits, or "environmental goods" of EV adoption, such as improved air quality and public health, particularly for marginalized communities disproportionately affected by environmental issues. By mitigating historical environmental injustices, this plan minimizes the impact of transportation-related pollution in vulnerable areas. Emphasizing affordability, this EV plan also considers financial accessibility, enabling low-income households to participate in, and benefit from, the shift towards more sustainable mobility. Engaging communities in decision-making processes will ensure that this plan aligns with their unique needs. In essence, incorporating climate justice principles into Missoula's EV plan is not only ethically imperative but also crucial for building a resilient, inclusive, and sustainable future.

EV Landscape

Different Types of EVs

For the sake of this plan, we're defining an EV as a vehicle with an electric motor that can be powered solely by a rechargeable battery. **This scope encompasses battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs).** Hybrid electric vehicles (HEVs), which require gasoline and do not have a charging port, are not substantially included in the scope of this plan due to them not needing any additional fueling infrastructure.

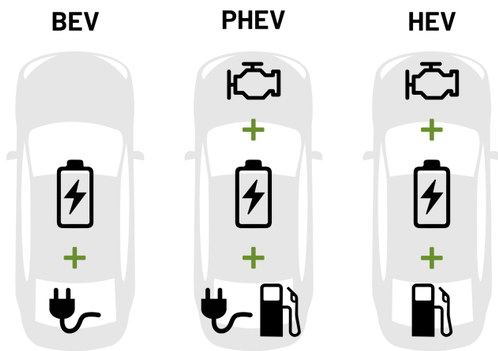


Figure 2: Graphic comparing BEVs, PHEVs, and HEVs

Unlike gasoline-powered vehicles, there is the potential for zero tailpipe emissions with EVs. While there may still be some emissions associated with the electricity use while charging EVs, the overall emissions are still fewer,[9] and as Missoula County and the City of Missoula continue to work towards the goal of 100% Clean Electricity by 2035,[10,11] the emissions that come from electricity production will continue to fall.

Battery Electric Vehicles (BEVs) are EVs with no gas engine. Instead of an internal combustion engine, these vehicles have an electric motor. A rechargeable battery pack is used to power this electric motor, and it is recharged by plugging into a wall outlet or using charging equipment, also called electric vehicle supply equipment (EVSE). These vehicles have a charge port, but no fuel tank.[12] Some popular examples of BEVs include the Chevrolet Bolt, the Nissan Leaf, the Tesla Model Y, and the F-150 Lightning.

Plug-in Hybrid Electric Vehicles (PHEVs) are reminiscent of traditional hybrid vehicles, but a main distinction is that these vehicles can travel for a limited range on just the electric motor, not consuming any gasoline. These vehicles have rechargeable battery packs, a charging port, and an electric motor, in addition to a fuel tank and an internal combustion engine (ICE). These vehicles typically run on electric power until the battery is nearly depleted, and then the car automatically switches to using the ICE. Since PHEVs vehicles contain the systems needed for both an ICE and electric vehicle, the all-electric-powered range is typically shorter than the range of BEVs because they have smaller battery packs due to the limited space.[13] Some popular examples of PHEVs include the Jeep Wrangler 4xe, the Ford Escape Plug-In Hybrid, the Toyota Prius Prime, and the Chrysler Pacifica Hybrid.

Heavy-duty EVs, like electric buses and street sweepers, are also becoming increasingly more common. For example, Missoula's Mountain Line public transit system has a goal of building a zero-tailpipe emissions fleet by 2035 and they already have many full-electric buses on the road.[14] Other communities, such as Havre, MT, have invested in electric school buses and are interested in acquiring more.[15] While the increasing adoption of heavy-duty EVs will result in significant reductions in tailpipe emissions, this plan does not focus on them substantially due to much of the adoption being in the hands of fleets with limited use for community-specific charging infrastructure.

EV Charging Infrastructure Background

EV charging infrastructure is typically divided into three types: Level 1, Level 2, and DC Fast Chargers (DCFC).[16] Level 1 chargers use standard 120-volt household outlets and are best suited for slow, overnight charging. Level 2 chargers operate at 240 volts, providing faster charging times and are commonly installed in homes, workplaces, and public areas. In contrast, DC Fast Chargers deliver high-powered direct current to rapidly recharge vehicles, though they require significant grid capacity and careful coordination with electric utilities.

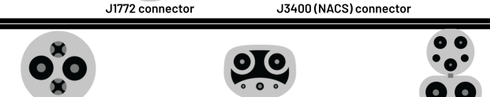
Level 1 (AC) Charger		Approximately 5 miles of range per 1 hour of charging
Level 2 (AC) Charger		Approximately 25 miles of range per 1 hour of charging
DC Fast Charger		Approximately 100 to 200+ miles of range per 30 minutes of charging

Figure 3: Common Types of EV Charging in the U.S.; Adapted from U.S. DOE

Benefits of EVs

While EVs may not be a "silver bullet" solution, they can have many associated benefits, from reducing climate impacts to reducing cost per vehicle mile traveled. Perhaps one of the most notable benefits of EVs is the elimination (or reduction, in the case of PHEVs) of tailpipe emissions. While running vehicles on electricity only, there are no associated tailpipe emissions, which has a positive impact on local air quality. **While there are some emissions associated with the energy production required to charge the vehicle, in most places the annual emissions produced are far lower with an EV over an ICE.** According to the Alternative Fuels Data Center, the national average emissions for a gasoline vehicle are about 12,500 lbs. of CO_2e (carbon dioxide equivalent). For PHEVs, that number drops to about 4,700 lbs. of CO_2e, and drops even further, to about 2,700 lbs. of CO_2e, for full-electric vehicles.[17] These numbers will vary place-to-place based on sources of energy production, but as we continue to work towards "cleaning" our grid EVs and PHEVs will produce even less emissions.

Due to the elimination of tailpipe emissions, there are also no smog-forming emissions (like nitrogen oxide, carbon monoxide, and particulate matter) emitted while the vehicle is driven, helping to improve local air quality.[18] While there are still upstream emissions associated with the electricity used to power EVs, the emissions are lower because of increased vehicle efficiency and the potential for this electricity to be produced without combustion. Considering upstream emissions, while there still is mining associated with the battery production of EVs, drilling associated with the extraction of petroleum is decreased due to the eliminated (or lessened, in the case of PHEVs) need for gasoline.

In general, initial purchase prices of EVs tend to be higher than ICEs; however, **costs continue to equalize** as production quantities increase and battery technologies mature. To lower the purchase price of EVs even further there are currently many rebates that may be available, for example the Clean Vehicle Tax Credit through the IRS could provide up to $7,500 off the purchase of a new EV or PHEV at the point of sale. Further, the cost of ownership (related to the cost of fueling and maintenance) is generally lower with an EV over an ICE of the same model.[19] EVs and PHEVs can reduce fuel costs dramatically, both because of the increased efficiency of electric-drive components and because of the low cost of electricity relative to conventional fuel.[20]

Maintenance costs with EVs are typically lower as well since the electric motors within them have fewer moving parts. With EVs there is no motor oil or transmission fluid to change; thanks to regenerative braking technology, they also need brake maintenance less often.[21] Plug-in hybrid electric vehicles, however, require the same general maintenance as conventional vehicles.[22] To compare the complete cost of different vehicles, the Alternative Fuels Data Center has published a tool called the Vehicle Cost Calculator to assist with this equation.

Performance of EVs is also something that distinguishes them from ICEs. Electric motors accelerate faster than ICEs, while also providing a quiet and smooth driving experience.[23] Since these motors can provide instant torque, they are able to accelerate quickly. A lower center of gravity due to battery placement also helps with stability and maneuverability.[24]

Nationwide Planning Efforts

Nationwide there have been significant efforts to improve electric vehicle infrastructure, especially along corridors that connect communities. Perhaps one of the most comprehensive planning efforts has been the U.S. Department of Transportation's (DOT) Federal Highway Administration (FHWA) National Electric Vehicle Infrastructure (NEVI) formula program, established under the 2021 Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). This program provided funding to individual states to carry out DC Fast Charger deployment along significant transportation corridors. Montana, for example, identified priority Alternative Fuel Corridors (AFC), as shown in Figure 2. **One of the main challenges associated with EV ownership is lack of fueling infrastructure which can cause "range anxiety."** This plan aimed to provide additional infrastructure on some of the corridors that are the most traveled by Montanans, thus decreasing that anxiety.

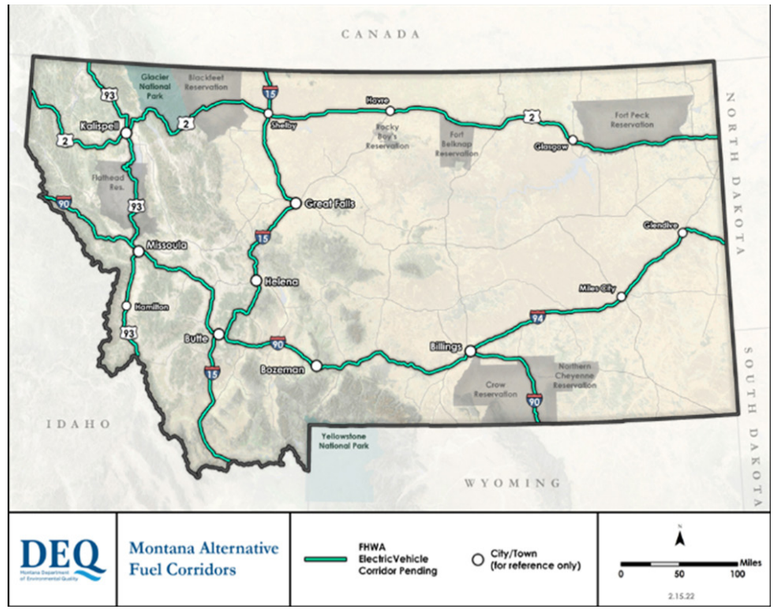


Figure 4: Montana Alternative Fuel Corridors; Montana DOT

Please note that on February 6th, 2025, the FHWA issued a memo explaining that NEVI Formula Program Guidance has been rescinded and therefore, the FHWA is immediately suspending the approval of all State Electric Vehicle Infrastructure Deployment plans. The FHWA is updating the NEVI Formula Program Guidance and aims to have updated draft NEVI Formula Guidance published for public comment in the spring of 2025 with updated final guidance to be published after.

IRA Funding

As of July 4th 2025, the Inflation Reduction Act was significantly modified, terminating Clean Vehicles and Refueling Property Tax Credits for vehicles acquired after September 30th, 2025, or for property placed in service after June 30th, 2025.[25] These tax credits included the New and Used Clean Vehicle Tax Credits, which were created by the 2022 Inflation Reduction Act (IRA). Through these tax credits, individuals looking to buy a used EV could receive up to $4,000 off qualified vehicles. For new EVs, this tax credit jumped to up to $7,500. What made this funding opportunity even more appealing is how this tax credit could be issued. Instead of the purchaser of the vehicle needing to wait for a tax credit after they file their taxes, the value of the tax credit could be transferred to the dealership so that the value of the credit is taken off the purchase price of the vehicle.[26] In addition to funding that reduces the cost of purchasing an electric vehicle, the IRA also provided a tax credit for electric vehicle charging infrastructure. For individuals, this tax credit covered 30% of the cost, up to $1,000 for charging equipment.[27] Electric vehicle and charging equipment tax credits also existed for business, fleets, and even tax-exempt entities.[28]

Battery Mining

Batteries are an essential component of electric vehicles. A majority of EVs and PHEVs on the market today use lithium-ion batteries, the same type of batteries used in many portable consumer electronics like cell phones and laptops. While these batteries are great in some respects, like power-to-weight ratio and a long life, there is ongoing research and development to address the less-desirable qualities of these batteries, their relatively high cost and cobalt usage.[29] Due to improvements in battery technologies and increases in manufacturing volume, costs of vehicle battery packs are constantly coming down. For example, between 2008 and 2022, the cost of an electric vehicle lithium-ion battery pack declined 89%, to an estimate of $153/kWh.[30] It is suggested that by late 2025 the price of batteries will fall to $99/kWh, a significant decrease from 2022.[31]

While these lithium-ion batteries are great for consumer electronics and electric vehicles, **the cobalt within them poses challenges.** Cobalt is mined almost exclusively in the Democratic Republic of Congo in what are often abusive and inhumane conditions.[32] While cobalt is endlessly recyclable in principle, battery recycling is not always guaranteed.[33] It is also important to consider that while cobalt can be recycled, many EVs are not near the end of their usable life, meaning that recycled batteries will not begin to address the increased cobalt demand anytime soon.

Context of Place

About Missoula

The Missoula MPO Planning Area, which includes the City of Missoula plus the adjacent urban areas of Missoula County is a quickly growing area located in the Northern Rockies in Western Montana. Missoula is in a valley at the convergence of five mountain ranges and is where the Blackfoot and Bitterroot rivers join the Clark Fork.[34] This unique geographic location, the thousands of acres of conservation and parkland in town and surrounding designated wilderness areas make Missoula a city where people are enamored with the landscape.

Part of what makes Missoula special, however, also brings challenges related to air quality. Since Missoula is situated in a valley, every night cold air flows downhill and pools in the valley. This flowing of air creates a temperature inversion, which can trap air in the valley.[35] Due to this, Missoula's air quality isn't as perfect as being a mountain town in the Rockies would suggest. Air pollutants, like car exhaust and wildfire smoke, can get trapped in the cold air caused by the inversion, creating conditions of unhealthy air quality. Exposure to these pollutants—especially fine particulate matter (PM 2.5)—can have serious health effects, including irregular heartbeat, aggravated asthma, decreased lung function, premature death in people with heart or lung disease, among others.[36] Some of this poor air quality can't be addressed, like the smoke that comes along with wildfires, which are anticipated to increase as we experience hotter and drier summers.[37] However, some air pollution, like the particulate matter that comes from the vehicles we drive, can be addressed, making it even more important to do so.

Figure 5: Missoula Sunset; Destination Missoula

Mode-Share Goals

When considering the ways that we can begin to address reducing our CO_2 emissions and air pollution associated with vehicles on the road, it's important to consider community goals that have already been established. While electric vehicles powered by clean electricity would address some of our communities' transportation goals, they would not address all of them. For example, as Missoula continues to grow, if everyone were to drive EVs all the time, this would address some air-quality and emissions related goals but would fail to address the mode-share goals established by the Missoula Connect Long-Range Transportation plan. **These mode-share goals aim to alleviate pressure on our transportation system while ensuring that we can achieve a sustainable transportation future that provides choice and improves safety and mobility for all Missoulians.** When considering all goals in tandem, the community is able to forward policy that helps Missoula thrive.

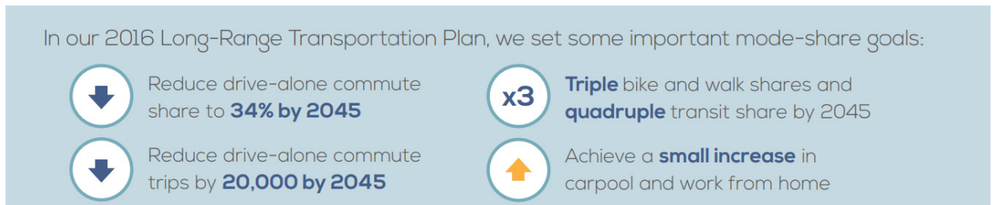


Figure 6: MPO Mode Split Goals; Missoula MPO

Considering this, it's important to establish that more single-occupancy-vehicles (SOVs) are not the goal of this plan; this plan aims to support previously established goals, like reducing the drive-alone commute share by 2045 to 34% of trips (from a 71.7% baseline), reducing drive-alone commute trips by 20,000, tripling bike and walk shares (5.2% and 5.9% baseline respectively), and quadrupling the transit share (2.6% baseline). While our mode-share goals establish an ambitious reduction in drive-alone trips, there will always be some amount of single-occupancy-vehicle trips in our community. For our community to meet our climate goals, like becoming carbon neutral by 2050, it's important that we work to reduce the emissions of the vehicle trips that remain. **Our goal is to reduce vehicular emissions by supporting charging infrastructure, but in line with the MPO's priority hierarchy**.

This EV infrastructure plan is designed to ensure that modes such as walking, biking, and public transportation are never compromised.

