

Avon Electric Vehicle Readiness Plan

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Town of Avon

Population: 2010 census - 6,447

Incorporated: 1978

Transportation:

Free Transit: 6:30am to 10pm

Free Ski Gondola to Beaver Creek Village

Free Parking

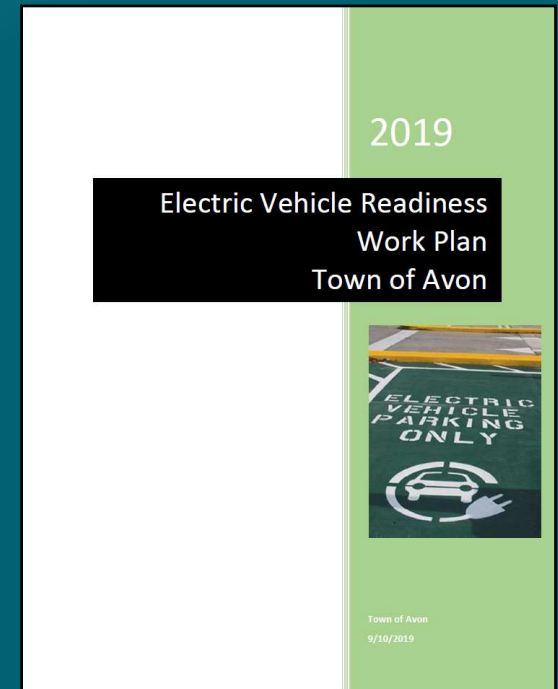
*Avon adopted the 2016 Climate Action Plan for the Eagle County Community

- Greenhouse gas emission reduction
- 25% by 2025/80% by 2050 (2014 Base)



Electric Vehicle Vision and Goals

1. Provide sufficient charging Stations for Avon Visitors
2. Provide sufficient charging stations for Avon Fleet
3. Land Use Regulations update for future commercial and multi-family residential development
4. **Avon Electric Vehicle Advancement Program**
 - Education/promotion to increase awareness and use of personal EVs
 - Encourage electric chargers in existing multi-unit housing
 - o Leverage Energy offset fund: 50/50 contribution
 - Coordinate and cooperate with regional and private agencies



Benefits of EVs

Electric vehicles support Avon's air quality, climate, transportation, and sustainability goals

Little or no tailpipe emissions, can use cleaner sources of electricity, such as solar, to charge

Cost to charge an EV is approximately 50% less than the cost to fuel a conventional vehicle with gasoline

Require very little maintenance; lower lifetime cost of ownership than conventional vehicles



Additional Unique Considerations

- Extremely cold temperatures can reduce driving range
- Charging in cold temperatures can increased charging times
- Not impacted by altitude; does not require oxygen, driving uphill requires more energy/battery power than driving on flat terrain, thus reducing range/charge
- EVs use regenerative braking



National and State Electric Vehicle Efforts

- In 2016, the Federal Highway Administration (FHWA) established a national network of alternative fueling and charging infrastructure along national highway system corridors (I-70, I-25, and I-76)
- The \$14.7 billion settlement between Volkswagen and the U.S. Environmental Protection Agency is providing additional funds
- In 2017, Colorado signed the Regional Electric Vehicle (REV) Memorandum of Understanding (MOU) with Arizona, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming for a seamless EV drive across the Signatory States' major corridors

National and State Electric Vehicle Efforts

Colorado is a leader in EV-related incentives:

- Federal Tax credit of up to \$7,000 for a light-duty EV

- State Tax credit of \$5,000

- \$9,000 in grants for Level 2 charging stations

- \$30,000 in grants for DC fast charging infrastructure



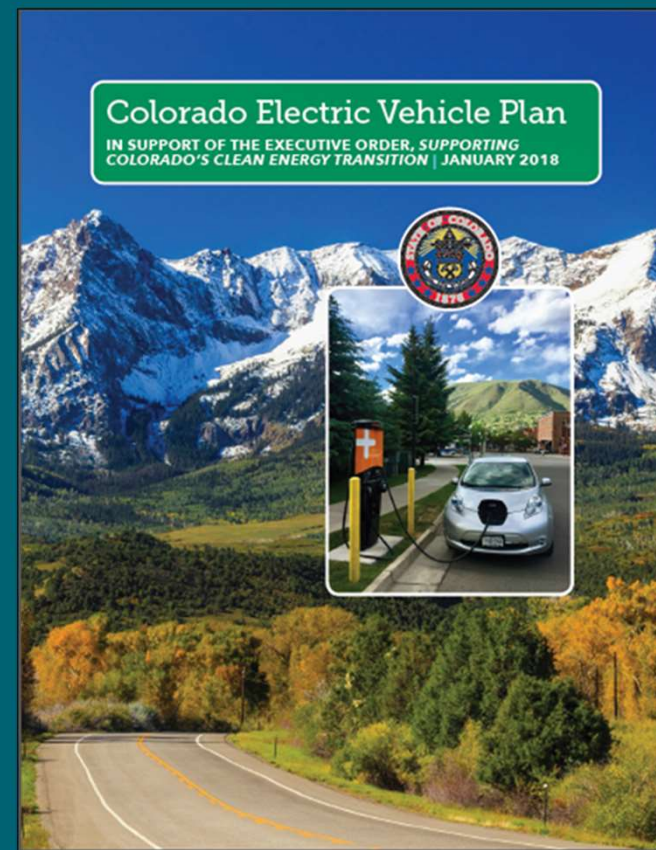
National and State Electric Vehicle Efforts

