



Marin Countywide EV Acceleration Strategy

September 2023

Marin Countywide EV Acceleration Strategy

- Created by the Marin Climate Energy Partnership
- Funded through the Transportation Authority of Marin's Alternative Fuel Program
- Goal is to accelerate EV adoption to meet targets set in each jurisdiction's Climate Action Plan
- Intent is to develop a plan that can be accepted/adopted by all jurisdictions



Process to Create the EV Acceleration Strategy

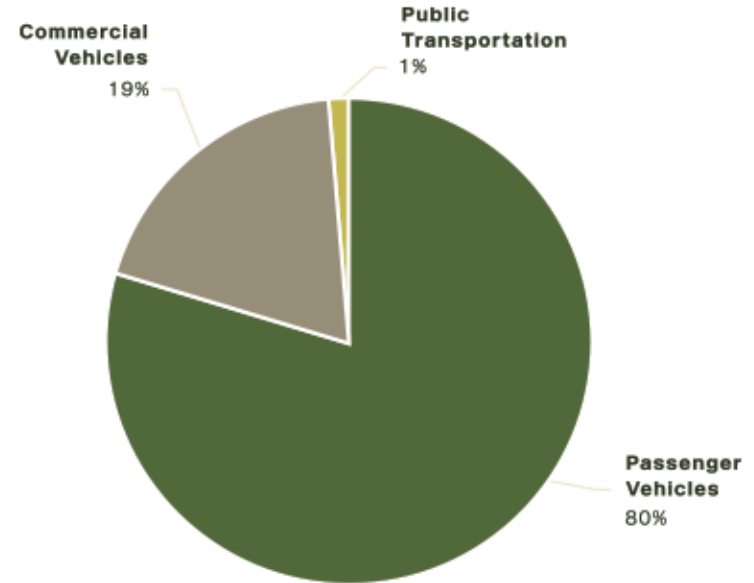
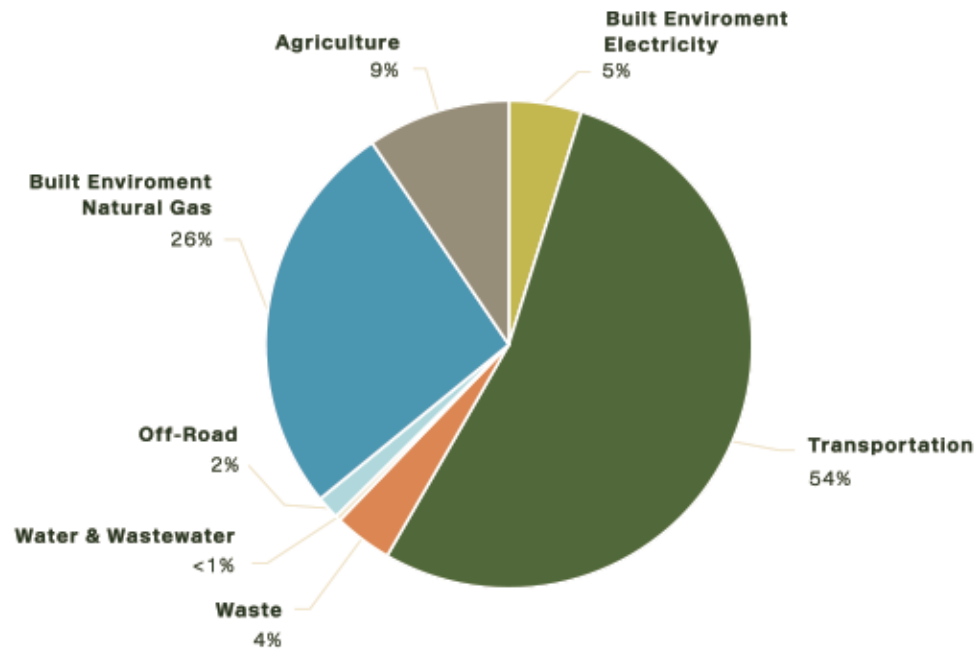
- MCEP subcommittee formed
- Guiding Principles developed
- Outreach conducted to stakeholders (jurisdictions' staff, community leaders, nonprofits, State agencies) to understand barriers and challenges to widespread EV adoption
- Reviewed other agencies' plans and guidance from regional and State agencies