EV Considerations in Montana

Oftentimes when people are considering buying an EV, especially in Montana, there are some things that quickly dissuade them. **Some concerns are valid, others are sensationalized, and others are largely incorrect.**

Montana's geography and climate and how they relate to performance of EVs are important to consider. Extreme weather, like freezing temperatures, has been known to negatively impact battery power output. Consumer Reports found that **cold weather** reduces the stated range of EVs by about 25%, which needs to be considered, but **is not a significant concern if you can plan ahead.**[38] If your vehicle has a range of a couple hundred miles, you charge nightly, and you typically use your EV for a 50-mile round-trip commute, cold weather will have little-to-no impact on the drive. One example of electric vehicles holding up in cold winters comes from Havre, MT. Havre has been running electric buses for multiple winters now and the buses handle the cold without issue. Alan Woodwick, a bus driver in Havre said "we've had some issues with just a diesel and, you know, it was 40 below here a week and a half ago. But the electrics kept going and they did well."[39]

Another concern about EVs is how well they handle the mountainous terrain and snow that come with living in Western Montana. There are some aspects of driving an EV in the mountains that are almost identical to driving an ICE vehicle. For example, just as you would burn more gas driving up steep hills, you will also expend more of your battery in hilly terrain as opposed to flat roads. One distinguishing element of EVs in the mountains is that unlike an ICE car, EVs do not rely on combustion (which needs oxygen);[40] **ICEs become less efficient and lose power where the air is thinner, and EVs do not experience this** (however, if the temperature is cold, the battery range could decrease). **EVs are also well-equipped to handle the snow,** oftentimes better than their ICE counterparts. More and more EVs are becoming available with an all-wheel drive variant, but even two-wheel-drive EVs perform well in snow because of the heaviness and the evenly distributed weight of the batteries. EV batteries add a significant amount of weight in the floor of the vehicle, effectively lowering the center of gravity and providing for an even weight distribution, all of which benefit vehicle performance in the ice and snow.[41]

One very real concern, especially in Montana, is accessibility of charging stations. Access to charging stations is important on longer drives, such as long commutes or road trips. To support drivers with long commutes (and not enough electric range to make it to and from work), robust and convenient public community charging and workplace charging are critical. **This type of charging is what this plan seeks to support and address.**

The type of charging that supports longer drives, like road trips, is not covered by this plan, but there are already efforts being made to support this type of corridor charging. One example of this is the previously mentioned Montana EV Infrastructure Deployment Plan developed by the Montana Department of Transportation (MDT) and the Montana Department of Environmental Quality (MDEQ). This plan supports the goals of the previously mentioned NEVI program, which aims to craft a nationwide charging network. While this plan in its current form is no longer approved by the FHWA, it designates "Alternative Fuel Corridors" that prioritize certain routes to be supported by EVSE, and therefore usable by EVs. These corridors are I-90, I-94, I-15, Hwy 93, and Hwy 2. While these corridors are already fairly well built out in the western part of the state, the eastern part of the state is lacking.[42]

While investments in charging infrastructure are certainly needed to support EV adoption in the state, a common concern with siting EVSE infrastructure is the grid's capacity, or ability to handle the additional load. Although more work needs to be done to understand grid capacity in Missoula in particular, **the load on the grid differs greatly with different charger types.** DCFC chargers, unsurprisingly, have a significant load on the grid, whereas L1 and L2 chargers don't differ much from adding a new home appliance. While understanding grid capacity (and upgrades needed) for future EVSE investments is critical, the addition of home, work, and community charging in L1 and L2 capacities is not a significant concern, especially because these investments won't happen overnight. In other words, a "L1 or L2 charger can be installed almost anywhere by most electricians without disrupting normal grid operations."[43] When installing DC fast chargers, however, it's important to work closely with the electric utility.

Practicality of EVs

Other important aspects to consider prior to EV ownership are realistic scenarios, or considerations about how EVs could be incorporated into a driver's life. A common point of hesitation related to EV ownership is concern about range, especially if drivers like to venture on long road trips or far into the backcountry. While doing these things with an EV isn't impossible, they do require some additional forethought. One aspect that could make this a non-issue is two-car households, which happens to be the average car ownership in Missoula.[44] In these two-car households, purchasing a single EV could provide all the benefits of EV ownership (cheaper fueling, reduced emissions, less maintenance) while still providing a car that could be used for things like trips into the backcountry.

While moving away from ICE vehicles entirely will result in the greatest emissions reductions, a single EV in a two-car household could help families ease into EV ownership without additional stress, not to mention that a household replacing two vehicles at once is not very likely. In this scenario, hopefully by the time the household goes to replace a second vehicle, improvements in battery storage and charging infrastructure, as well as increased understanding of EVs, would make a second EV purchase a viable option.

For those who don't have a second car but are nervous about an all-electric car, or have determined that an EV would not address their needs, plug-in hybrid electric vehicles (PHEVs) could be a great option. While the estimated emissions of a PHEV are almost 1.5 times higher than an all-electric vehicle in Montana, they are still lower than those of a regular hybrid and a gasoline vehicle.[45] While PHEVs still have the additional maintenance of ICE vehicles, users could benefit from the cheap operating cost and reduced emissions of driving the vehicle using its all-electric range (which is typically between 20 and 40 miles).[46] For most people, this range is enough for a commute or errands around town, without any "range anxiety."

Another consideration related to EVs fitting into peoples' lives, especially in Montana, is towing capacity. Many EVs on the market today, especially trucks and SUVs, have towing capacities that rival similar ICE vehicles. For example, the 2024 Chevrolet Silverado EV has a towing capacity of 10,000lbs,[47] while the 2024 Chevrolet Silverado with an ICE has a towing capacity ranging from 9,100lbs to 13,100lbs.[48] The Rivian R1T currently has the highest maximum EV towing capacity at 11,000lbs,[49] but as technology progresses it's likely we'll see towing capacity continue to increase.

Keeping Your Old Car

Further, considering CO_2 emissions, a common perception is that it is better to keep the vehicle you have than to purchase a new vehicle. While this could occasionally be the case, in most scenarios it is not. While some emissions come from the production of the vehicle, most of them come from operating the vehicle. **For the typical EV made in the U.S. in 2023, the payback period, or break-even point of purchasing an EV (which measures how long someone needs to drive an EV before its lifetime emissions sink below those of an ICE vehicle) happens after driving 24,476 miles; the average American driver would hit that in 2.1 years.**[50] That payback period continues to decrease as we continue to clean our grid. While EVs would decrease emissions for most people, especially those who have a long commute or drive often, if you were to buy an EV and almost never drive it, there is a possibility that could be worse for carbon emissions than just keeping your old car.[51]

While the emissions from electricity production in Montana are slightly higher than the national averages, Montana still has a somewhat clean grid, with over 50% of the state's electricity sources coming from renewable sources (like hydro, wind, and solar).[52] Due to this electricity production that comes from clean sources, the annual emissions of a gasoline car in the state are about 3.5 times higher than an all-electric vehicle. Even in states with a less clean grid, like Wyoming (where about 72% of the electricity is generated from coal), all-electric vehicles have about half the annual emissions of gasoline cars.[53]

Equity & Affordability Concerns

An important goal of this plan is to consider equity in the community. **Related to EVs, this looks like ensuring that the benefits of EVs (e.g., reduced operating costs, reduced tailpipe emissions, better air quality, etc.) can be experienced by the entire community, not just a wealthy portion of it.** While it seems like EVs and ICE vehicles get closer and closer in price every day, it is also important to consider that there are many members of our community who choose not to drive or cannot afford to; investments in EVSE infrastructure should not negatively impact these people. Further, it is critical that any EV infrastructure in our community does not displace people (directly, like by increasing the cost of rent because of EVSE provided by a building, or indirectly, like by influencing neighborhood costs), but rather just supports those who desire to use an EV. While there may be no perfect way to achieve this, it has been a core consideration throughout the planning and community engagement process. This plan will also be iterative, so that it will continue to assess the impact it is having on the community.

A common argument against EVs is that they're not affordable, and this is not entirely true. While the initial costs of electric vehicles are typically higher than ICE vehicles, **more affordable EVs are frequently entering the market, in addition to financial incentives that help the purchase of EVs pencil out.** In 2024, the average new vehicle transaction price in the U.S. sat at around $47,000. The average price of a new EV sits at around $55,000.[54] Once available incentives were considered, these prices are strikingly close. Although some of the most sensationalized EVs, like the Tesla Cybertruck, could cost almost $100,000,[55] there are many practical EVs with a far lower price tag that are currently on the market. There are new vehicles, like the Nissan Leaf that have price tags under $30,000, even before considering incentives.[56] The Chevrolet Equinox, for example, has a price starting at $33,600[57] but since this vehicle qualified[58] for a federal tax incentive (available at the point of sale) of up to $7,500,[59] the purchase price could be as low as $26,100 for a brand-new electric vehicle. Those federal tax incentives can also applied to purchases of some used EVs, providing up to $4,000 off at the point of sale,[60] making EVs even more accessible to a wider audience, especially as more and more used EVs enter the market. While incentives are slated to phase out starting in 2025, many electric vehicles are still competitively priced.

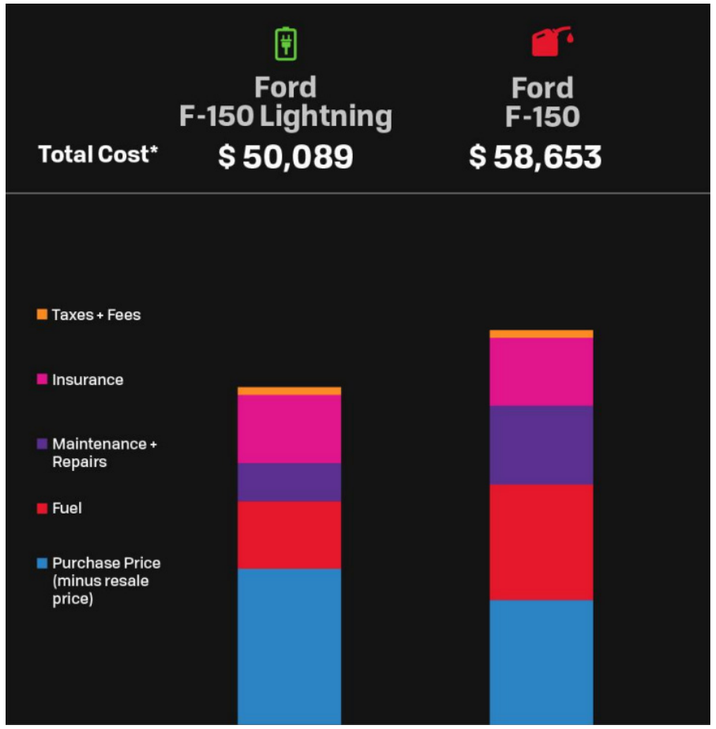


Figure 7: F-150 Cost of Ownership, based on 8yrs of driving; Atlas Public Policy

When considering the cost of EVs, however, it's important to consider the entire cost of ownership. **EVs, while often associated with a higher initial cost, have a much lower annual operating cost (due to reduced fuel and maintenance costs).** If you were to compare a new Hyundai Kona EV[61] and a new Hyundai Kona ICE,[62] without any incentives, driven the average amount for a household in Missoula,[63] the cumulative cost of ownership would break even after nine years.[64] With vehicles that qualify for federal tax incentives, like with the Chevrolet Blazer EV,[65] when compared to its ICE counterpart,[66] this break-even point happens within the first year of ownership.[67] Again, while vehicle ownership (especially for new vehicles) is out of reach for many, understanding the initial cost, and the total cost of ownership, and incentives that are available, could help bring the cost burden of transportation down for those who choose to, or need to, drive.

Another key component of equity is considering siting of EV infrastructure. **There are important considerations when envisioning equitable EVSE investment.** These considerations include low-income communities to ensure that cost-saving benefits of EVs are accessible to those who need them most; transportation costs in relation to income to ensure that those who are spending the most on transportation can access cost-saving benefits; and annual vehicle miles traveled to ensure that EVs can provide the greatest emissions reductions to our community. While sometimes these siting considerations are in tension with each other, above all staff will listen to the community, especially when it comes to public EV infrastructure. While a particular site may seem ideal, if no one in the neighborhood wants it, it's not ideal in practice.

One of the most significant barriers of EV adoption is housing, which impacts vehicle ownership in a variety of ways. **In general, it seems that the more affordable housing options in and around Missoula are less conducive to EV ownership, and this shows up in a variety of ways.** First, considering housing type, multi-dwelling units (MDUs), which include apartments and duplexes, can sometimes pose challenges related to EV charging at home. Unless properly planned for, EV charging with multi-dwelling units can be a significant barrier that changes with the built form of the housing.

While locating EV charging infrastructure at these properties isn't impossible, it does require some forethought and creativity—it's often not as simple as having a charging cord in a single-family garage. Instead, this could look like a shared EV charger in shared parking, metered outlets near individual parking spaces, running an EV charging cord from a ground-level unit to the street, utilizing shared on-street charging, or relying on workplace or fast chargers in the community. In addition to the challenge of locating chargers at MDUs, there's also the challenge of common ownership, or no resident ownership of the property. In these multi-dwelling units, common spaces are typically shared by all the building's owners or shared by all the tenants. In both cases, installing some sort of EV infrastructure would require buy-in from more than just the EV owner looking to install charging; approval would also have to come from the homeowner's association, landlord, or other similar entity. Further, with EVSE installed in a shared area, the question of who pays for charging often arises; although there are tools like smart meters to facilitate costs being passed on to those who use the charger, this is still an added complexity.

Figure 8: Image of EV Range; EV Connect

A second way housing impacts EV adoption is via the location of housing. If someone has a short daily commute, they may find that an EV is a great vehicle for them and that they are able to save money associated with daily transportation. However, if someone lives far from where they work, longer commutes could lead to increased "range anxiety," or fear of running out of charge. This results in an inequitable distribution because housing prices in Missoula are often higher than in neighboring areas. **The people and families who need to live further outside of town due to affordability also tend to spend more money on transportation; these people could benefit the most from potential cost savings related to EVs, but only if range concerns are addressed.** Most areas outside of Missoula spend more than 29% of their income on transportation-related costs. For example, people living in Alberton spend an average of 39% of their income on transportation.[68] These are the families that could benefit the most from a reduction in fuel costs, but barriers like lack of public charging availability likely limit the access to these cost reductions.

Many things can impact EV ownership, and many of the things that could encourage EV ownership may be out of reach to many people. For example, as discussed earlier, if a family has two cars and is interested in an EV but wary of going all in on EVs, they have the privilege of purchasing an EV while keeping their ICE vehicle. If a single-car household was equally wary of EVs, they would likely just purchase another ICE vehicle. While barriers to vehicle ownership are a big piece of this puzzle, there are also many smaller, often-forgotten barriers to EV ownership. Many aspects of some EVs, from locking the vehicle and turning on the air conditioning, to paying for charging or seeing the charging status, rely on a smartphone. Having a newer smartphone, accessing an online credit card linked to the smartphone, and similar technologies that are incorporated into some EV ownership may be a significant hurdle to some—for example, those who are lower-income or less technologically literate.

Figure 9: Image of EV Charging App; Kelley Blue Book

Chapter 2
Where We Are

Current State of EVs

It may not be much of a surprise that **Montana has one of the lowest EV adoption rates in the nation.** Montana's low population density and harsh winters aren't the perfect recipe for quick EV adoption, as the combination of limited chargers and potential reduced range from cold weather likely inhibit EV adoption. Until recently, the EV market also didn't supply many of the vehicles Montanans were looking to drive. In the state about 35% of all vehicle registrations are pickups, which is a higher share than every other state, aside from Wyoming.[69] As of April 2025, Montana had 8,675 EV registrations in the state, which accounts for 8.25 EVs per 1,000 people. In Missoula County, there were 1,125 EVs on the road (726 BEVs and 399 PHEVs) as of April 2025, which comes out to about 9.79 EVs per 1,000 people, a bit over the state average. Missoula County, however, is not leading the state when it comes to EV adoption; as of April 2025, Flathead County had 2,372 EVs on the road (1,718 BEVs and 654 PHEVs), or 22.82 EVs per 1,000 people.[70]

In Missoula County, there are 1,125 Electric Vehicles on the road, which comes out to about 9.79 EVs per 1,000 people.