On Jan 2018, the Colorado Department of Transportation (CDOT) and the Colorado Department of Public Health and Environment (CDPHE) released the Colorado EV Plan.

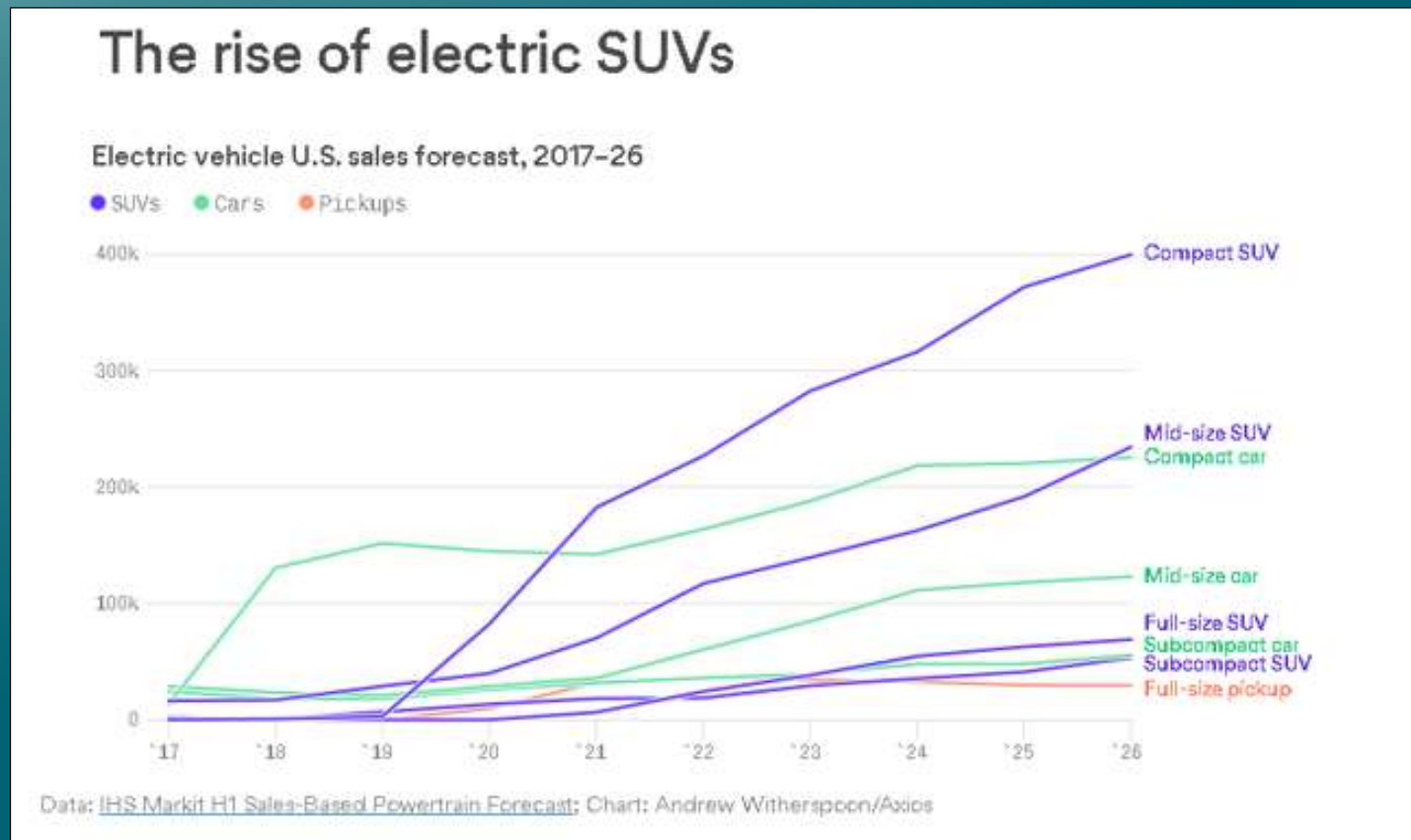
In Aug 2018, Colorado had 15,866 electric vehicles on the road (50 percent increase from the same time in 2017). Colorado's share of the national market for electric vehicles is 3.5 percent, making it No. 12 in the nation.