Guiding Principles

- **Align with and support** local climate action plans.
- **Provide equitable access** to EV programs and strive for equitable outcomes.
- **Coordinate countywide** for consistency, efficiency, and cost-effectiveness of program implementation.
- **Track and measure progress** of EV Strategy actions and adoption rates.
- Strive to capture **local economic co-benefits** whenever possible.
- Focus government actions on those that most **efficiently utilize public funds and resources**.
- **Leverage** regional, state, and federal funds to support EV deployment in Marin County.
- Support acceleration of EV sales and charger installation by the **private market**.

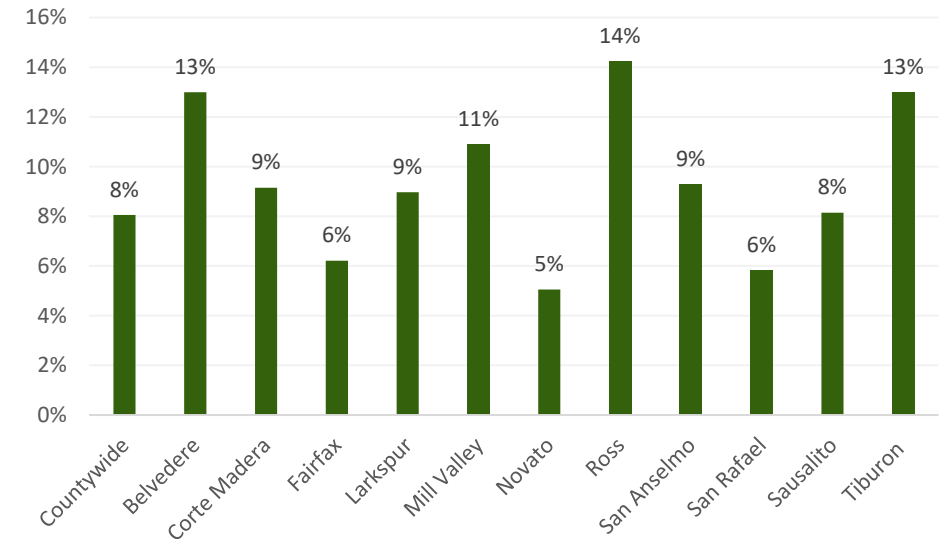
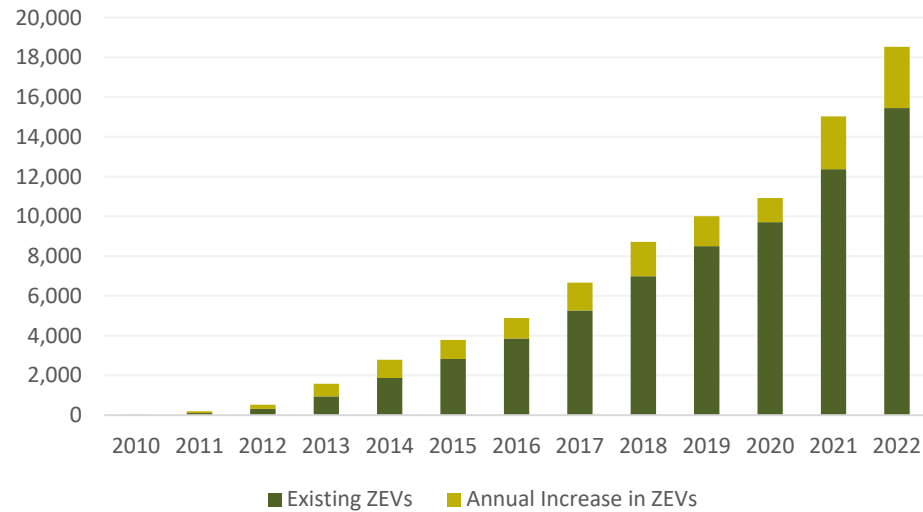
Existing Conditions: GHG Emissions (2020 Data)



- Countywide, emissions from the Transportation sector is responsible for more than half of community emissions (2020 data)

- Passenger vehicles are responsible for 80% of transportation emissions
- Reducing emissions from passenger vehicles is critical to meeting local and state emissions reduction goals