EV adoption frequency seems to be a challenge of what comes first, the chicken or the egg? A concern with investing in EV infrastructure is that the charging stations will be underutilized, and a concern with buying an EV is that there will not be anywhere to charge conveniently. While there are many variables that can impact EV ownership growth scenarios, **in 2023, statewide EV registrations nearly doubled,** and they continue to grow quickly, showing a steep curve in EV adoption although numbers are still relatively low compared to those in other states.[71]

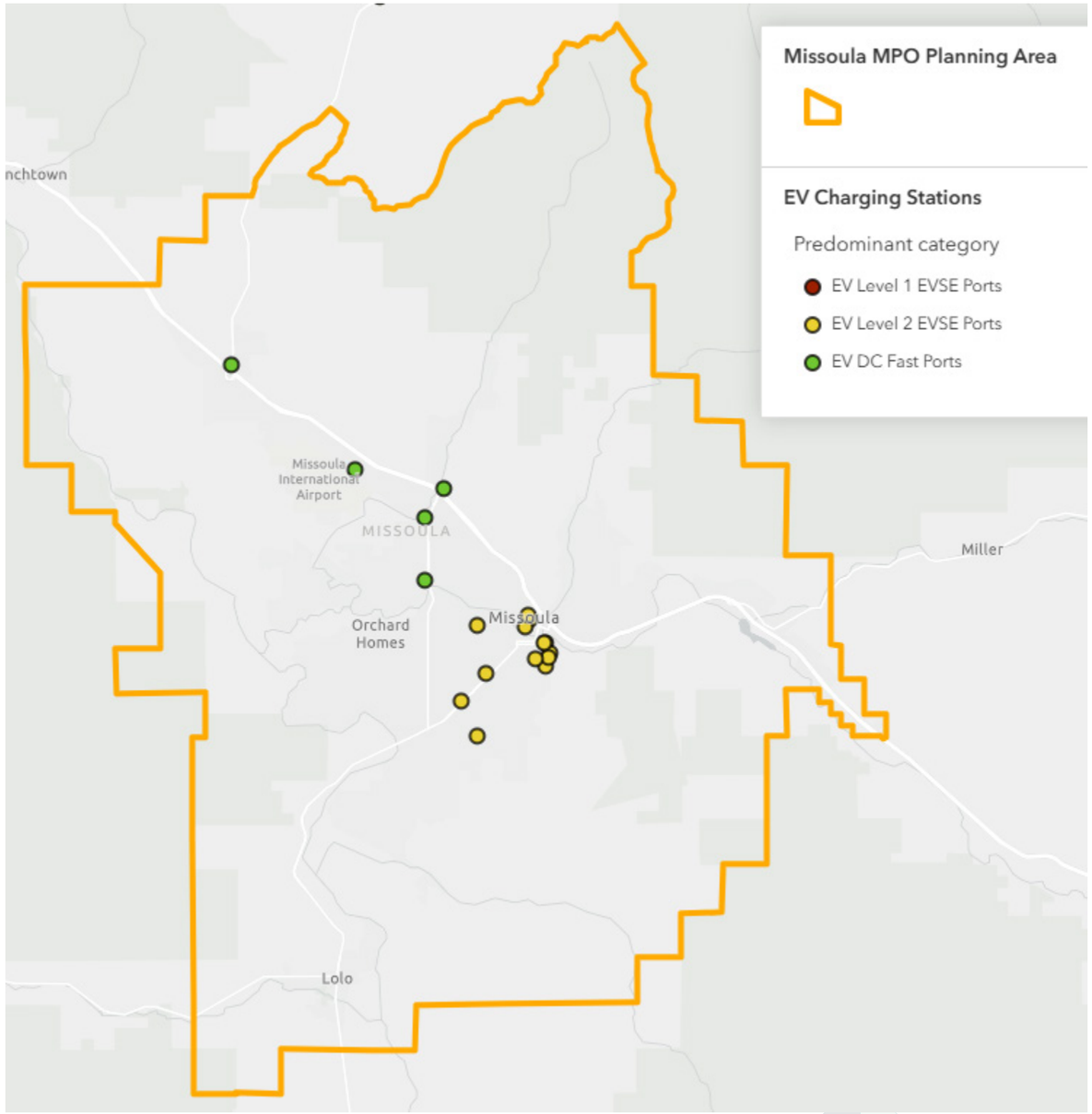


Figure 10: Map of EVSE In MPO Planning Area; ArcGIS

Current State of Chargers

As of May 2025, there were 18 public Level 2 or DC fast charger station locations inside of or within 10 miles of the City of Missoula. Some of these stations can charge multiple vehicles at once, for a total of 26 L2 charging ports and 25 DCFC charging ports.[72] Many of these charging stations are located along or near busier roads (like Brooks, Reserve, Broadway, and I-90). Although there are some chargers convenient for community charging, most of the existing charging locations are aimed at transportation corridors and folks traveling through them. While travelers and through-traffic therefore are comparatively well-served, an important consideration in siting new EVSE locations, is that chargers should ideally support people in all parts of the community. Without access to at-home (or at least near-home) charging, it would be very difficult for someone living in a neighborhood with limited off-street parking to own an EV, unless they worked somewhere that offered charging.

The map of chargers shown in Figure 8 is far from comprehensive; it only lists public chargers. In Missoula, all the public chargers are Level 2 or DCFC. There are likely many L1 and L2 chargers in use in a private capacity, helping people charge from home or at work. While charging from work and home is likely the most convenient way to charge, for many it is not a possibility. Considering this, building out the public charging network is critical to ensure that people can charge conveniently, further supporting them if they are considering purchasing an EV.

Considering EVSE utilization in Missoula, much of the understanding of use, due to varied ownership, is largely anecdotal. Many EV charging stations in town seem to be underutilized; rarely do all charging ports seem to be in use, even at peak times. There are likely many reasons for this, such as low adoption of EVs, EV owners preferring to charge at home or work, or visitors choosing not to visit with an EV due to a lack of corridor charging build-out around Missoula.

Interestingly, the number of BEVs per DCFC port in Missoula is far lower than it is in communities with high EV adoption, potentially signaling that the primary EVSE investments in Missoula, until now, have been focused on these DCFC chargers. For example, in Missoula County there are 43.27 EVs per DCFC port; in Denver County (Denver, CO) this number jumps to 210.84; it's even higher, at 228.27, in Multnomah County (Portland, OR). Those other communities, of course, have a much larger total number of chargers than Missoula, but we are certainly at-par with or ahead of them when compared to our currently lower level of EV adoption.

In cities with high EV adoption rates, it seems that L2 chargers have emerged as by far the most common. Their unique combination of low installation cost and semi-fast charging capability make them a good choice for community charging. Considering Level 2 ports per vehicle, the numbers in Missoula are comparable to these high-adoption cities. In Missoula County, there are 36.29 EVs for every L2 port. In Denver County and Multnomah County these numbers are 26.86 and 43.83, respectively.[73]

Put another way, these numbers suggest that while Missoula may not have the highest EV adoption rates, it seems that when considering comparative numbers alone, **the charging infrastructure per EV in Missoula is decent for our current level of EV adoption, and not necessarily behind.** These numbers, however, do not consider the location and quality of the EVSE in and around Missoula; it's unclear if the EVSE in Missoula truly benefits the community and supports those considering EV adoption.

While it may not be a perfect representation of the entire community, **data from the charging stations at the University of Montana (UM) can begin to show community usage of EV charging stations.** For some time, UM had four charging stations with eight charging ports total, and they added a fifth charging station in March 2024 to bring them to a total of ten charging ports. From April 2023 to April 2024, these charging stations on UM's campus experienced 651 charging sessions, with an average of about 1.78 sessions per day, and the most charging sessions in one day was eight sessions.[74] While this number of charging sessions doesn't point to an overwhelming demand for EV infrastructure, it does indicate that **charging stations, when well-placed in the community, do receive regular use.** It's also important to point out that because these charging stations are on a university campus, the utilization of these chargers fluctuates based on school schedules. For example, the longest stint of low/no charger utilization was at the end of December and the beginning of January, right when students are out for a break.

Figure 11: Charging at the University of Montana campus; University of Montana

Community Driving Trends

Missoulians get around the region mostly by driving, with driving alone holding 71.7% of the mode share. Drive-alone rates among Missoula area residents "are less than the state average, and active transportation modes are well above what we see in the rest of the state and among the highest rates in the country."[75] However, Missoula still has relatively low density and a large area; **driving is often the fastest and most convenient way for folks to travel, making reducing tailpipe emissions critical work.**

In the City of Missoula, the 2023 Daily Vehicle Miles Traveled (DVMT) was 1,201,460.[76] Considering that the estimated population for Missoula in 2023 was 77,757 people,[77] this calculates to about 15 miles per day per person. While this is not perfectly representative of average daily driving (since some people do not drive), it shows that for daily driving averages, **the range of an electric vehicle would meet and exceed the driving averages for most Missoulians.** It's also been found that Missoula area residents spend "an average of 17 minutes traveling to work each day, compared to the national average of 25 minutes."[78]

Electric Public Transit

In Missoula, electric public transit has now become commonplace. In September of 2019, Mountain Line / MUTD (the Missoula Urban Transportation District) put their first six battery electric buses into service.[79] In February 2020, the Missoula Urban Transportation District passed a resolution that established their goal to eliminate vehicle tailpipe emissions by 2035.[80] Since then, Mountain Line has been making significant progress to reaching its goal of zero-tailpipe-emissions. **In 2025, Mountain Line's full-size bus fleet is expected to be functionally 100% electric, meaning they'll have enough buses for peak service needs.**

In addition to Mountain Line's buses, the UDASH fleet of buses, operated by ASUM (the Associated Students of the University of Montana), is partially electric with over 50% of the fleet having zero tailpipe emissions.[81] The University of Montana was the first campus in the US to incorporate fast-charging electric buses into its fleet.[82]

Not only are these electric buses critical components of reducing our community's air pollution, they also can serve as excellent examples of how electric vehicles can serve our community year-round and in all conditions. Mountain Line buses have experienced a 30 to 40% reduction in range in single-digit temperatures, but despite this, with some forethought, they remain a reliable source of transportation.[83]

Other forms of electric shared mobility, like e-scooters and e-bikes, have long been a contentious issue in Missoula. During a City Council meeting in 2019, many community members provided public comment related to e-scooters, and all the comments were against the idea of franchises renting out e-scooters in Missoula.[84] While there are many concerns related to these types of micromobility devices, many of them can be addressed through a cautious approach. Considering this, **micromobility options like e-scooters and bike-sharing aren't off the table and could still be components of Missoula's future transportation options.[85]**

Figure 12: One of Mountain Line's all-electric buses; Missoula Current

Laws and Policies in Place

EV Laws & Regulations in Montana

While this plan aims to create the ideal EV infrastructure for the community, this infrastructure must support people in practice, not just in theory. In this, the laws and regulations in Montana that relate to EVs and EVSE are critical to understand and work within.

The **"Carbon Penalty Prohibition"** (MCA 7-1-111) effectively states that local governments are prohibited from imposing penalties, fees, or taxes on things related to carbon.[86] For example, this prohibition makes it so that **local governments cannot charge a carbon tax on gasoline or on the sale of ICE vehicles.** While this prohibition doesn't allow fees on things that are carbon intensive, it notably does not limit providing incentives on things that are less carbon intensive, like electric vehicles, for example.

Montana has an **"Electric Vehicle Charging Station Tax"** (MCA 15-70-803) which subjects the sale of electricity by public EV charging stations with a rated capacity of 15kw or greater to a tax of $0.03 per kilowatt-hour. This tax revenue is used to fund state highways and requires all new public charging stations to install a meter capable of measuring the electricity used by just the charging station(s), and the installation of said meter is paid for by the charging station owner.[87]

In addition to standard registration fees, **Electric Vehicles (EVs) and Plug-in Hybrid Electric Vehicles (PHEVs) are also subject to additional registration fees** (MCA 61-3-527, 15-70-126). These fees differ based on the type of vehicle registration (annual or permanent) and are adjusted based on gross vehicle weight rating. These fees are also used to fund state highways.[88]

Some aspects of these regulations can restrict EV adoption. For example, the Electric Vehicle Charging Station Tax requires DCFC station owners to install a separate meter, driving up costs for those looking to install a charging station. In addition, entities that want to provide subsidized options, where they absorb some of the costs of charging, are still taxed at the same rate as they would be if they were operating a market-rate charging station; this makes it even more costly for subsidized charging, which has been shown to incentivize EV ownership.[89] **Other aspects of these regulations, however, are likely to reduce some of the qualms related to electric vehicles.** For example, a frequent concern that is brought up about EVs is the impact of the heavier vehicles on the roadways, causing more necessary maintenance. This concern is directly addressed through the increased tax funds that are levied on EVs and apportioned to support state highways.

Current Policies & Code

In Missoula, EVs have not been addressed substantially in policy or code, with some integration of EVs being included in the 2025 Unified Development Code. In the City, consideration of electric vehicles appears in the Vehicle and Emissions Reduction Policy, an internally facing policy that directs staff to reduce total GHG emissions associated with the fleet through optimizing fleet size, purchasing new vehicles that produce the best available net reduction in emissions, encouraging eco-driving best practices, and reducing total vehicle miles traveled.[90] This policy has been an effective first step in reducing emissions associated with fleet vehicles and has charged the City to purchase electric vehicles when they meet the identified needs of the vehicle. Hurdles still exist, however, with the most substantial of them being challenges related to charging infrastructure (as many City buildings are expected to move locations or undergo some substantial change soon) and procurement (as EVs and PHEVs have been in low supply, which has limited the City's purchasing power and availability to get them at reduced prices). In addition to the Vehicle and Emissions Reduction Policy, electric vehicle purchasing and workplace charging are both forwarded as strategies in the City of Missoula Conservation and Climate Action Plan.[91]

In Missoula County, electric vehicle charging stations are incentivized in the zoning code. Through this incentive, each Level 2 charging station per parcel or project provides two development incentive points which can be put towards six different bonus types (density, setback, height, maximum footprint, parking requirement, and maximum lot coverage).[92]

Figure 13: EV Charging across the sidewalk in Missoula; Missoula Current

Current Environmental Impacts

CO_2 Reductions with the Current Grid

EVs reduce carbon pollution in all U.S. states today. Even in states like West Virgina and Wyoming, where coal makes up about 91% and 73% of energy breakdown, respectively, driving an electric vehicle still reduces CO_2 emissions.[93] In Montana, where about half of our energy comes from "clean" sources like hydro and wind, driving an electric vehicle reduces CO_2 pollution by 65% compared to gasoline, considering today's grid breakdown.

When considering electric vehicles, a significant amount of the associated emissions (about 66%) come from the production of electricity to fuel the vehicles.[94] This is one of our largest opportunities to reduce emissions associated with EVs; **as we continue to work to decarbonize the electricity sector, the emissions associated with the electricity use of EVs will continue to drop.**

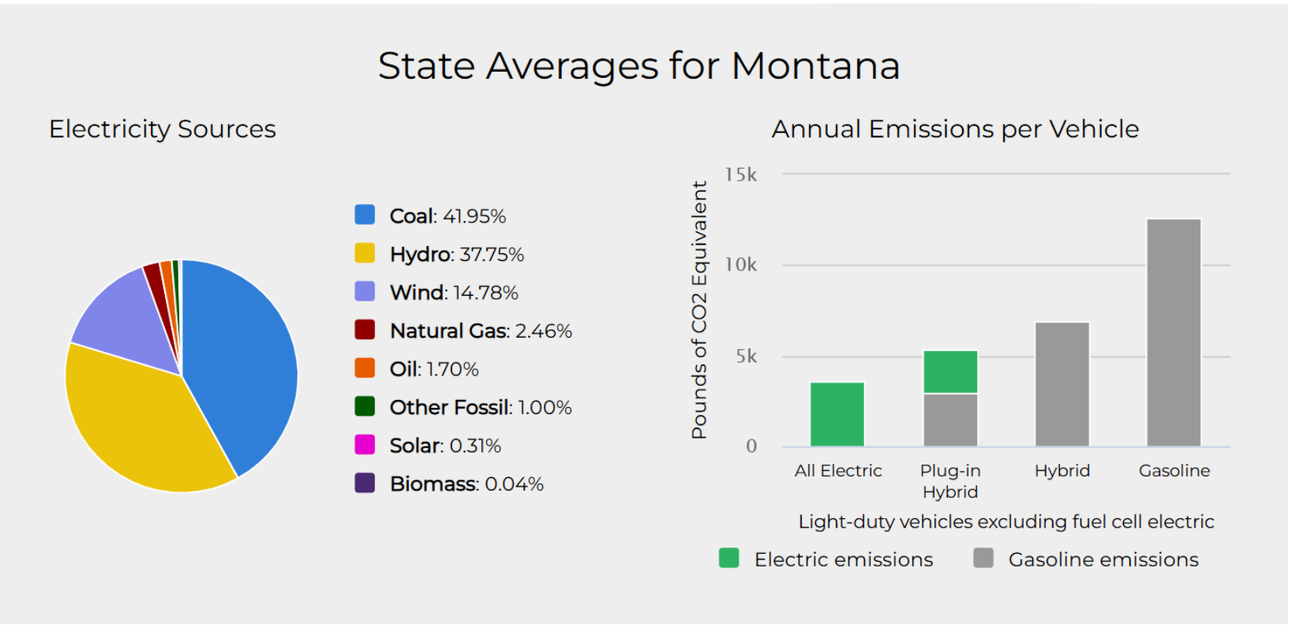


Figure 14: Electricity sources and emissions per vehicle in Montana; U.S. DOE

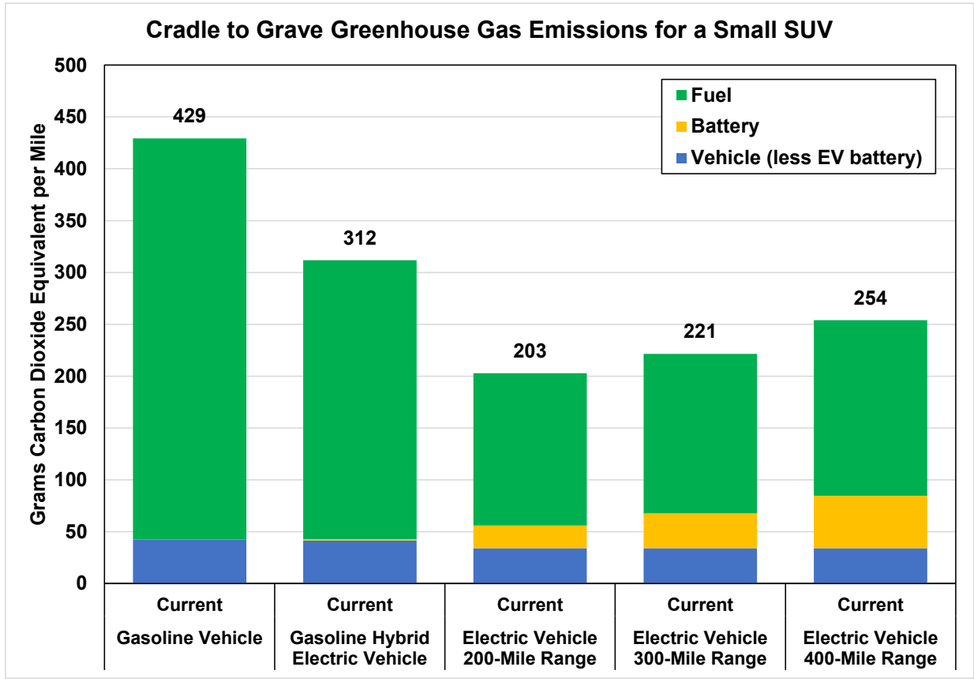


Figure 15: Cradle to Grave Greenhouse Gas Emissions for a Small SUV; U.S. DOE

Life-cycle Emissions of Single Occupancy Vehicles

Electric vehicles are not a silver bullet in addressing the problems in our transportation sector. While it's clear that electric vehicles reduce CO_2 emissions when compared to ICE vehicles, a common concern is related to the life-cycle emissions of EVs; there's a common perception that the additional emissions associated with battery manufacturing negate the savings in use phase emissions. While working to reduce the emissions of battery manufacturing is something we need to continue to focus on (in tandem with other pieces, like ethical mining of minerals), **even though the production emissions for EVs are about 40% higher than ICE vehicles, there is still a significant reduction in emissions—about 16 tons of CO_2 equivalent—throughout the vehicle's lifetime.**[95,96] Another study by the Office of Energy Efficiency and Renewable Energy, which examined the cradle-to-grave emissions per mile for a small SUV, found that the emissions of a current EV with a 200-mile range were less than half of those of a ICE vehicle (203 gCO_2e versus 429 gCO_2e).[97]

Community Engagement

Overview

Beginning in January 2024, the City of Missoula participated in a peer learning cohort through the U.S. Department of Energy's Clean Energy to Communities (C2C) program. Missoula was one of 15 entities selected to participate in the cohort with the topic of "Integrating Community Priorities into Electric Vehicle Plans and Projects." To support the implementation of the lessons learned from this cohort, the City of Missoula was partnered with Yellowstone-Teton Clean Cities (YTCC), our local Clean Cities Coalition. YTCC was able to share the lessons they've learned relating to EV adoption in our region, in addition to providing their support in a variety of ways. This cohort informed and supported the development of an engagement plan which included the following.