In early June 2019, Colorado announced it plans to move forward with plans to adopt California's zero emission vehicle mandate versus voluntary efforts to boost electric vehicle sales.

In Dec 2018, the Colorado Energy Office announced a \$10M grant to add 33 additional electric vehicles charging sites in Colorado.

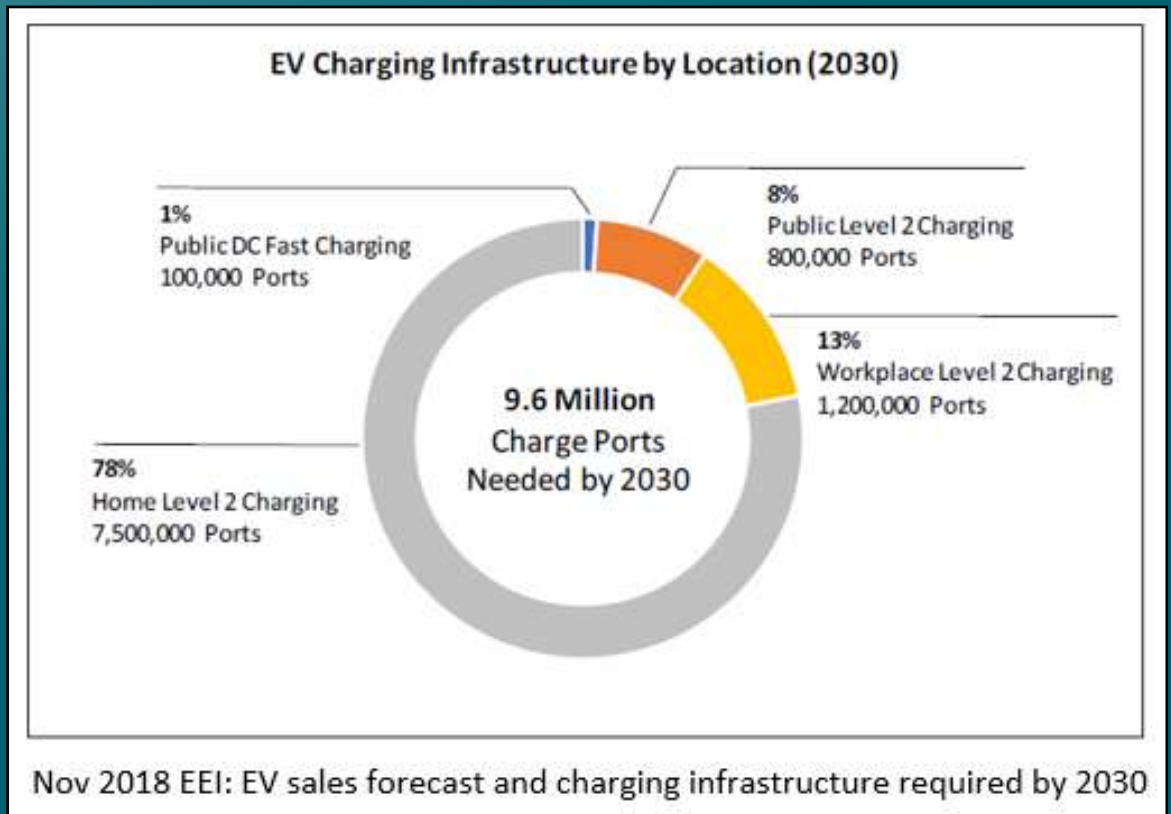


National and State Electric Vehicle Efforts



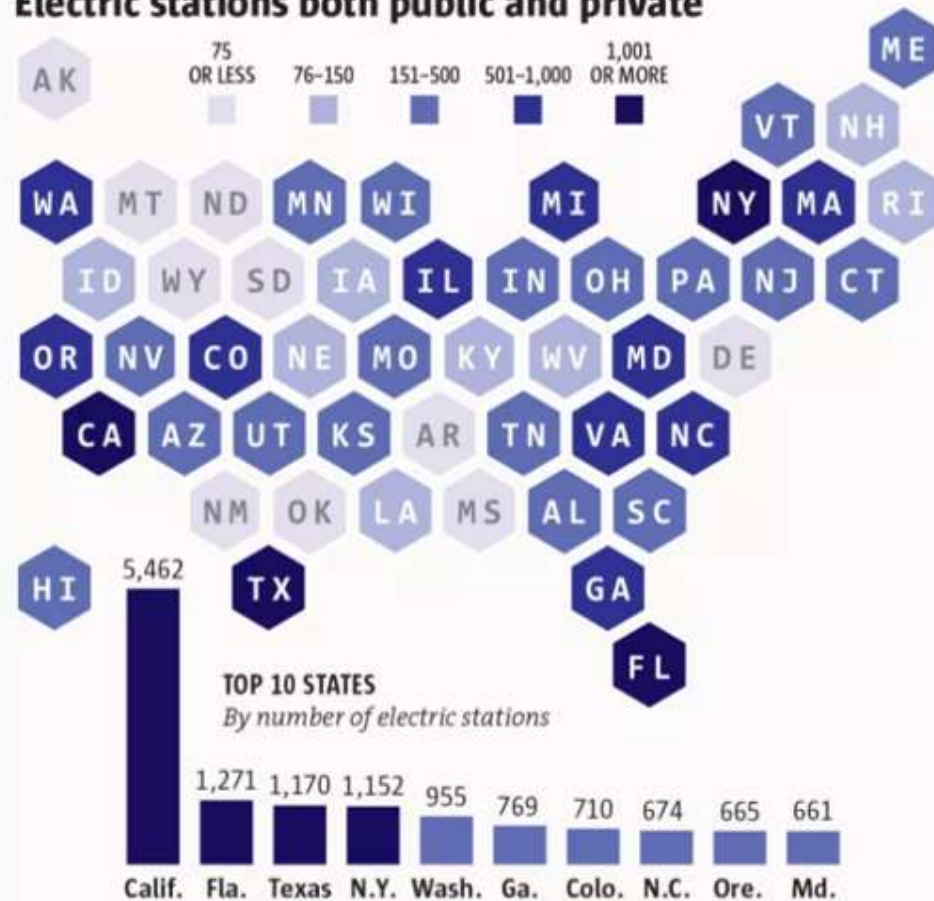
