



Electric Vehicle Infrastructure

WEBINAR SERIES: INNOVATION IN PRACTICE

June 2, 2021

Webinar Logistics



PowerPoint Presentation available on BATIC Website

www.financingtransportation.org/capacity_building/event_details/webinar_dots_tribal_collaboration_1018.aspx



Submit questions in Q&A box



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Webinar Overview

USDOT Policy and Guidance on Electric Vehicle Charging Infrastructure

- Andrew Wishnia, USDOT

**Questions Submitted
by Webinar
Participants**

State of Colorado Electric Vehicle Charging Infrastructure

- Michael King, CDOT

**Questions Submitted
by Webinar
Participants**

Andrew Wishnia

Deputy Assistant Secretary for Climate Policy

U.S. Department of Transportation

Webinar Overview

**Questions Submitted
by Webinar
Participants**

Michael King

Assistant Director of Electrification and Energy

Colorado DOT Office of Innovative Mobility



COLORADO
Department of Transportation

State of Colorado EV Charging Infrastructure





CDOT's EV Goals

PD 14 Environmental Impact Objectives & Targets

Work collaboratively with other state agencies and local partners to **reduce statewide GHG pollution** from the transportation sector by 26% by 2025, 50% by 2030, 90% by 2050 relative to 2005 statewide GHG pollution levels.

Collaborate with other state agencies to **increase electric vehicle registrations** to support a future fleet of at least 940,000 light-duty EVs by 2030.

Work with other state departments, transit agencies, and electric utilities to meet the transit vehicle goals specified in its 2020 Electric Vehicle Plan to **convert the state transit fleet to 100% ZEV** by 2050, with an interim target of at least 1,000 ZEVs by 2030.

Collaborate with other state agencies, local governments, and private companies to **increase the percentage of total state highway miles within a 30-mile travel buffer of DC fast-charging stations** from 40% in FY 2020 to 100% by FY 2030.

Coordinate with other state agencies, the Colorado Scenic & Historic Byways Commission, local governments, and individual site hosts to **increase the number of Colorado Scenic & Historic Byways classified as electrified byways** from 3 in FY 2020 to 26 by the end of FY 2025.