A robust community engagement process was conducted from July 2024 to February 2025 to guide the planning and implementation of electric vehicle supply equipment (EVSE) infrastructure. The primary goals of this engagement were to better understand community needs and perceptions related to EVSE siting and ownership, as well as to identify barriers and opportunities for electric vehicle (EV) adoption. This effort aimed to ensure that EV infrastructure would be equitably distributed, addressing community concerns while maximizing the environmental and economic benefits of EVs.

The engagement gathered input necessary for infrastructure planning, such as identifying optimal EVSE locations, addressing charging access for residents without off-street parking, and ensuring that EV infrastructure aligns with multi-modal transportation goals. Another priority of the engagement was including underrepresented and underserved communities, especially those communities that can be most impacted by EV infrastructure and have limited access to off-street parking at home.

To achieve these objectives, various public and stakeholder engagement strategies were employed. Public outreach efforts included hosting an EV ride-and-drive event and car show, organizing two open houses for community discussions, publishing an online survey that gathered 70 responses, and creating an interactive "Engage Missoula" page for idea-sharing and mapping potential EVSE locations. We also tabled at local partner events to meet community members in accessible, familiar spaces.

Figure 16: Display boards at EV plan open house; Big Sky PR

The public engagement process revealed valuable insights into community perceptions.[98] Seventy-two percent of participants expressed enthusiasm for EVs, citing cost savings, environmental benefits, and improved charging access as major motivators. The remaining 28% showed interest but also raised questions or concerns, highlighting the need for more education and clear incentives. Participants identified high-need areas for EV infrastructure and expressed a desire for financial workshops, hands-on charging demonstrations, and simplified guidance for EV adoption.

Based on this feedback, several key recommendations were developed. These included prioritizing educational campaigns in the City's strategies, such as hosting interactive EV events and creating clear communication materials to emphasize the cost savings and benefits of EV adoption. Infrastructure expansion was also recommended, with a focus on high-need locations and partnerships with local businesses to improve accessibility. Additionally, innovative solutions for residents without off-street parking and the integration of EVSE with multi-modal transportation goals were identified as priorities.

This engagement process represents a significant step toward building a sustainable and equitable EV infrastructure network in and around Missoula. By prioritizing inclusivity, addressing community concerns, and aligning infrastructure with community needs, we are well positioned to maximize the benefits of EV adoption for all residents. While there have been many key learnings from this first phase of engagement, this engagement process was not comprehensive; **ongoing community engagement will continue throughout the implementation of the plan's strategies.**

Mapping Outcomes

Residents were able to map preferred locations for EV infrastructure, both online via the Engage Missoula page and in person at our open house events.[99] Respondents were simply asked where they wish to see EV infrastructure, and importantly, they may be envisioning very different uses for EV infrastructure—people may be considering pieces like workplace charging, charging that supports businesses, charging for people on the interstate, and others. Despite these broad considerations for EV infrastructure, **many locations plotted are areas with high dwell times close to business centers, or areas where people tend to stay for some time.** This preference of charging near areas where people are parking and staying for some time suggests that Level 2 charging infrastructure could support how the chargers would be used. A vast majority of the mapped preferred locations were in, or near, downtown. Other preferred locations differed widely, with people selecting locations at trailheads, community centers, large workplaces, travel corridors, and others.

These maps are useful as an initial look at where people would prefer EV infrastructure, yet there are multiple pieces of information that aren't included in these maps. Future iterations of preferred location mapping should consider the reasons why people are selecting locations (e.g., is a downtown location selected because it could support downtown residents without access to off-street parking, or is it selected to support patronage of businesses?). Future iterations could also include the identities of the respondents to better inform decisions (e.g., residents of a neighborhood could plot where they'd prefer to see infrastructure, or business owners could plot where they'd like to see charging in their district).

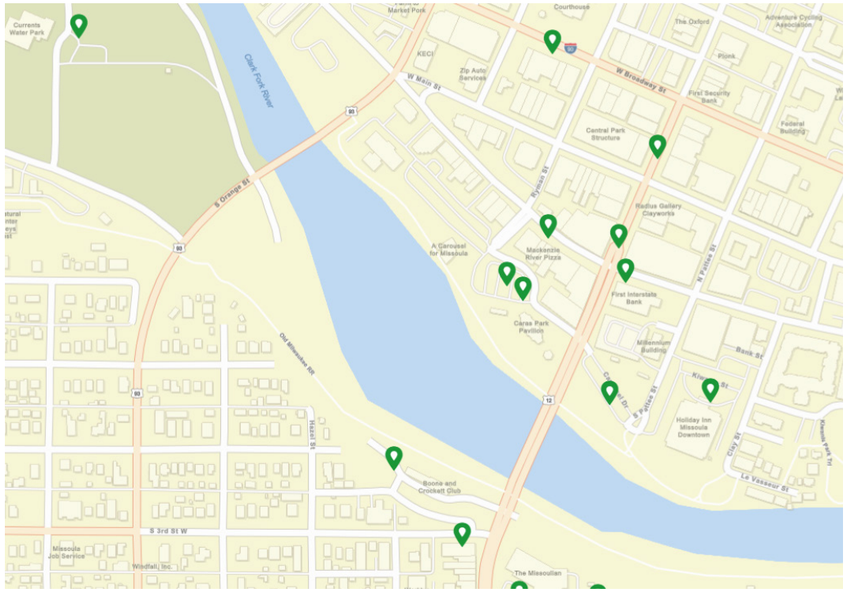


Figure 17: Some of the proposed locations for charging infrastructure; Engage Missoula

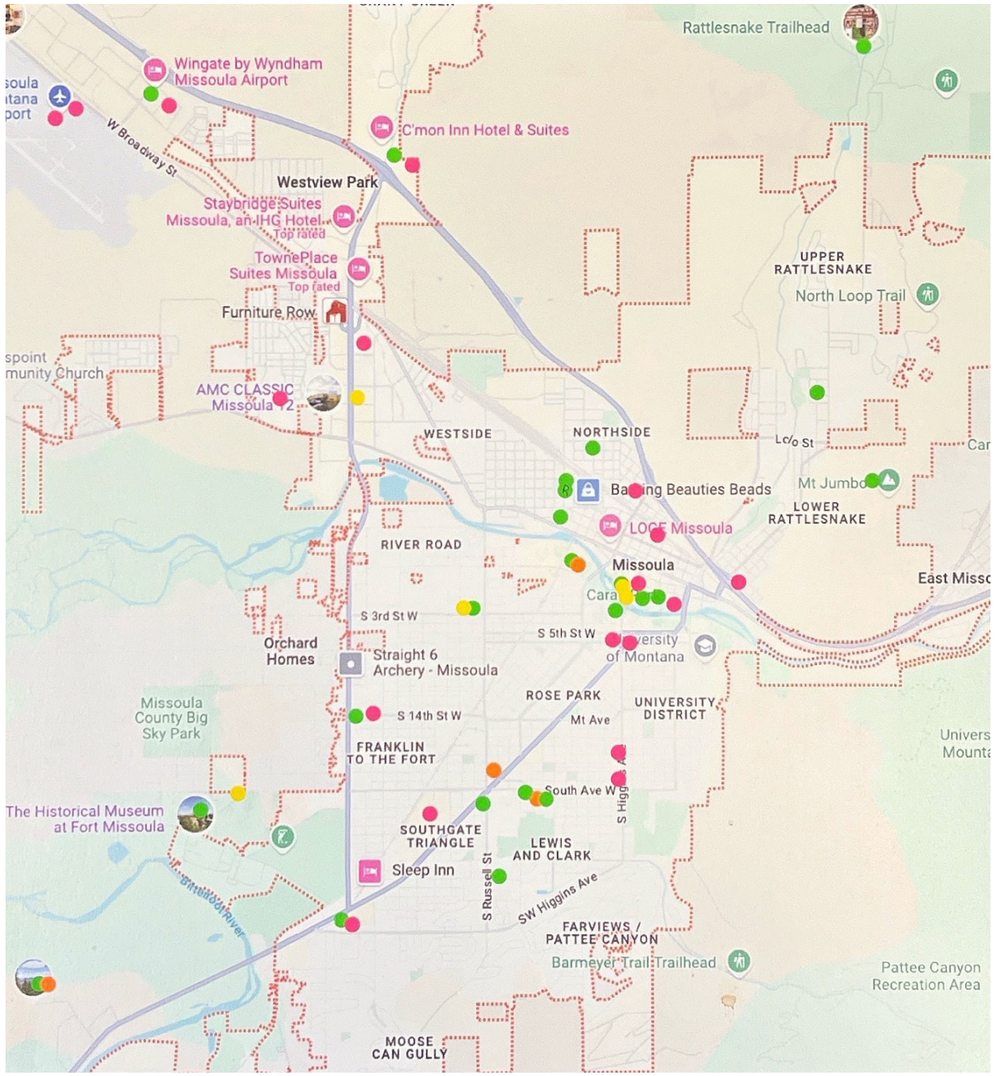


Figure 18: Map of proposed locations for charging infrastructure shared during open house events. Dot colors are random and do not represent any additional information.

Electric Vehicle Advisory Group

In addition to public outreach, we developed an EV Advisory Group composed of representatives from key organizations. The advisory group was structured to share recommendations on strategies, priorities, implementation opportunities and challenges, and outreach. This group provided multiple opportunities for oversight and guidance from external stakeholders, helping—highlight and reduce bias among planners and leaders; limit and correct jargon in outreach and messaging; foresee and navigate potential challenges from multiple perspectives; create more community friendly engagement; bring attention to overlooked areas; accelerate implementation and adoption; create short- and long-term opportunities for collaboration; and enhance community capacity and connection for other initiatives.

Organizations represented included: Summit Independent Living, Destination Missoula, Missoula Downtown Partnership, Missoula Housing Authority, Clearwater Credit Union, Climate Smart Missoula, Missoula Tenants Union, the University of Montana, Southgate Mall, Missoula Public Health, and others.

The group met three times during the engagement period. The first meeting focused on raising awareness, identifying desired outcomes, and understanding community values.[100] The second meeting presented initial findings, draft recommendations, and implementation strategies while soliciting feedback. The final meeting shared final recommendations and prepared stakeholders for implementation. This group participated in an iterative feedback process; their recommendations have been incorporated on an ongoing basis into the plan strategies.

Chapter 3
Where We're Going

Strategy Overview

The following strategies outline the next steps to support EV infrastructure in Missoula and the surrounding areas. **These strategies will inform internal workplans and summarize our efforts for the community.** Through internal conversations, partner meetings, and public engagement, three focus areas have emerged.

- The first focus area, **"Community Infrastructure,"** addresses how local government will support charging infrastructure to benefit the community. It addresses how local government can simplify adoption of private EV infrastructure, as well as outlines specific processes that will detail how public and private entities can work together to support EVSE adoption.
- The second focus area, **"Lead by Example,"** focuses on internal efforts conducted by local government. The City of Missoula, the Missoula Metropolitan Planning Organization, and Missoula County will support the implementation of these strategies. This focus area aims to inform the community of the government's efforts to electrify vehicles, support internal efforts and future electrification, and shape how EV adoption can be supported in the community moving forward.
- The third focus area, **"Education and Engagement,"** details next steps to take that will support EV adoption and EVSE installations through information sharing. This focus area aims to give residents all the information they need to make informed decisions relating to EVs—regardless of if they're a business owner looking to install a charger, or a resident curious about buying an EV for the first time.

Figure 19: New, all-electric Mountain Line bus at the 2024 Climate & Clean Energy Expo

Strategy Implementation

Each of the following strategies will have at least one designated lead from the City of Missoula, Missoula County, or the Missoula MPO (i.e., the "responsible entities") who is responsible for coordinating all related tasks. This lead will act as the central point of contact, ensuring that all internal teams and external partners are aligned and informed throughout the process. They will develop a simple, yet clear, timeline that outlines major milestones, and set both short-term and long-term deadlines. Additionally, this designated lead will regularly update a small steering committee—comprising key representatives from each entity—to review progress, address challenges, and make necessary adjustments to keep the strategy, and the entire EV Infrastructure Plan, on track.

Focus Area 1: Community Infrastructure

Supporting and investing in community Electric Vehicle Supply Equipment (EVSE) is a critical strategy to support our community's transition to electric vehicles. This plan aims to support community infrastructure in a few main ways. One priority is that EVs and EVSE should not compete or take priority over other low- or no-carbon transportation infrastructure—rather, EVs and EVSE can support other modes of transportation. Another priority relating to community infrastructure is doing what we can to simplify, encourage, and assist with private EVSE. We want EVSE to be easy to implement, so we're looking at land use regulations, permitting processes, and ordinances to ensure that they're not a cumbersome hurdle when someone is thinking about purchasing an EV or installing a charger. Lastly, we want to develop internal processes in local government that help outline how we're interacting with external entities to support charging infrastructure. This could look like collaborating closely with our utility, developing standards for utilization of the right-of-way, or creating guidelines for working with private charging companies.

Local government in Missoula is prioritizing support for community EV charging by simplifying private investment, integrating EVSE with other low-carbon transportation, and promoting equitable access to charging infrastructure.

When considering community EV infrastructure broadly, **our community's primary role is to support, simplify, and assist with charging infrastructure investments from the private sector. Further, we also aim to ensure that electric vehicles and EVSE are accessible to as many in the Missoula area as possible.** Many in the community do not have access to off-street parking, and to ensure that the benefits of EVs can be distributed equitably, we're also looking at innovative solutions for community charging infrastructure. Examples of this could include opportunities for programs like across-sidewalk charging or working with private entities to support curbside charging in areas that have high concentrations of multi-dwelling units.

Figure 21: Curbside Charging in Vancouver, BC, Canada; Google Maps Street View

Community Infrastructure Strategies

Strategies	Responsible Entities	Estimated Timeline
I-1. Standardize EVSE Permitting Process. Develop streamlined and transparent permitting guidelines for EVSE installations that reduce barriers; adopt a standard EV charging infrastructure permit application process along with a permitting checklist.	City; County	Phase 1: 2025-2027
I-2. Enable EV Charging Infrastructure in Land Use Regulations. Permit chargers as an accessory use to parking lots in all zoning districts, by right; define primary use standards for charging infrastructure as its own use (not as a fueling station) and enable such uses in commercial zones.	City; County	Phase 1: 2025-2027
I-3. Designated EV Parking. Establish "EV Parking" as a formal category in code and forward best practices in signage and striping to ensure it is properly utilized. Work with Parking Commission to establish protocol for parking enforcement and charging / parking costs.	City	Phase 1: 2025-2027
I-4. Mapping and Gap Analysis. Create a priority area map to guide grant applications and private sector outreach, outlining charging deserts and underserved locations; identify and promote existing local charger stations.	City; County; MPO	Phase 1: 2025-2027
I-5. Accessibility Standards and Resources. Ensure that new charging stations are accessible to people with disabilities and follow the recommendations of the U.S. Access Board; develop resources to share standards with those conducting charging station installations.	City; County; MPO	Phase 1: 2025-2027
I-6. Assess Opportunities for Public Charging at Local Government Locations. Assess and consider opportunities for public charging locations at municipal locations that are regularly utilized by the public (e.g., City Hall, Missoula Fairgrounds, etc.).	City; County	Phase 1: 2025-2027
I-7. Standards for Installing EVSE in the Public Right-of-Way. Establish standards for what entities can install EVSE in the public right-of-way and on publicly owned properties. Develop a lease policy that details requirements for public charging in the public right-of-way. These standards may also be expanded to include other publicly owned properties with approval from the appropriate jurisdiction.	City; County	Phase 1: 2025-2027

Strategies	Responsible Entities	Estimated Timeline
I-8. Standards for City-owned EVSE. Establish standards for City-owned EVSE, partially City-owned EVSE, potential revenue-sharing and partnership structures; complete an assessment for City-owned EVSE deployment on curbsides, parking areas, streetlights, and City properties.	City	Phase 1: 2025-2027
I-9. Address Across-Sidewalk Charging. Assess feasibility to enable charging across sidewalks without obstructing pedestrian pathways. Consider a cord cover permit. If feasible, implement a policy to support across-sidewalk charging.	City; County	Phase 1: 2025-2027
I-10. Incentivize EVSE Development. Consider incentivizing EV chargers through zoning incentives, such as those that allow for greater density and exceed specific zoning requirements. Work to prioritize EVSE incentives for multi-family buildings; provide materials to developers to support EVSE installations; consider an adopt-a-charger program.	City	Phase 2: 2028-2030
I-11. Develop Mobility Hubs. Consider developing mobility hubs that incorporate EV charging, park & ride, transit stops, micromobility, and other similar connections.	City; MPO	Phase 2: 2028-2030

Strategies	Responsible Entities	Estimated Timeline
I-12. Utility Collaboration. Meet with utilities to discuss EV collaboration opportunities; increase and prioritize renewable energy paired with EV charging.	City; County	Ongoing
I-13. Incentivize Electric Micromobility. Work to incentivize E-bikes through an E-bike purchase rebate program for residents, through E-bike share programs, or other ways to support micromobility options.	City; MPO	Ongoing
I-14. Integrate On-Site Renewable Energy Generation with EVSE. Work to assess and identify strategies that support integrating EVSE with on-site renewable generation to both reduce emissions associated with EV charging and to minimize strain on the electrical grid.	City; County	Ongoing
I-15. Supporting Existing Mode-Shift Priorities. Work to co-locate e-bike and wheelchair charging with new EVSE locations; consider mobility hubs that support micromobility options; ensure charging infrastructure doesn't impact bike lanes, sidewalks, or other areas designed for pedestrians.	City; County; MPO	Ongoing

Focus Area 2: Lead by Example

The City of Missoula and Missoula County are committed to leading by example in the transition to EVs in the community. As public entities, our leadership in EV adoption is crucial not only to reduce greenhouse gas emissions but also to set a tangible example for residents, businesses, and other governmental agencies by demonstrating that sustainable practices are both feasible and beneficial.