Existing Conditions: ZEV Adoption



- 15,449 ZEVs in Marin at the end of 2022 – 25% increase since 2021
- ZEVs include battery electric (71%), plug-in hybrid (29%), and fuel cell electric vehicles <1%)

- Countywide, 8.1% of registered passenger vehicles were ZEVs in 2022 (5.8% at end of 2021)
- Statewide, 3.9% of registered passenger vehicles are ZEVs

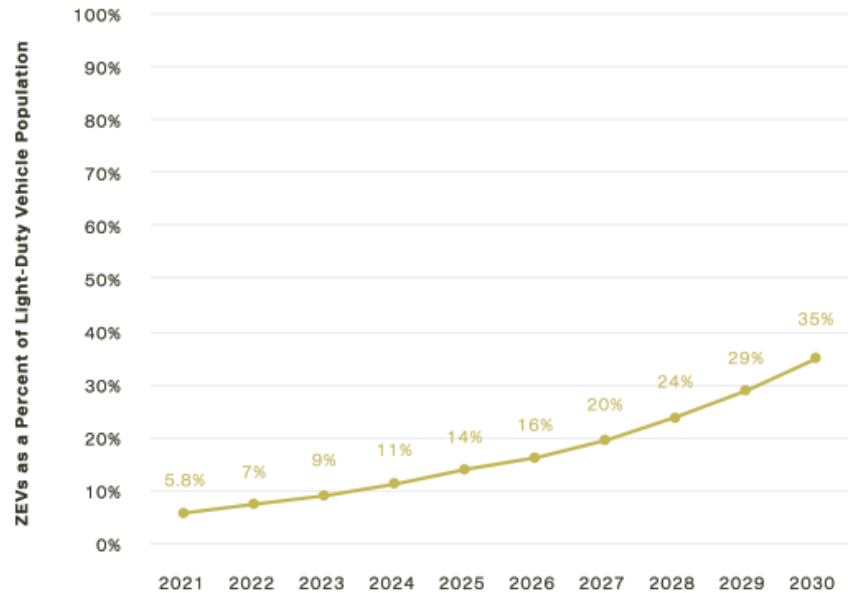
GHG Reduction and ZEV Targets

| Jurisdiction | GHG Reduction Goal for 2030 | ZEV registrations as % of total passenger vehicle registration by 2030 |
|----------------------|--|--|
| City of Belvedere | 40% below 1990 level | 35% |
| Town of Corte Madera | 40% below 1990 level | 25% |
| Town of Fairfax | Zero emissions | 100% |
| City of Larkspur | 40% below 1990 level | 33% |
| County of Marin | 40% below 1990 level (mitigation only) | 45% |
| City of Mill Valley | 47% below 1990 level | 35% |
| Town of San Anselmo | 45% below 1990 level | 25%* |
| City of San Rafael | 40% below 1990 level | 25% |
| City of Sausalito | 40% below 1990 level | 30% |
| Town of Tiburon | 50% below 1990 level | 45% |

**The Town of San Anselmo has also adopted a local target of 3,000 ZEVs registered in San Anselmo by 2030.*

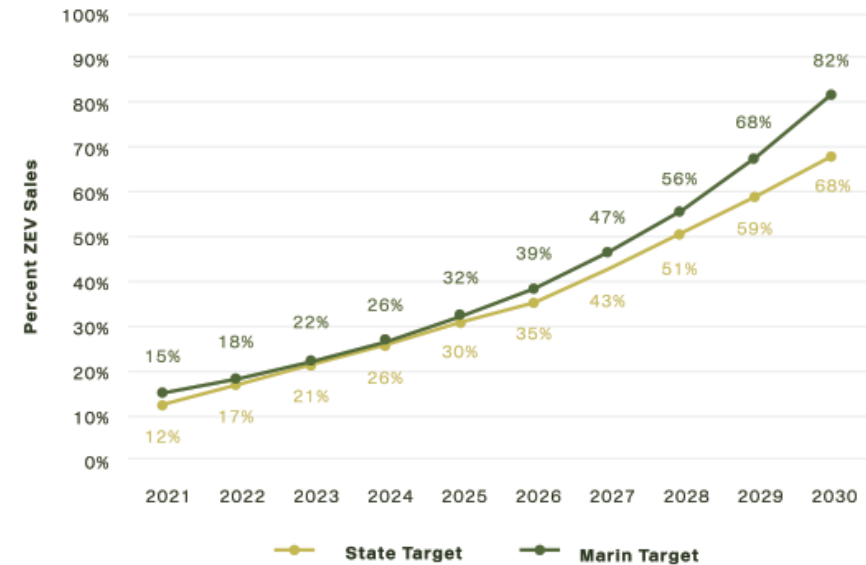
ZEV Registrations and Sales Needed to Meet Targets