National and State Electric Vehicle Efforts

The Nov 2018 Edison Electric Institute (EEI) EV sales forecast and charging infrastructure required by 2030 Study projects 9.6 Million charge ports will be needed to support 18.7 million EVs which represents about 7% of the expected 259 million vehicles on U.S. roads



National and State Electric Station Efforts

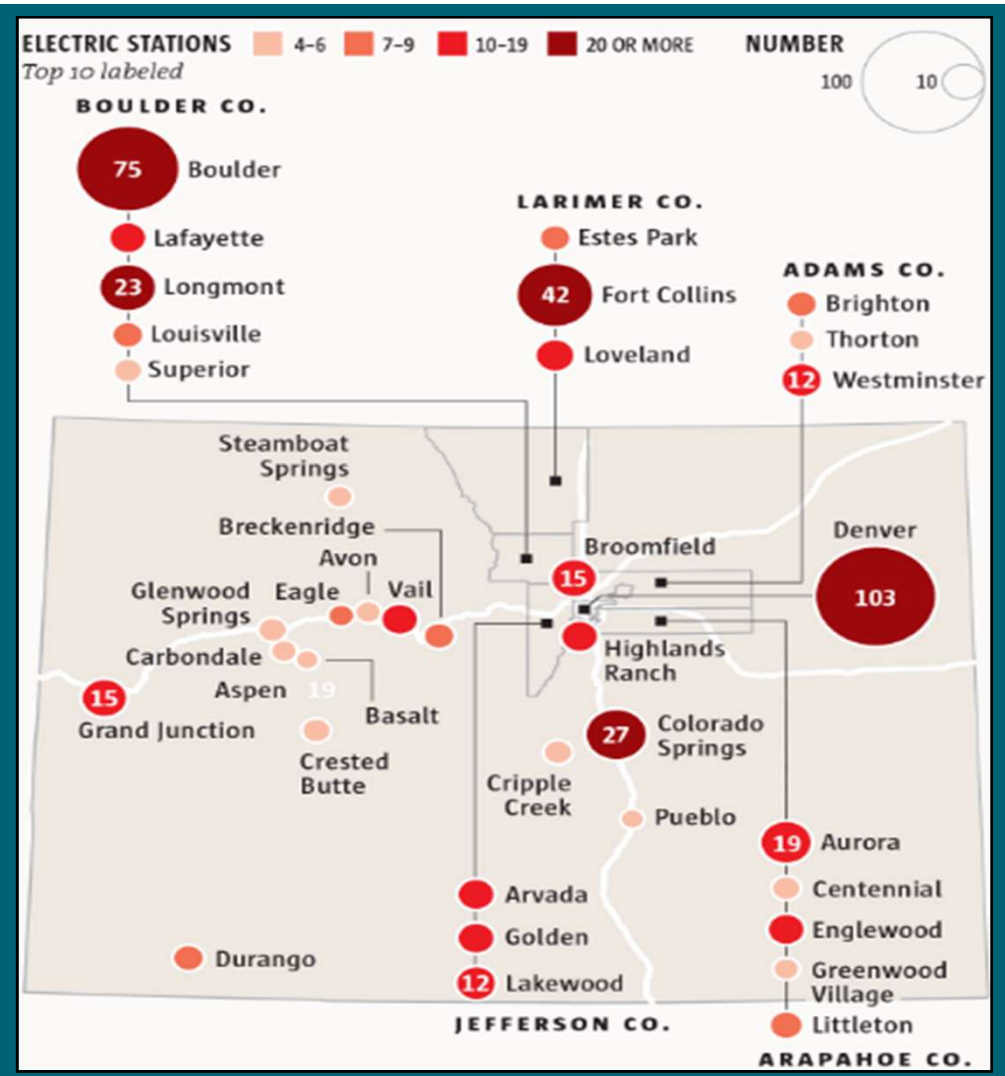
Electric stations both public and private