In March 2023, the City Vehicle and Emissions Reduction Policy was signed into effect. This policy charges the City to reduce total GHG emissions for the fleet, considering things like optimizing fleet size and prioritizing vehicles that produce zero tailpipe emissions. This policy has supported City efforts to reduce tailpipe emissions associated with vehicle use but also ensures that the vehicles the City procures meet the needs of the fleet and the services the vehicles provide. Each year, the case for fleet electrification grows stronger and stronger; costs continue to equalize, EV models continue to be added, and long-term fuel and maintenance costs continue to decrease.

The City of Missoula and Missoula County are leading by example in EV adoption by transitioning their fleets, improving infrastructure, and promoting policies that support broader community use.

As of May 2025, the City of Missoula fleet included 463 vehicles, not including equipment like off-road vehicles and trailers. In this fleet, 11 are BEVs, 5 are PHEVs, 42 are conventional hybrids, with more no- and low-emission vehicles on the way. While EV adoption in the City fleet has increased substantially in the last year, **we still face challenges in electrifying our fleet.** Most notably, the development of charging infrastructure for fleet vehicles is a challenge. Fleet vehicles are parked at a variety of different facilities, with many considering a move or substantial changes in the coming years. While an ad-hoc approach to charging infrastructure has supported the new electric additions to the fleet, a comprehensive fleet vehicle charging plan is necessary to support future electrification.

When considering how the City and County may lead by example, we are considering strategies that: strengthen our ability to procure an electric fleet; support local EV adoption by analyzing and adjusting our policies and procedures as they relate to EVs; support employees in EV adoption; and show our community the capability of EVs.

Figure 20: City Water F-150 Lightning on display at the 2024 Climate & Clean Energy Expo

Lead by Example Strategies

Strategies	Responsible Entities	Estimated Timeline
L-1. Silver Charging Smart Community Designation. Pursue Silver designation from the Charging Smart program from the Interstate Renewable Energy Council (IREC).	City	Phase 1: 2025-2027
L-2. Conduct County Fleet Analysis. The County fleet will conduct an analysis to assess vehicle performance, usage patterns, and maintenance costs, identifying candidates best suited for EV replacement.	County	Phase 1: 2025-2027
L-3. Develop Vehicle and Emissions Reduction Policy for County. The County will review current vehicle emissions and work to identify ways to reduce them, with a focus on preferring electric or zero-emission vehicles. Based on this review, it will consider policy that promotes clean vehicle use through clear standards.	County	Phase 1: 2025-2027
L-4. Review City's Vehicle and Emissions Reduction Policy. Review the City's fleet emissions reduction policy; establish tracking system for vehicles that have been electrified; work with City departments to assess needs; pursue future electrification opportunities within the City fleet; revise Vehicle and Emissions Reduction Policy if necessary.	City	Phase 1: 2025-2027
L-5. Create and Implement Local Government Fleet Vehicle Charging Plans. Draft a report with recommendations for department leaders, supported by a checklist and key questions for fleet vehicle acquisitions; identify possible locations for fleet EV charging; install EV charging to support the fleet.	City; County	Phase 1: 2025-2027
L-6. Peer Learning for EVs. Create and conduct City and County employee-focused EV education materials; host events for employees to promote EVs.	City; County	Phase 1: 2025-2027
L-7. Develop City Electric Fleet Branding. Assist with development of unified branding & decals for electric vehicles in the City's fleet.	City	Phase 1: 2025-2027
L-8. Gold Charging Smart Community Designation. Pursue Gold designation from the Charging Smart program from the Interstate Renewable Energy Council (IREC).	City	Phase 2: 2028-2030
L-9. Local Government Employee Commuting Incentives. Evaluate employee commuter incentives and expand benefits to include electric vehicles, as appropriate; consider staff-reserved EV chargers.	City; County	Phase 2: 2028-2030

Strategies	Responsible Entities	Estimated Timeline
L-10. Internal Fleet Workforce Development. Conduct EV maintenance training for fleet mechanics; work with other fleet mechanics in the community to train together.	City	Phase 2: 2028-2030
L-11. First Responder Training. Conduct EV fire safety trainings for community first responders on an ongoing basis; ensure crews are ready to respond to EV-related emergencies.	City; County	Ongoing
L-12. Grant Writing. Prioritize high-impact projects for grant applications to accelerate and support equitable EVSE development; integrate workforce development initiatives in grants to train local labor for EVSE installation and maintenance.	City; MPO	Ongoing
L-13. Track Emerging Technologies. Monitor emerging technologies and market developments; adjust electric vehicle infrastructure plans as necessary to future-proof projects as much as possible.	City; County; MPO	Ongoing

Focus Area 3: Education and Engagement

To further support electric vehicles in our community, Missoula will develop education efforts related to electric vehicles, as well as continue to conduct community engagement on an iterative basis. In our first round of community engagement, it became clear that in the community there are still a lot of unknowns related to EVs.

> **Missoula is committed to educating the community about electric vehicles and providing accessible, up-to-date information to support informed decisions, while also conducting ongoing, inclusive engagement to ensure community voices shape equitable EV policies and implementation.**

Considering education strategies, we will share information about EVs that can help residents make informed decisions if they're looking to buy a vehicle or install chargers. **Pieces like financial resources, up-to-date information about EV availability, and charging type explanations are some examples of information that could be transformative when considering EV adoption.** Ongoing community engagement will be the way that we're able to hear about current perceptions and desires related to EVs and EVSE. We will conduct intentional and targeted engagement—if a public charging policy could impact renters and those living in multi-family developments, we'd ensure that their voices are well represented in policy outcomes and strategy implementation.

Figure 22: EV Car Show at the 2024 Climate & Clean Energy Expo

Education and Engagement Strategies

Strategies	Responsible Entities	Estimated Timeline
E-1. Engagement Outcomes and Transparency. Detail future engagement outcomes; identify strategies that should be addressed collaboratively; share how community input will continue to influence planning and policy updates; share how outreach will be conducted.	City; County; MPO	Phase 1: 2025-2027
E-2. Create Online Resources. Develop interactive web tools and FAQ sections to educate the public on EV benefits, charging locations, best practices, and charging permitting; publish information on required permits on a municipal website.	City; MPO	Phase 1: 2025-2027
E-3. Education Campaigns. Launch public education initiatives to dispel common misconceptions about EVs and charging infrastructure.	City	Phase 1: 2025-2027
E-4. Events and Demonstrations. Host ride-and-drive events and public demonstrations to increase awareness and community experience with EVs; explore partnerships with local car dealerships.	City; County	Phase 1: 2025-2027
E-5. Workplace Charging Outreach Program. Identify priority workplaces for EV charging and support them in providing EVSE for their employees, possibly through certifications and third-party programs.	City; County	Phase 2: 2028-2030
E-6. Community Collaboration. Engage with community stakeholders to promote awareness and learn about desires; continue to engage with advisory groups; work with interlocal departments, libraries, private businesses, schools, and community groups.	City; County	Ongoing
E-7. Develop Educational Materials. Work to develop educational materials that inform EV and EVSE adoption for individuals, developers, businesses, dealerships, and others.	City; MPO	Ongoing
E-8. Share EV-Related Laws and Legislative Updates. Continually update information relating to EV laws and legislative updates and post this information online. Include information that could impact EVSE development, such as community solar.	City; MPO	Ongoing
E-9. Financial Resources. Work with financing providers to support financing of EVs, EVSE, and E-bikes; educate dealerships about financial incentives.	City	Ongoing

Endnotes

1 (Whitlock, Cross, Maxwell, Silverman, & Wade, 2017)
2 (Jones & Valainis, 2012)
3 (City of Missoula, 2013)
4 (Cilimburg, Jones, Schenk, & Lauer, 2015)
5 (Missoula County, 2016)
6 (Missoula County, n.d.)
7 (City of Missoula, 2019)
8 (U.S. Department of Energy, n.d. -a)
9 (U.S. Department of Energy, 2023 -a)
10 (Cilimburg, Platt, Jones, & Maneta, 2019)
11 (City of Missoula, 2019)
12 (U.S. Department of Energy, n.d. -b)
13 (U.S. Department of Energy, n.d. -c)
14 (Mountain Line, n.d.)
15 (Juhlin, 2024)
16 See Appendix A for additional information on EV Charging Infrastructure
17 (U.S. Department of Energy, n.d. -d)
18 (U.S. Environmental Protection Agency, 2023)
19 (U.S. Department of Energy, n.d. -e)
20 (Yellowstone-Teton Clean Cities, n.d.)
21 (Hardesty, 2023)
22 (U.S. Department of Energy, n.d. -f)
23 (U.S. Department of Energy & U.S. Environmental Protection Agency, n.d.)
24 (Alanazi, 2023)
25 (Holland & Knight, 2025)
26 (U.S. Department of Energy, n.d. -g)
27 (Electrification Coalition, n.d.)
28 (U.S. Department of Energy, n.d. -h)
29 (U.S. Department of Energy, n.d. -i)
30 (U.S. Department of Energy, 2023 -b)
31 (Goldman Sachs, 2023)
32 (Bell, 2022)
33 (Cobalt Institute, n.d.)
34 (Wikipedia, n.d. -a)
35 (Climate Smart Missoula, n.d.)
36 (U.S. Environmental Protection Agency, 2024)
37 (Whitlock, Cross, Maxwell, Silverman, & Wade, 2017)
38 (Bartlett & Shenhar, 2024)
39 (Juhlin, 2024)
40 (Threewitt, 2023)
41 (Brown K., 2022)
42 (Montana Department of Transportation & Montana Department of Environmental Quality, 2023)
43 (U.S. Department of Energy, 2023 -c)
44 (Data USA, n.d.)
45 (U.S. Department of Energy, n.d. -d)
46 (Wikipedia, n.d. -b)
47 (Car and Driver, n.d. -a)
48 (Car and Driver, n.d. -b)
49 (Clarke, 2023)
50 (Spector & McCarthy, 2024)
51 (Spector & McCarthy, 2024)
52 (U.S. Department of Energy, n.d. -d)
53 (U.S. Department of Energy, n.d. -d)
54 (CNET, 2024)
55 (Tesla, n.d.)
56 (CNET, 2024)
57 (Chevrolet, n.d.)
58 As of April 2025
59 (U.S. Internal Revenue Service, 2024 -a)
60 (U.S. Internal Revenue Service, 2024 -b)
61 2023 Hyundai Kona Electric Automatic, priced at $33,550
62 2023 Hyundai Kona FWD 4cyl 1.6L Automatic, priced at $22,140
63 (Center for Neighborhood Technology, n.d.)
64 (U.S. Department of Energy, n.d. -j)
65 2024 Chevrolet Blazer EV AWD, priced at $51,800; $44,300 after $7,500 credit
66 2024 Chevrolet Blazer AWD 4cyl 2.0L Automatic 9spd, priced at $38,100
67 (U.S. Department of Energy, n.d. -j)
68 (Center for Neighborhood Technology, n.d.)
69 (Harley, 2023)
70 (Atlas Public Policy, 2025)
71 (Lutey, 2023)
72 (U.S. Department of Energy, n.d. -k)
73 (Atlas Public Policy, 2025)
74 Determined through charging data provided by the University of Montana
75 (Missoula Metropolitan Planning Organization, 2021)
76 (Montana Department of Transportation, 2023)
77 (United States Census Bureau, 2023)
78 (Missoula Metropolitan Planning Organization, 2021)
79 (Missoula Urban Transportation District, 2020)
80 (Missoula Urban Transportation District, 2020)
81 (University of Montana, n.d.)
82 (Smith, 2024)
83 (Brown E., 2024)
84 (KPAX News, 2019)
85 (Serbin, 2023)
86 (Montana State Legislature, n.d.)
87 (Montana State Legislature, 2023)
88 (U.S. Department of Energy, n.d. -l)
89 (Ipsos, 2022)
90 (City of Missoula, 2023)
91 (Jones & Valainis, 2012)
92 (Missoula County, 2023)
93 (U.S. Department of Energy, n.d. -d)
94 (Oğuz, 2023)
95 (Oğuz, 2023)
96 This is based on a medium-sized vehicle over 16 years and 240,000km of driving.
97 (U.S. Department of Energy, 2023 -a)
98 A wrap-up report of public engagement conducted is available in Appendix E
99 Images of all the mapped locations are included in Appendix G
100 Advisory group meeting agendas are included in Appendix F

Appendix A

Charging Information

Charging infrastructure is the most obvious difference between a vehicle with an internal combustion engine and a battery electric vehicle. There are three main types of charging equipment being used today: Level 1 (L1), Level 2 (L2), and Direct Current Fast Charging (DCFC). These charging types are distinguished by the rate at which they can charge the vehicle's batteries, with Level 1 being the slowest and DCFC being the fastest. For example, "the charging time can range from less than 20 minutes using DC fast chargers to 20 hours or more using Level 1 chargers." These different types of charging equipment require different electrical infrastructures.

Level 1 Charging (home, workplace) — Approximately 5 miles of range per 1 hour of charging

Level 2 Charging (home, workplace, public) — Approximately 25 miles of range per 1 hour of charging

DC Fast Charging (public) — Approximately 100 to 200+ miles of range per 30 minutes of charging

The L1 chargers are typically the simplest—they'll only need a standard 120-volt AC plug, and most, if not all, EVs will come with a L1 cord, so no additional charging equipment would be required to charge the vehicle this way. L2 chargers use 240-volt or 208-volt AC plug. Most homes have 240-volt service available, as it is the same type of outlet that most clothes dryers use, however, unless the home was built with EV infrastructure in mind, there typically won't be a 240-volt outlet in a place convenient for charging, so installation costs may be applicable here. Direct-current fast charging equipment is typically a three-phase AC input, and it can provide far more rapid charging. Because of this, DCFC infrastructure requires electrical infrastructure that is more robust than L1 and L2; it's typically found along traffic corridors, and not in homes.

What type of charging infrastructure an EV owner uses relates directly to their needs. For example, if someone only uses their vehicle for a 30-mile commute each day, they have a 120-volt outlet in accessible in their driveway, and are trying to save money, Level 1 charging in the home could be perfect for this person. Overnight, the L1 charger can provide more than enough power to replenish the 30-mile range needed for this commute. They save money by not installing any additional infrastructure in their home, and if they need to quickly charge for a longer trip, they can visit a DCFC in their community to quickly replenish their battery. The charging infrastructure that people use may also relate to the vehicle they have. Most plug-in hybrid electric vehicles and some electric motorcycles are not capable of using DCFCs, but all commercially available EVs can utilize L1 and L2 charging equipment.

Currently, there are a few different types of charging connectors that are being used in EVs.