Projected Marin ZEV Population for 35% Target



- Annual growth rate has averaged 22% over past 3 years
- Need to sustain 21% annual growth rate to get to 35% adoption rate by 2030

New Sales Targets in Marin vs. State New Sales Targets



- Advanced Clean Cars II Rule sets annual ZEV sales targets beginning in 2026 to achieve 100% ZEVs by 2035
- Statewide, ZEV sales are currently 25% of light duty vehicle sales. In Marin, it's 38%.

EV Charging Needs

- According to California Energy Commission data, there are 542 public and 484 shared private chargers in Marin. 83 are fast chargers.
- The number of single-family home chargers is undoubtedly much higher.
- 71% of housing units in Marin are single family homes.
- Greatest need is for shared private chargers in multifamily buildings and at workplaces.
- Opportunity to ensure new multifamily buildings are ready for an all-electric future.



EV Charging Needs

- TAM's Marin County Electric Vehicle Charging Station Siting Plan (2019)
- Level 2 chargers needed:
 - Southern Marin, especially TAM junction, Mill Valley, Strawberry
 - Frontage roads next to Highway 101
 - Shopping centers
 - School parking lots
 - SMART stations
 - Ferry terminals
 - Park and ride lots
 - Marin City and Canal Neighborhood to support equitable EV access and adoption
- Level 3 chargers needed:
 - Terra Linda, downtown San Rafael, downtown Novato, Sausalito, Point Reyes Station, Larkspur/Corte Madera, Mill Valley

Municipal Fleets

| Jurisdiction | BEVs |
|----------------------|--|
| City of Belvedere | 2 passenger cars and 1 e-bike |
| Town of Corte Madera | 3 passenger cars and 1 e-bike |
| Town of Fairfax | 1 passenger car |
| County of Marin | 13 passenger cars |
| City of Larkspur | 2 passenger cars |
| City of Mill Valley | 6 passenger cars and electric utility carts |
| City of Novato | 3 passenger cars and 5 e-bikes |
| Town of Ross | 1 passenger car |
| Town of San Anselmo | 3 passenger cars and 2 e-bikes |
| City of San Rafael | 1 passenger car, 3 parking service buggies, 2 pickup trucks, 1 utility vehicle and 4 e-bikes |
| City of Sausalito | None |

Barriers to EV Adoption

| | |
|---------------------------------|---|
| Vehicle Technology | <ul style="list-style-type: none">• EV range• Battery degradation (especially in the used EV market)• Lack of diversity in vehicle types (light/heavy duty trucks, police pursuit vehicles) and price points• Lack of vehicle availability |
| Charging | <ul style="list-style-type: none">• Not enough publicly accessible charging locations, both Level 2 and 3• Cost to install chargers, especially for trenching and getting electricity to site• Low grid capacity or connectivity in certain locations• Not enough wayfinding signage for EV charging locations• Difficult to retrofit existing multi-family buildings for EV chargers and lack of parking spaces for EVs• EV charging cost allocation to residents at multi-family buildings can be complicated with electricity meters• Cost and effort to upgrade electrical panel/install Level 2 charger at home• Reliability of public chargers |
| Economics | <ul style="list-style-type: none">• Higher initial purchase or lease price of EVs compared to internal combustion engine vehicles• Complicated incentives (vehicles and EV chargers)• Revenue from public EV chargers does not cover cost of subscription, maintenance, electricity, and depreciation |
| Perceptions and Behavior | <ul style="list-style-type: none">• Misinformation about EV models, range, charging, etc.• Resistance to change/fear of the unknown• Lack of EV knowledge at car dealerships• Lack of knowledge about best times to charge |
| E-bikes and E-scooters | <ul style="list-style-type: none">• Higher purchase price• Limited rebates and incentives• Lack of secure parking• Lack of safe, protected cycling infrastructure |