Source: National Renewable Energy Laboratory

Jeff Neumann, The Denver Post

2018 Colorado 650 Public Electric Stations



What will It take for Eagle County to reach CAP Goals?

A 25% reduction in vehicle emissions from the 2014 Eagle County baseline

- Equates to a reduction of 94,500 metric tons of CO₂e
- U.S.EPA estimates a typical passenger vehicle emits about 4.6 metric tons of CO₂/annually
- **Over 20,000 new EVs are needed in Eagle County to reach a 25% reduction**
- There are currently 800 EV/HEVs registered in Eagle County and according to Auto Alliance
- About 7,000 EVs were sold in Colorado in 2018, less than 3% of the state's new vehicle sales

There are 61,271 total vehicles currently registered in Eagle County, a 25% emissions reduction by 2025 will be a tall challenge

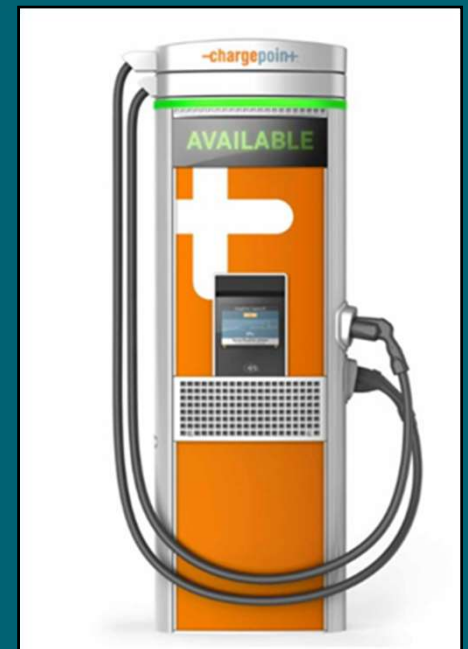
What will It take for Eagle County to reach CAP Goals?

Extrapolating from the study, Eagle County will need add 10,200 charge ports

- 1% Public DC Fast Charging – 102 ports
- 8% Public Level 2 Charging – 816 ports
- 13% Workplace Level 2 Charging – 1,326 ports
- 78% Home Level 2 Charging – 7,956 ports

With 12.5% of the County's population, (6,500 residents of 52,000 residents)
Avon's charging needs is estimated at 1,275 ports

- 1% Public DC Fast Charging – 102 ports (Avon – 13 ports)
- 8% Public Level 2 Charging – 816 ports (Avon – 102 ports)
- 13% Workplace Level 2 Charging – 1,326 ports (Avon – 166 ports)
- 78% Home Level 2 Charging – 7,956 ports (Avon – 995 ports)



Avon Electric Bus Charging Station

- *In 2019, ECO Transit received a grant for three electric buses
 - Summer 2020 construction/delivery

- *US6 local service route between Edwards and Vail

- *Three charging stations will be installed in the Avon Mobility Center

- *Avon Transit submitted a grant application to purchase two electric buses in 2020 (utilize ECO Transit's charging stations)



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