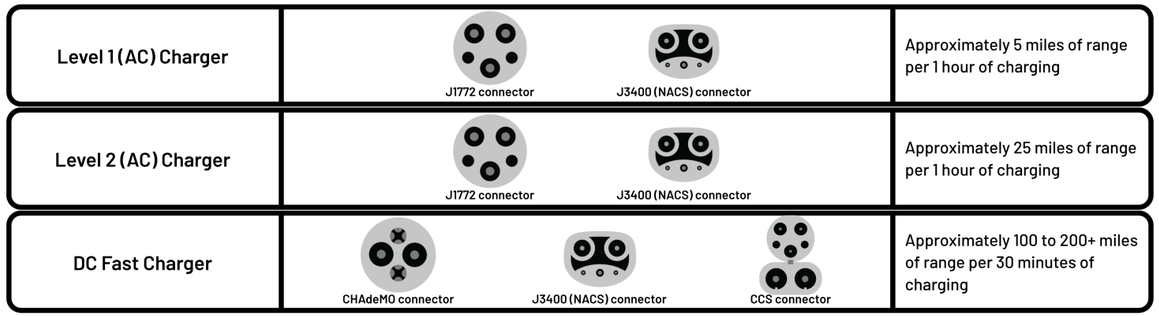


Figure 3: Common Types of EV Charging in the U.S.; Adapted from U.S. DOE

These connectors are the end that plug into your vehicle. The J1772 (J plug) connector is the connector used by most electric vehicle manufacturers in the United States. The J plug can be utilized for L1 and L2 charging. For fast charging, most automakers in North America are currently using the Combined Charging System (CCS) connector, which is the J plug with high speed charging pins below. The J3400 North American Charging Standard (NACS) connector is currently used by Tesla for L2 and DCFC charging, however, in 2025, all other EV manufactures will switch to the NACS connector for L2 and DCFC charging. The least common charging connector is the CHAdeMO, which is a plug that is being phased out and replaced with NACS. There are only a couple of vehicles in North America that are still using this connector, like the Nissan LEAF and the Mitsubishi Outlander PHEV. While the types of vehicle charging connectors may feel overwhelming, there are many adapters available on the market, so a bit of initial research can set you up to charge at most charging locations out there. Many EV drivers carry these adapters in their vehicles.

Generally speaking, EV infrastructure can refer to a spectrum of EV-readiness. To further clarify the types of EV infrastructure than can be installed, it's helpful to refer to them as EV-capable, EV-ready, and EV-installed. EV-capable refers to a site that cannot currently support charging an EV, but could be easily retrofitted in the future to do so. An example of this could be to install electric panel capacity with a raceway (or conduit) from the panel to the future EV spot. While this would still require some work to provide EV charging, it is a low-cost option that makes future retrofitting easier. EV-ready refers to installing electric panel capacity and raceway with conduit to terminate in a charging outlet (like a 240-volt, clothing-dryer-type outlet). While this infrastructure is mostly ready to charge an EV, it still requires the EV charger itself. By just providing the outlet, and not the charger, EV-ready infrastructure works to keep costs down. EV-installed, as the name suggests, is the infrastructure that includes everything that's needed to charge an Electric Vehicle. While convenient, this option is the most costly.

Appendix B

Special Considerations

While there are many aspects of EVs that aren't too dissimilar from the typical gasoline vehicle, there are some aspects that require special consideration, especially from the community-wide adoption perspective. One piece of this is emergency response related to electric vehicles. While there seems to be a perception that electric vehicles are more prone to catching on fire, in fact, the opposite is true. It's been found that EVs are less likely to catch on fire than gas-powered vehicles. While EVs are not inherently more dangerous than gasoline vehicles, they are still an emerging technology, and with that comes necessary training and education, especially for first responders. Emergency response doesn't look that different from conventional vehicles to electric vehicles. However, since EVs have some different components than ICE vehicles, the first responder(s) on the scene need to be trained about how to operate safely at incidents involving electric vehicles. Electric vehicle fires involving the high-voltage battery can present challenges to first responders, so proper training is critical. Most electric vehicles come with ways for first responders to isolate the battery and disable the electric system, but these cutoff switches are only beneficial when the responder is familiar with them. While training may look different from department to department, many manufactures publish emergency response guides for their vehicles. In addition, the National Fire Protection Agency and General Motors have created free online resources for battery electric vehicle first responder training, which may be a helpful resource as communities begin to think about how to support their First Responders.

Appendix C

Case Studies of Ownership—Fort Collins, Colorado

Fort Collins is a city in Colorado that first released their EV Readiness Roadmap back in 2018. Their plan had similar goals to Missoula, such as "make EVs and charging infrastructure accessible to a broad range of users in an equitable way by making it easier to purchase, charge, operate, and ride in an EV," and "Invest in the charging infrastructure needed to support EVs in the City fleet and provide adequate workplace charging for municipal employees." One piece of Fort Collins's plan that sets it apart is their EVSE ownership philosophy. The City hopes to support the installation of EV charging infrastructure through policy, education, and incentives. Interestingly, they also aim to "refrain from owning, operating, and maintaining charging stations." They cite a few reasons for this, including low utilization of existing City-owned EVSE, difficulty to recover associated costs, and less than ideal siting on City-owned land. They see their role as a supporting one, which makes sense for a municipality.

While this model could make a lot of sense for Missoula, it may not be a perfect fit. Since this plan was created in 2018, there have been significant federal investments to support the adoption of EV charging infrastructure. The money available from these programs could quickly address the "difficulty to recover costs" that is mentioned in this plan. Further, when considering siting, by choosing to not own or operate charging stations, they likely have little control over the siting of those stations. While in many instances, this could likely lead to charging stations where they'd be the most utilized, this likely wouldn't be the most equitable approach, as charging stations in historically disadvantaged communities would likely not be prioritized. While this could be addressed through a strong and intentional incentive program, it would still be difficult to prioritize specific locations in the City.

Many other communities, however, have decided to own and operate their own EV charging stations. While some larger cities have the capacity to do the charging installations and maintenance in-house, it seems like most cities who own their EVSE partner with a charging provider who can cover the installation, maintenance, and even billing. While community-wide EVSE ownership may also not be a perfect fit, it should still be considered with some parameters.

If it's found that charging locations desired by the community are on City-owned land, or, in an area where private investment for a charging location is unlikely, then City-owned EVSE may make sense. If this infrastructure could be grant-funded and support the community better than private investment could, it may be a good way forward. In addition, if Missoula were to own its EVSE, the City could be able to play a significant role in placing EVSE siting based on need.

Appendix D

Alternative Fuels

While there's many reasons why we're focusing on EVs, the topline considerations are vehicle availability, infrastructure considerations, greenhouse gas emissions, and air quality.

There are far more light-duty EVs available than there are natural gas or hydrogen options, which is important when considering vehicle availability. As of March 3, 2023, there were 73 EV models available on the market. While natural gas vehicles were piloted by some automakers in recent years, there aren't any natural gas light-duty vehicles currently on the market. In 2023, there were only two models of hydrogen fuel cell vehicles available, and those were mostly available in select markets with access to hydrogen fueling stations.

Renewable diesel, on the other hand, is different from natural gas and hydrogen vehicles because its only requirement is a diesel engine, not any modifications or a unique engine. Due to this, the availability of vehicles that can use renewable diesel is the same as vehicles that have a diesel engine. While it's still limited, there is still plentiful access to diesel vehicles, even though few of them are light-duty sedans and SUVs.

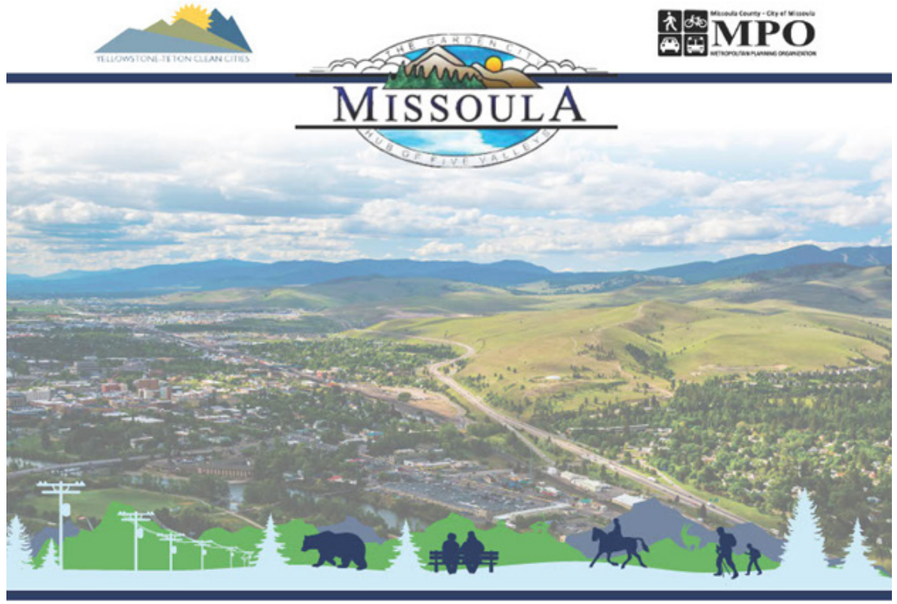
When considering infrastructure, electric vehicles again seem to hold the most potential, especially when considering all the federal plans and investments that support their adoption. Infrastructure for EVs, while some build-out is still required, is far more substantial than the infrastructure to support renewable diesel, natural gas, or hydrogen. This lack of public infrastructure also informs some of the existing adoption of alternative fuel fleet vehicles; when fleets are big enough, they often have all their own fueling infrastructure, making the adoption of renewable diesel or natural gas vehicles more straight-forward.

Electric vehicles are a leading low-emission option, especially as the electric grid becomes cleaner. While renewable diesel and natural gas vehicles emit less than conventional fuels, their emissions won't significantly decrease over time. In contrast, EV emissions are expected to decline, even without efficiency gains. Hydrogen vehicles also produce no tailpipe emissions, but high fuel cell costs and limited infrastructure currently limit their viability.

Finally, considering air quality, both renewable diesel and natural gas fueled vehicles still negatively impact air quality. While they do burn cleaner than their traditional counterparts, their impact is still important to consider, especially in a place like Missoula, where the air quality is frequently less than ideal. Both electric vehicles and hydrogen vehicles do not negatively impact air quality through their tailpipe emissions, which in turn would mean less particulate matter in the air.

Appendix E

Public Engagement Wrap-up Report



MISSOULA EV
WRAP UP REPORT

bigsky pr
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Senior Account Executive
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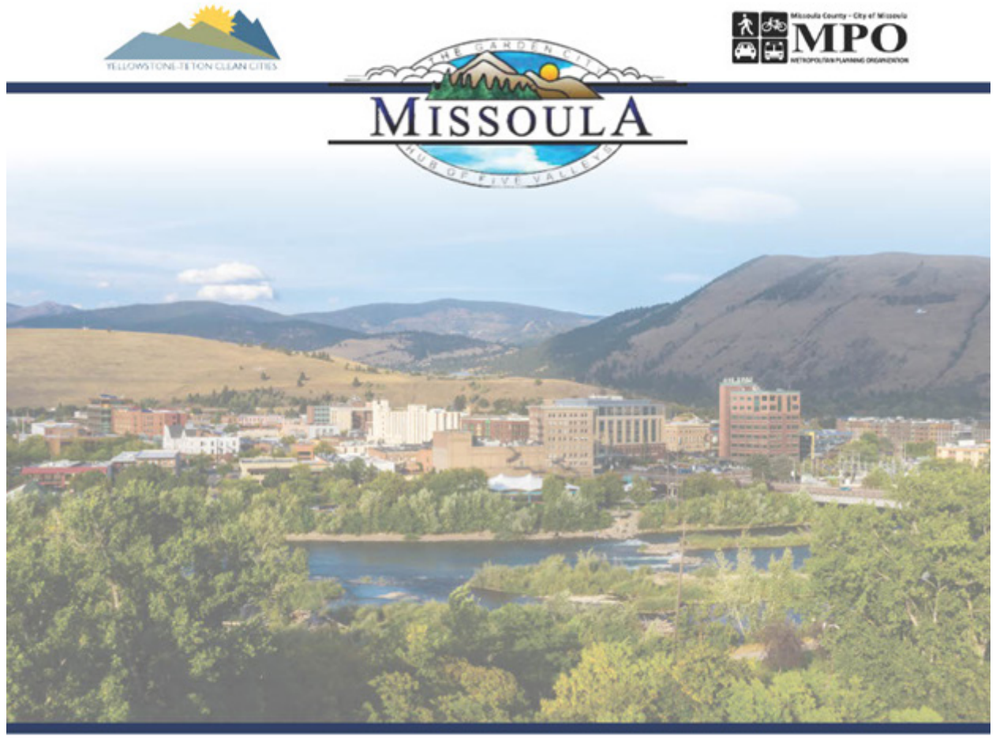
www.bigskypublicrelations.com

JANUARY 2025

CONTENTS



PROJECT OVERVIEW

The Missoula EV Project is focused on accelerating the transition to electric vehicles (EVs) by addressing infrastructure needs, community education, and accessibility barriers. The project aims to expand and improve access to EV charging infrastructure across key locations in Missoula.

The City of Missoula is committed to creating a more sustainable, climate-friendly, and equitable transportation future for its residents through this EV initiative. These efforts align with broader environmental and equity goals, supporting economic savings for residents while reducing emissions and dependence on gas-powered vehicles. By prioritizing infrastructure, education, and accessibility, the city is working to ensure that all residents can participate in the benefits of EV ownership and adoption.

OUTREACH OVERVIEW

Big Sky Public Relations (Big Sky PR) executed a comprehensive public involvement and outreach strategy over the 3-month Missoula EV Project timeline to ensure broad community awareness, feedback, and engagement. The outreach efforts were structured around two distinct rounds of public and stakeholder engagement, each with specific objectives, activities, and deliverables.

The first round of engagement focused on raising awareness about the project, identifying key issues and opportunities, and understanding what residents and businesses value about EVs. To generate initial awareness and participation, Big Sky PR distributed a press release to local media outlets to generate initial awareness and participation, inviting the public and stakeholders to engage with the project. A stakeholder database was also created to ensure that key audiences, such as local officials, business leaders, and community advocates, were identified and included throughout the process. Big Sky PR also developed custom social media native graphics to share key project milestones and direct audiences to the webpage. These activities successfully engaged the community while establishing a platform for continuous input throughout the project.

BY THE NUMBERS

1
PRESS RELEASE SENT TO THE MEDIA

4
REAGIONAL MEDIA ARTICLES

62
EMAIL AND PHONE CONVERSATIONS WITH RESIDENTS AND STAKEHOLDERS

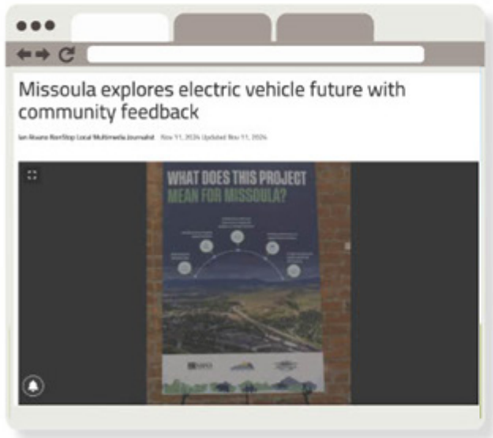
2
OPEN HOUSES

70
SURVEY RESPONSES

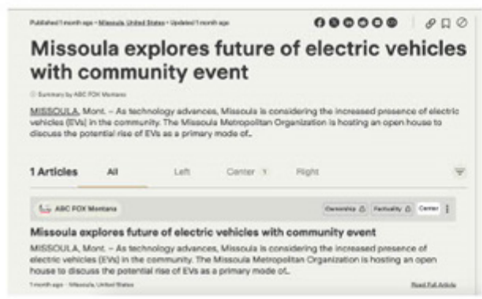
OUTREACH OVERVIEW *(CONTINUED)*

The second round of engagement centered on sharing the project team's final recommendations and implementation strategies and gathering feedback from the public and stakeholders. This was achieved through two in-person open house events designed to maximize accessibility and community participation. Big Sky PR managed all aspects of these events, including coordinating, scheduling, setting up the event space, and creating five display boards with key information to inform attendees about the project and proposed strategies. Additionally, informational flyers were distributed ahead of time to ensure wide attendance and participation.

Following these public meetings, Big Sky PR prepared and shared a one-page fact sheet summarizing the feedback received, common themes, and key takeaways from the outreach. This fact sheet was distributed to local stakeholders, agency staff, and elected officials to ensure transparency, inform decision-making, and maintain community engagement as the project moves forward.


Missoula explores electric vehicle future with community feedback

WHAT DOES THIS PROJECT MEAN FOR MISSOULA?


Missoula explores future of electric vehicles with community event

MISSOULA, Mont. – As technology advances, Missoula is considering the increased presence of electric vehicles (EVs) in the community. The Missoula Metropolitan Organization is hosting an open house to discuss the potential rise of EVs as a primary mode of..

1 Articles All Left Center Right

ABC FOX Montana

Missoula explores future of electric vehicles with community event

MISSOULA, Mont. – As technology advances, Missoula is considering the increased presence of electric vehicles (EVs) in the community. The Missoula Metropolitan Organization is hosting an open house to discuss the potential rise of EVs as a primary mode of..


Positive Reaction Toward City's Electric Vehicle Plan

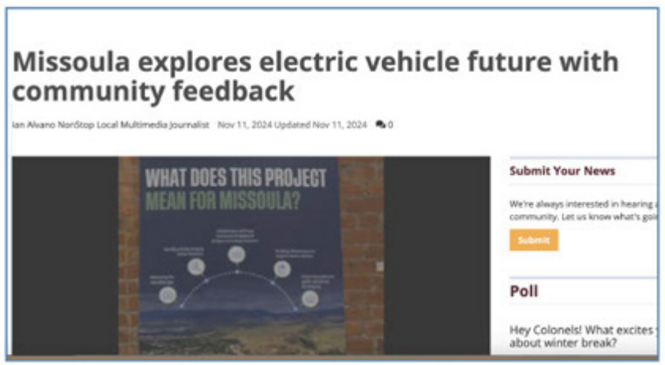
Missoula, MT

An open house in Missoula on Friday brought the conversation about electric vehicle (EV) infrastructure to Western Montana. The event offered the public a chance to explore the benefits of an electric vehicle future and discuss how their community can adapt.