EV Strategy's Actions

- 36 actions in four areas
- Expectation is that jurisdictions will identify and prioritize specific actions for implementation
- Sample Workplan provided in the appendix for this purpose



EV Strategy's Actions

- Conduct Robust Community Outreach and Education **(4 actions)**
 - Conduct EV outreach through Town communication channels
 - Promote rebates and incentives
 - Support countywide marketing campaigns
 - Support consumer awareness programs, such as ride-and-drives

EV Strategy's Actions

- Accelerate Public Charging Infrastructure **(16 actions)**
 - Adopt a model reach code with EV infrastructure requirements above the base code
 - Identify locations for public chargers and include projects in Capital Improvement Plans
 - Focus municipal investment in frequently used properties (community centers, near multifamily buildings)
 - Utilize available assistance for site and equipment analysis, financing and installation
 - E-Bike facilities, including Level 1 charging and secure parking
 - Ensure equitable access to EV charging in low-income and underserved communities
 - Revise municipal policies/regulations as needed: parking, signage, pricing
 - Partner with EV charging vendors
 - Explore innovative charging solutions

EV Strategy's Actions

- Increase Municipal Fleet Electrification **(11 actions)**
 - Adopt a fleet replacement policy with goal to convert to 100% of fleet to EVs by 2030
 - Develop a fleet replacement plan and integrate in capital improvement planning; include fire and police vehicles
 - Identify fleet replacement manager
 - Install municipal chargers
 - Incorporate e-bikes in municipal fleet

EV Strategy's Actions

- Support and Advocate for Policy and Funding that Accelerates EV Adoption **(5 actions)**
 - Additional funding for municipal needs
 - Support equity priority communities:
 - Focus investment in low-income communities
 - Provide equitable access to rebates and incentives
 - Develop targeted programs such as buy-back programs

Next Steps

- Staff to complete the Work Plan (Appendix A)





Questions?



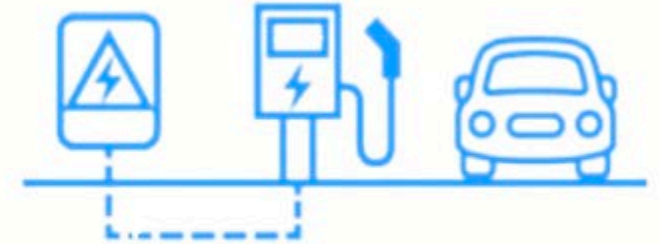
EV Capable

- A vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways, both underground and/or surface mounted, to support EV charging.



EV Ready

- A vehicle space which is provided with a branch circuit or wired outlet plus any necessary raceways, both underground and/or surface mounted, to support EV charging.



EV Installed

- A vehicle space with installed Level 2 or Level 3 EV charger.

Marin County Reach Code

- Single family, two-family, townhomes with private garages, and ADUs with dedicated parking: one EV ready space.
- Multifamily: 85% of parking spaces are EV ready with low power Level 2 receptacles, and the remaining 15% of parking spaces must have Level 2 EV chargers installed.
- Hotels and motels: 35% of the parking spaces must be EV ready with low power Level 2 receptacles; 10% must be EV capable; and 10% must have level 2 EV chargers installed.






Marin County Reach Code: New Non-residential Buildings

- 0-33% of spaces with installed Level 2 chargers, depending on number of spaces. 0-50% EV Capable, depending on number of spaces.



EV Reach Code Status *as of 9/18/23*

| Jurisdiction | New Construction All-Electric | EV Infrastructure Reach | Single-Family Renovations Energy Reach |
|--|---|---|---|
| Marin County |  |  |  |
| Fairfax | | | |
| Tiburon (Enforcement paused) | | | |
| San Anselmo | | | |
| San Rafael | | | |
| Corte Madera | | | Considering |
| Sausalito | | | |
| Larkspur | Considering | Considering | |
| Ross | | | |
| Mill Valley | | | None |
| Novato | None | None | |
| Belvedere | | | |