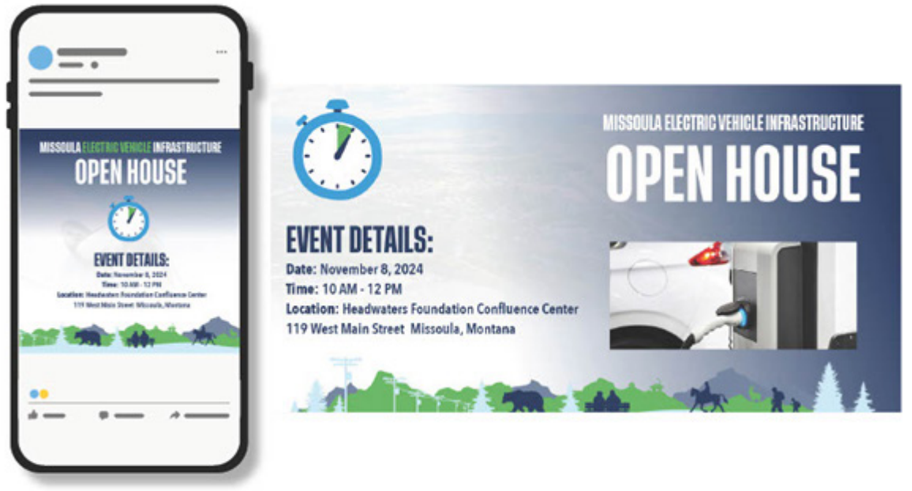
MISSOULA, Mont. – An open house in Missoula on Friday brought the conversation about electric vehicle (EV) infrastructure to Western Montana. The event offered the public a chance to explore the benefits of an electric vehicle future and discuss how their community can adapt.

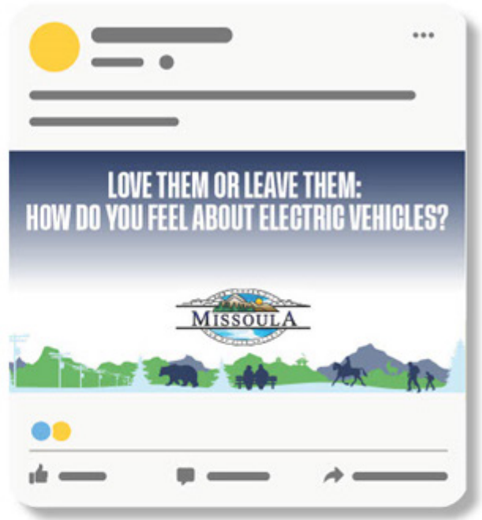
Residents in Missoula expressed optimism about the feasibility of EVs in their area. The city already has infrastructure like charging stations in place. A Missoula resident shared that EVs are a practical choice for local errands.

OUTREACH OVERVIEW *(CONTINUED)*



ADVERTISING



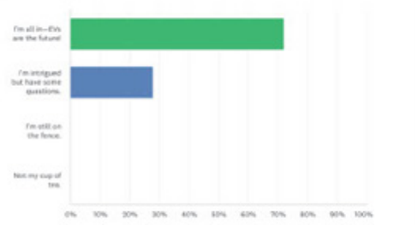


SURVEY RESPONSES

Q1

How would you describe your feelings about electric vehicles?

Answered: 25 Skipped: 0

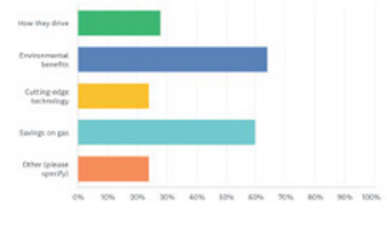


ANSWER CHOICES	RESPONSES	
I'm all in—EVs are the future!	72.00%	18
I'm intrigued but have some questions.	28.00%	7
I'm still on the fence.	0.00%	0
Not my cup of tea.	0.00%	0
TOTAL		25

Q2

What's your biggest "wow" factor when it comes to electric vehicles? (Select all that resonate)

Answered: 25 Skipped: 0

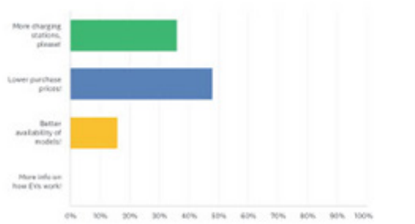


ANSWER CHOICES	RESPONSES	
How they drive	28.00%	7
Environmental benefits	64.00%	16
Cutting-edge technology	24.00%	6
Savings on gas	60.00%	15
Other (please specify)	24.00%	6
Total Respondents: 25		

Q3

If you could magically remove one barrier to owning an electric vehicle, what would it be?

Answered: 25 Skipped: 0

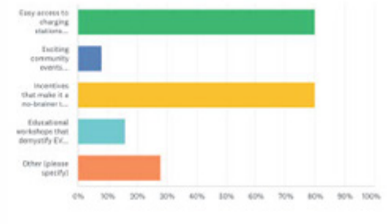


ANSWER CHOICES	RESPONSES	
More charging stations, please!	36.00%	9
Lower purchase prices!	48.00%	12
Better availability of models!	16.00%	4
More info on how EVs work!	0.00%	0
TOTAL		25

Q4

Picture your dream EV experience: what would it include? (Select all that apply)

Answered: 25 Skipped: 0



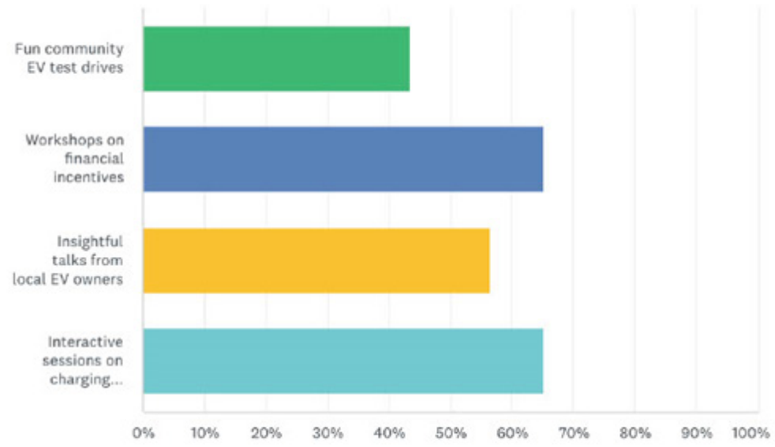
ANSWER CHOICES	RESPONSES	
Easy access to charging stations everywhere	80.00%	20
Exciting community events showcasing EVs	8.00%	2
Incentives that make it a no-brainer to buy	80.00%	20
Educational workshops that demystify EV ownership	16.00%	4
Other (please specify)	28.00%	7
Total Respondents: 25		

SURVEY RESPONSES

Q5

What kind of events or info would make you shout, "Yes! This is exactly what I need!" regarding EVs? (Select all that apply)

Answered: 23 Skipped: 2



ANSWER CHOICES	RESPONSES	
Fun community EV test drives	43.48%	10
Workshops on financial incentives	65.22%	15
Insightful talks from local EV owners	56.52%	13
Interactive sessions on charging options	65.22%	15
Total Respondents: 23		

BUDGET

Big Sky Public Relations projected $7,180.85 in total costs over the course of the Missoula EV project, including labor costs and direct expenses. The labor hours total came in at $6,468.75; this represents 90% of the total budget. Direct expenses totaled $712.40. This project was delivered on time but slightly over budget due to spending a bit more time and resources on the communication materials and team collaboration than initially anticipated.

LESSONS LEARNED

The Missoula EV Outreach collaboration with Big Sky PR lasted 3 months, from October through December 2024. Given the project's mission and values, our primary goal was to engage with the community on all aspects of the upcoming Missoula EV Infrastructure plan. This was accomplished by identifying key locations for preferred EV infrastructure, obtaining a better understanding of the community members' perceptions of EVs, and appealing to the public's hopes and desires regarding these changes.

Big Sky PR received a decent amount of feedback regarding the infrastructure plan through the survey and open house conversations. Overall, stakeholders seemed excited about the city's plans, and they had quite a few questions about the future plans.

Overall, the public involvement for the Missoula EV project was informative and educational. It was discovered through Big Sky PR's targeted, local survey that 72% of Missoulians are excited about the EV transition and believe that EVs represent the future of transportation. The remaining 28% are intrigued but have questions or hesitations about the shift to electric vehicles. Common themes among respondents included a strong interest in saving on gas costs, environmental benefits, and improved access to charging infrastructure—particularly at key locations identified on the participation map. Participants also expressed interest in "no-brainer" incentives to encourage adoption, local dealer accessibility, and opportunities for education through financial workshops and interactive charging station demonstrations.

To build on this momentum, Big Sky PR recommends that the City of Missoula prioritize educational campaigns and infrastructure improvements. Strategies include hosting interactive EV experience events with hands-on demonstrations of charging stations, offering workshops on financial incentives, and creating simple, clear communication campaigns to highlight savings opportunities. Expanding local charging infrastructure in identified high-need areas, partnering with local businesses and dealerships to improve accessibility and promotions, and hosting accessible community events could all contribute to greater adoption and understanding of EVs in the region.

Appendix F

Electric Vehicle Infrastructure Advisory Group Meeting Agendas

EV Advisory Network Meeting #1

Time: 1:00-3:30pm
Date: November 13th
Location: City Hall's Basement Conference Room.

Logistics

Instructions:

To get here, enter City Hall (435 Ryman St) through the Ryman Street entrance. The folks at the security desk should be able to direct you to the basement, and the conference room is at the bottom of the stairs.

Materials:

- Large sticky
- Markers
- Sticky Notes
- Dots / Stickers
- AV equipment
- Printed agendas / slides

Attendance / Roles:

Devin: Content Lead / Convenor / Tech Lead
Rachel: Facilitation / Support
Aaron: Invited

Agenda and Background

Purpose:

- Share basic information about EV infrastructure.
- Inform EV Advisory Network of EV plan purpose, goals, process, timeline.
- Inform EV Advisory Network of network role and expectations.
- Better understand how perspectives and expertise from the Advisory Network can help guide the EV plan.
- Discuss perspectives and areas of expertise that are important to the plan's goals and how we might incorporate them.
- Provide insight on how to prioritize top perspectives and expertise to gather directly.

- Preparation options: Attending the Nov 8th event, share out 1-2 materials, or book a 1 on 1 call with me in advance of the meeting.

Tone:

- Find space for everyone, regardless of EV familiarity, to learn and share insight.
- Reminder that we will have 1 person on Zoom.
  - Self-reflection
  - Ask for chat additions during sticky note exercises - Devin take the lead

Agenda

1. Welcome and Introductions (10 minutes) - Devin

- Welcome and Opening
- Overview of meeting objectives and agenda
- Introductions - Name, Org, Pronouns (Optional), On a scale from 1-5, how clear do you feel about where you can apply your or your organization's knowledge to the EV infrastructure plan?

2. Overview of Electric Vehicle Infrastructure (15 minutes) - Devin

- Presentation on current EV infrastructure - 8 min
- Activity: There's no stupid question – Write down 1 Q you have about EV infrastructure and add it to the hat.
- Q&A - 7 min

3. Introduction to the EV Plan (20 minutes) - Devin

- Overview of the planning process and timeline - 2 min
- Presentation on purpose and goals of the EV plan - 4 min
  - Prompt: MHA discussion on where they felt like they could provide insight.
- Pairs: Groups discuss what they hope to achieve with the EV plan. Any goals or hopes that the group should consider adding to overall goals? - 6 min - Rachel support
- Share: Share insights with the larger group. Discussion of expected outcomes - 8 min
- Q&A

4. Role and Expectations of the Advisory Network (5 minutes) - Devin

- Clarifying the advisory group's role in the EV plan
- Discussion of responsibilities

- How feedback will be incorporated into the planning process

5. Understanding Perspectives and Expertise (20 minutes) - Rachel

- Pairs: Write and then discuss 1-2 expertise / perspective areas that you hope to be able to offer for the EV plan. What do you need to be successful in sharing this perspective or expertise? - 5 min
- Share: Share expertise and needs. - 5 min
- Consider stakeholders - who may be impacted by EV infrastructure, who may influence its implementation, and who may have important perspective or expertise to shape it? - 10 min
    - Prompt: Past stakeholder exploration work

6. Prioritizing Perspectives and Expertise (16 minutes) - Rachel

- Group discussion on prioritizing areas of expertise to gather input on - 3 min
- Identifying specific stakeholders or groups to engage for insights - 5 min
    - Who do you think is most important to go to directly?
        - Impact / influence / perspective or expertise - (3 dots)
- Discuss the best ways to gather this input directly for the top 3 groups - 8 min

7. Next Steps and Closing (4 minutes) - Devin

- Outline next steps and important dates
- Close

EV Advisory Network Meeting #2

Time: 12 - 1:30pm
Date: Thursday, December 12
Location: Clearwater Credit Union

Logistics

Instructions for arrival:

Jeremy will be at the front doors, Devin will be on the second floor directing people to the conference room.

Materials:

- Large sticky
- Markers
- Sticky Notes
- Dots / Stickers
- AV equipment
- Printed slides (if needed)
- Printed key questions
- Printed What / So What / Now What worksheets
- Focus outreach next steps

Attendance / Roles:

Devin: Content Lead / Convenor / Tech Lead
Rachel: Facilitation / Support
Aaron: Invited

Agenda and Background

Purpose:

- Re-ground EV Advisory Network in EV plan goals, process, timeline
- Re-ground EV Advisory Network in network role and expectations.
- Share summary of survey results and reflect on learnings together.
- Share how we've applied their past feedback and ask for further clarification.
    - Review focused outreach next steps and key questions.

- Discuss key questions that were developed from earlier input.

Tone:

- Find space for everyone, regardless of EV familiarity, to learn and share insight.
- Any Zoom joiners?
    - Self-reflection
    - Ask for chat additions during sticky note exercises - Devin take the lead

Agenda

1. Welcome and Introductions (12-15 minutes) - Devin

- Welcome and Opening
- Overview of meeting objectives and agenda
- Introductions - Name, Org, Pronouns (Optional), One learning, question, or thing you've been thinking about related to Electric Vehicles since we last met?

2. Regrounding in the EV Plan and Advisory Network (10 minutes) - Devin

- Overview of the planning process and timeline - 2 min
- Presentation on purpose and goals of the EV plan - 4 min
- Clarifying the advisory group's role in the EV plan - 4 min

3. Reflect on Survey Results (30 minutes) - Devin / Rachel

- Share survey results and locations (printed and slide deck)
- Self-reflection - 5 min
- Small Group Breakouts (5 groups of 3)- 15 min
    - Points of reflection (Provide worksheet):
        - What: What feels important about:
            - the survey results?
            - the locations selected on the map?
        - What: What themes and outliers do you see in the survey or map?
        - So What: What do you think the survey results indicate about people's beliefs or values?
        - So What: Why do you think some of these locations were selected? What might they tell us about people's needs or ideas about EV?
        - Now What: How might we use this information to inform the EV infrastructure plan?
        - Now What: What questions are not answered through this outreach that we need to inform the plan?
    - Report Out - 10 min
        - 2 min / group
        - NOTE: Stay in small groups for remainder of the time

4. Reflect on Focused Outreach Next Steps (15 min) - Rachel

- Share focused outreach and key question next steps
- Self-reflection - 5 min
- Considering new survey and location information – Are there any questions that need modified? Any major focused outreach groups that should be prioritized over the ones here? - 10 min

5. Discuss Key Questions (15 min) - Devin / Rachel

- <MATERIALS: 5 large stickies / markers / 5 print-outs of questions)
- Stations: Each small group has a key question to discuss and begin drafting feedback on a large sticky (5 min):
    - Group #1: What are the main barriers to installing EV infrastructure (for businesses, for developers, for landlords, etc.)?
    - Group #2: How can we ensure EV infrastructure is accessible to renters or those in multi-family developments?
    - Group #3: Where would be the most impactful locations for adding charging with supports for other modes (e.g., EV charging with e-bike charging and/or wheelchair charging?
    - Group #4: How can the City better address misconceptions about EVs?
    - Group #5: How can this, and other EV outreach be tailored to specific groups, such as renters, low-income residents, or small businesses?
- Rotate to next Group. Add or STAR information (5 min)

6. Next Steps and Closing (3 minutes) - Devin

- Outline next steps and important dates <ADD slide deck>
- Close

EV Advisory Network Meeting #3

Time: 12 - 1:30pm
Date: Monday, February 24th, 2025
Location: Missoula Public Library, Level 4, Blackfoot Communications Room

Logistics

Instructions for arrival:

Devin will be on the 4th floor directing people to the conference room

Materials:

- Large sticky
- Markers
- Sticky Notes
- AV equipment
- Printed slides (if needed)
- Print out of strategies (Devin)
- Print out points of reflection worksheet (Devin)
- Pens / writing utensils
- Food (Rachel) - Devin to get Clyde list

Attendance / Roles:

Devin: Content Lead / Convenor / Tech Lead
Rachel: Facilitation / Support
Aaron: Invited

Agenda and Background

Purpose:

- Re-ground EV Advisory Network in EV plan goals, process, timeline
- Share summary of strategies
- Request feedback on strategies
- Share next steps for community engagement within implementation

Tone:

- Find space for everyone, regardless of EV familiarity, to learn and share insight.
- Any Zoom joiners?

Agenda

1. Welcome and Introductions (12-15 minutes) - Devin

- Welcome and Opening
- Overview of meeting objectives and agenda
- Introductions - Name, Org, Pronouns (Optional), Topline thing you hope the EV infrastructure plan touches on

2. Regrounding in the EV Plan and Advisory Network (10 minutes) - Devin

- Overview of the planning process and timeline - 5 min
- Overview of next steps for plan review (Advisory group, then Internal, then community) 5 min
- Timeline and thoughts of plan implementation

3. Share Strategies (60 minutes) - Devin / Rachel

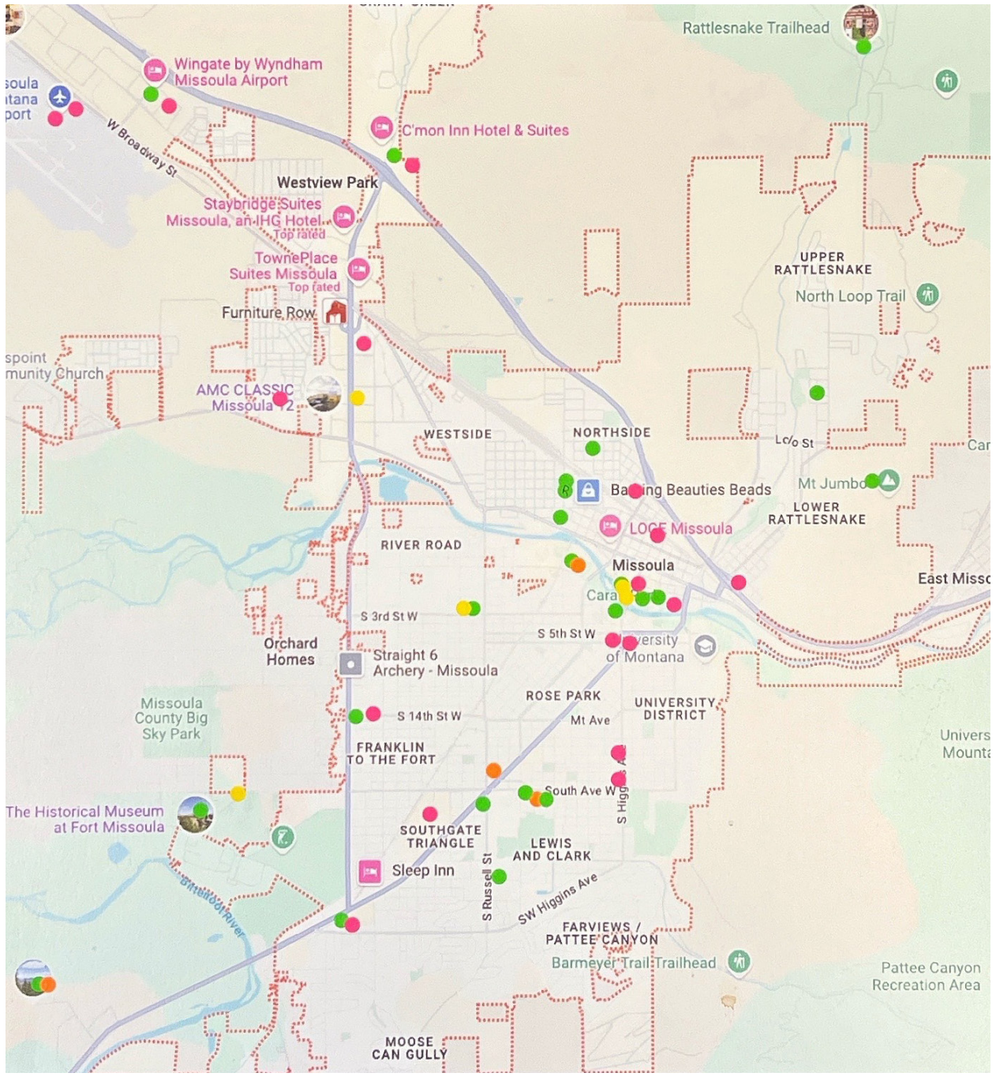
- Share proposed strategies (printed and slide deck for instructions) (10 minutes)
- Self-reflection - 5 min
- Small Group Breakouts (5 groups of 3)- 15 min
    - Points of reflection (Provide worksheet (DF):
        - Concerns with stated strategies (Exclamation point)
        - Anything that resonates (Heart)
        - Included in future decisions related to the strategy? (add name)
        - Detail anything that feels left out
    - Report Out / discussion - 30 min
        - 6 min / group

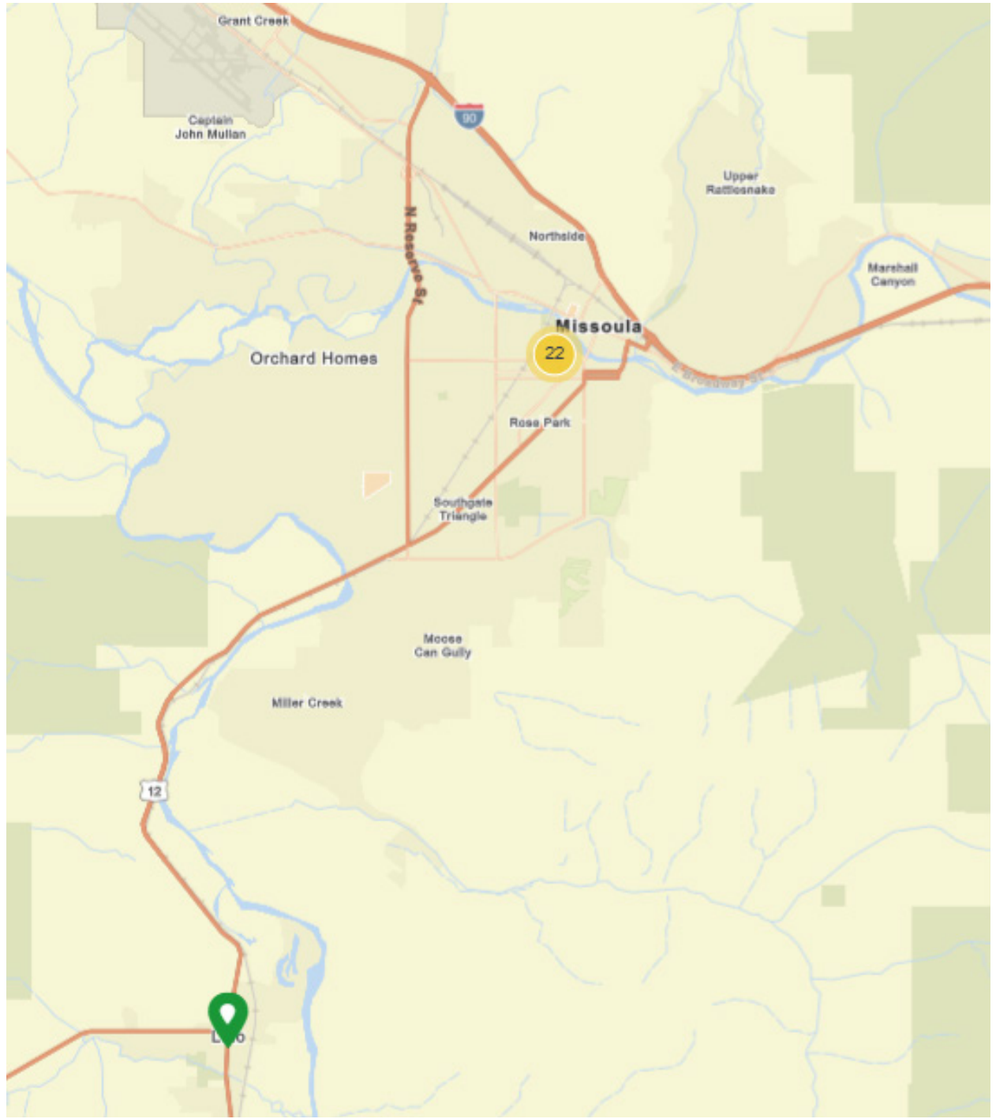
4. Next Steps and Closing (5 minutes) - Devin

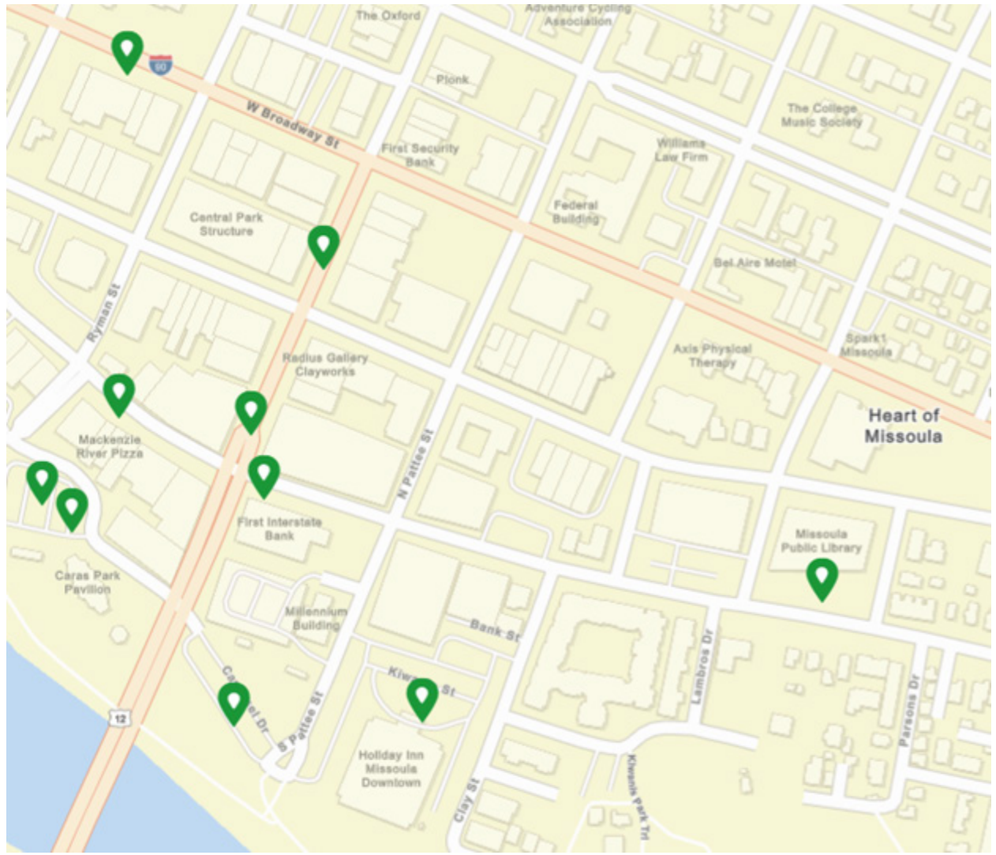
- Outline next steps and important dates
- Close - "One word about something you're hopeful about."
- Closing statement
    - Share calendar link https://calendly.com/filicicchiad-ci/30min

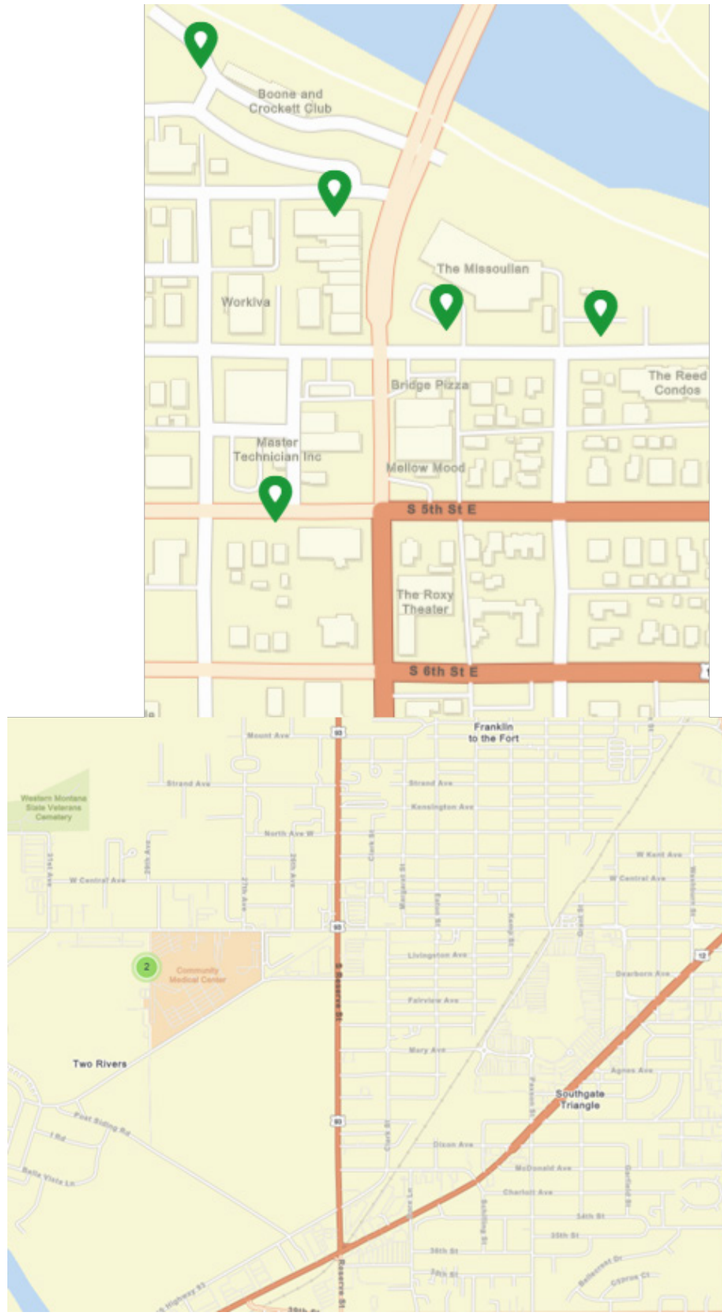
Appendix G

Maps of Proposed Locations for EV Infrastructure

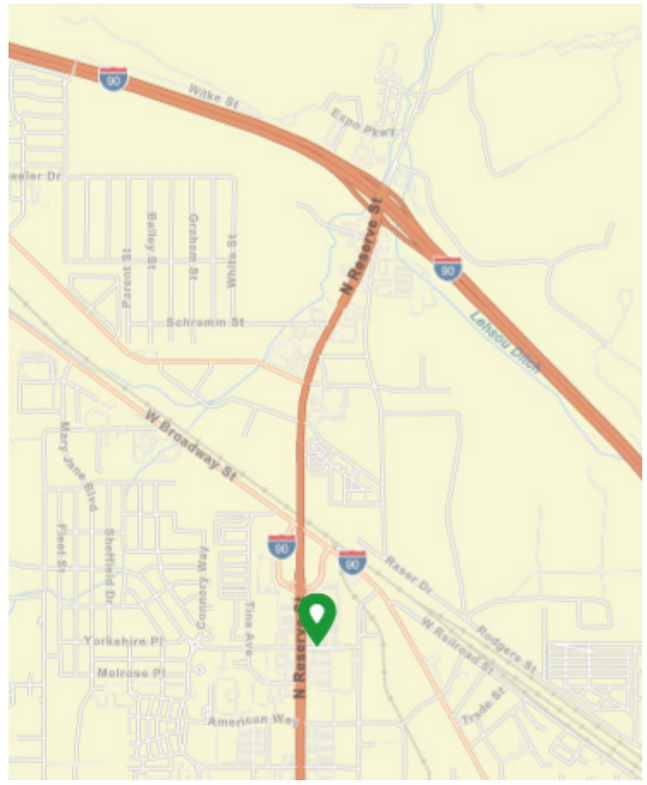





The Oxford
Adventure Cycling Association
Plonk
W Broadway St
First Security Bank
The College Music Society
Williams Law Firm
Federal Building
Central Park Structure
Bel Aire Motel
Ryman St
Axis Physical Therapy
Spark1 Missoula
Radius Gallery Clayworks
Heart of Missoula
Mackenzie River Pizza
W Pattee St
First Interstate Bank
Missoula Public Library
Caras Park Pavilion
Millennium Building
Bank St
Lambros Dr
Parsons Dr
Kiwanis Park
S Pattee St
Holiday Inn Missoula Downtown
Clay St
Kiwanis Park Trl
12
93


Boone and Crockett Club
The Missoulian
Workiva
Bridge Pizza
The Reed Condos
Master Technician Inc
Mellow Mood
S 5th St E
The Roxy Theater
S 6th St E
Franklin to the Fort
Western Montana State Veterans Cemetery
Community Medical Center
Two Rivers
Southgate Triangle
S Reserve St
90
12


Currents Water Park
Clark Fork River
Cregg Ln
W Front St
S Orange St
Montana Natural
N Orange St
Florence Coffee Co.
Soup Farm
Providence Center
KettleHouse Brewery Northside
St. Patricks Hospital Laundry Facility
Sun Mountain Sports


Wyke St
Expo Pkwy
N Reserve St
Schramm St
Bailey St
Graham St
White St
Lolo Creek
W Broadway St
Mary Jane Blvd
Fleet St
Sheffield Dr
Tina Ave
Yorkshire Pl
Melrose Pl
American Way
Raser Dr
W Railroad St
Rodgers St
Tyson St