DOT Role & Partners



COLORADO
Energy Office



COLORADO
Department of Public Health & Environment



COLORADO
TOURISM OFFICE



RAQAC
REGIONAL AIR QUALITY COUNCIL



DENVER
THE MILE HIGH CITY



MONTROSE • COLORADO



ESTES
PARK
COLORADO



CITY OF BOULDER



FAIRPLAY
Colorado
Where History Meets the High Country



Walmart



Kum & Go



WHOLE
FOODS
MARKET



7
ELEVEN



REI



TARGET



RTD



TOWN OF VAIL



metro
MOUNTAIN METROPOLITAN TRANSIT



Via



TRANSFORT



SUMMIT
STAGE



-chargepoint+



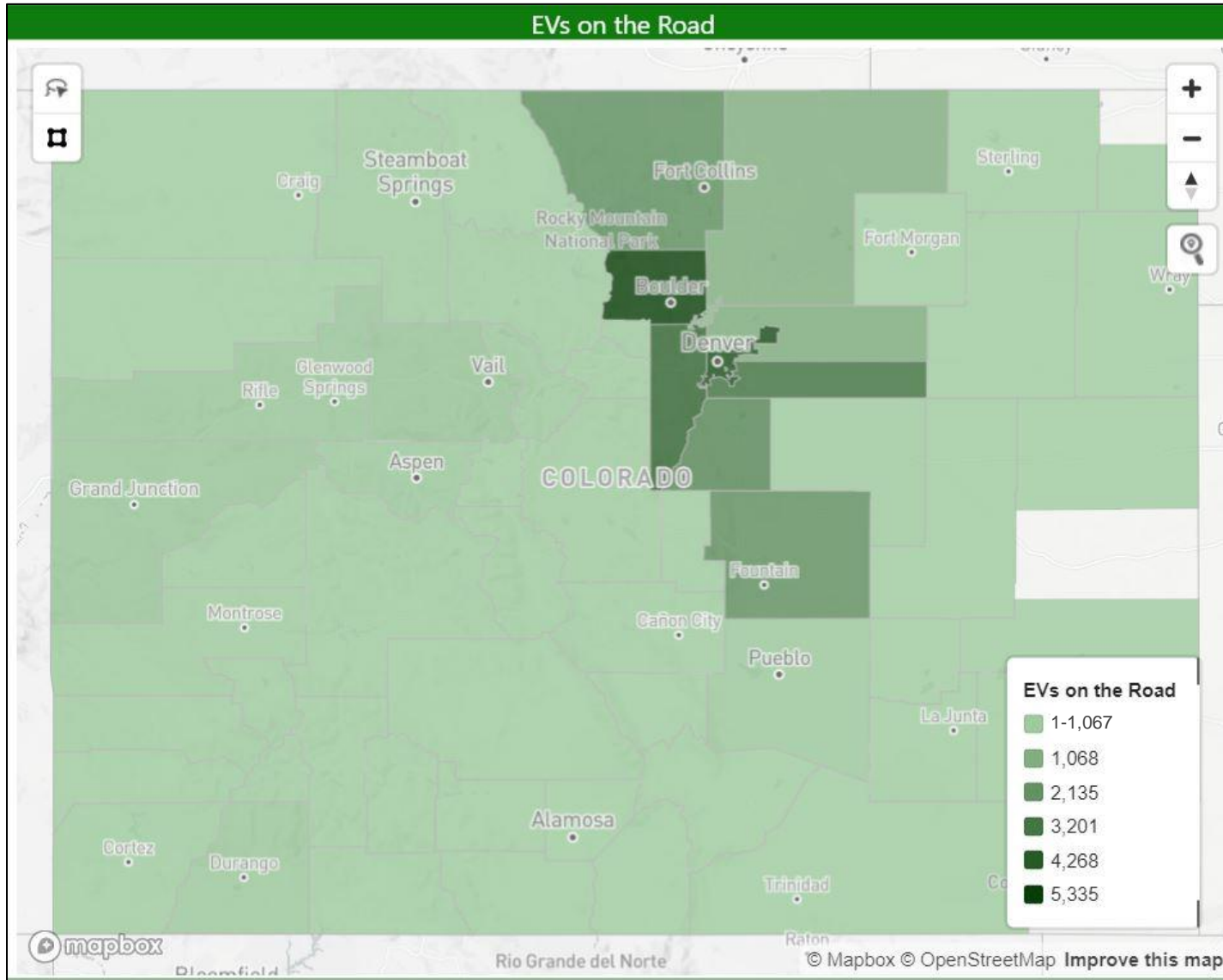
electrify
america



EVgo



EV Market Background



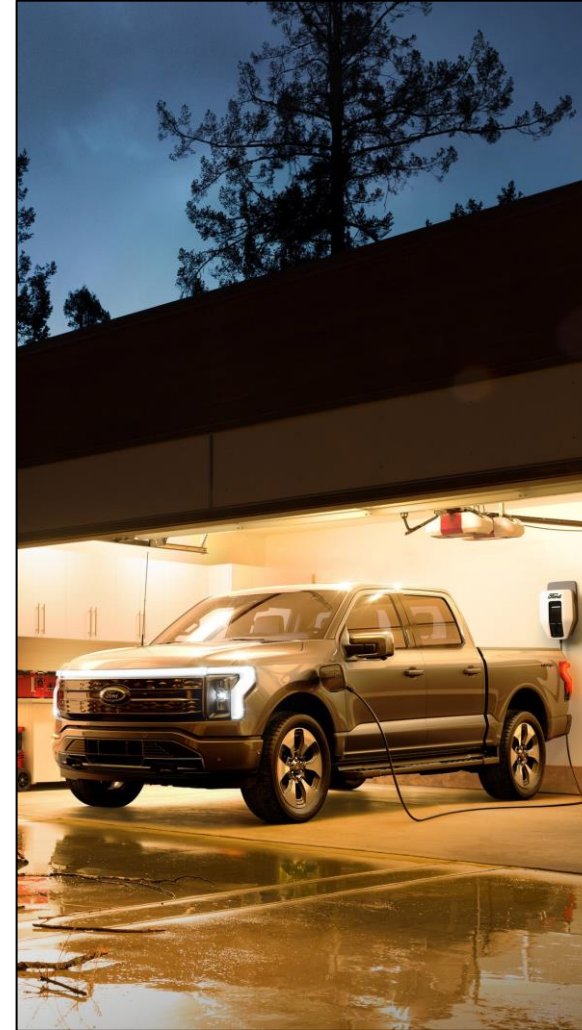
36,171 EVs in Colorado

- 25,372 BEVs
- 10,799 PHEVs



Increasing Vehicle Availability

- In 2019, Colorado adopted the Zero-Emission Vehicle standard that will require automakers to make a greater number and variety of ZEVs for sale in Colorado, increasing consumer choice.
- Colorado is currently assessing the Advanced Clean Truck regulation passed by California, which takes a similar approach but would apply to medium- and heavy-duty trucks.
- Both of the regulations are or would be applied to manufacturers, not consumers.

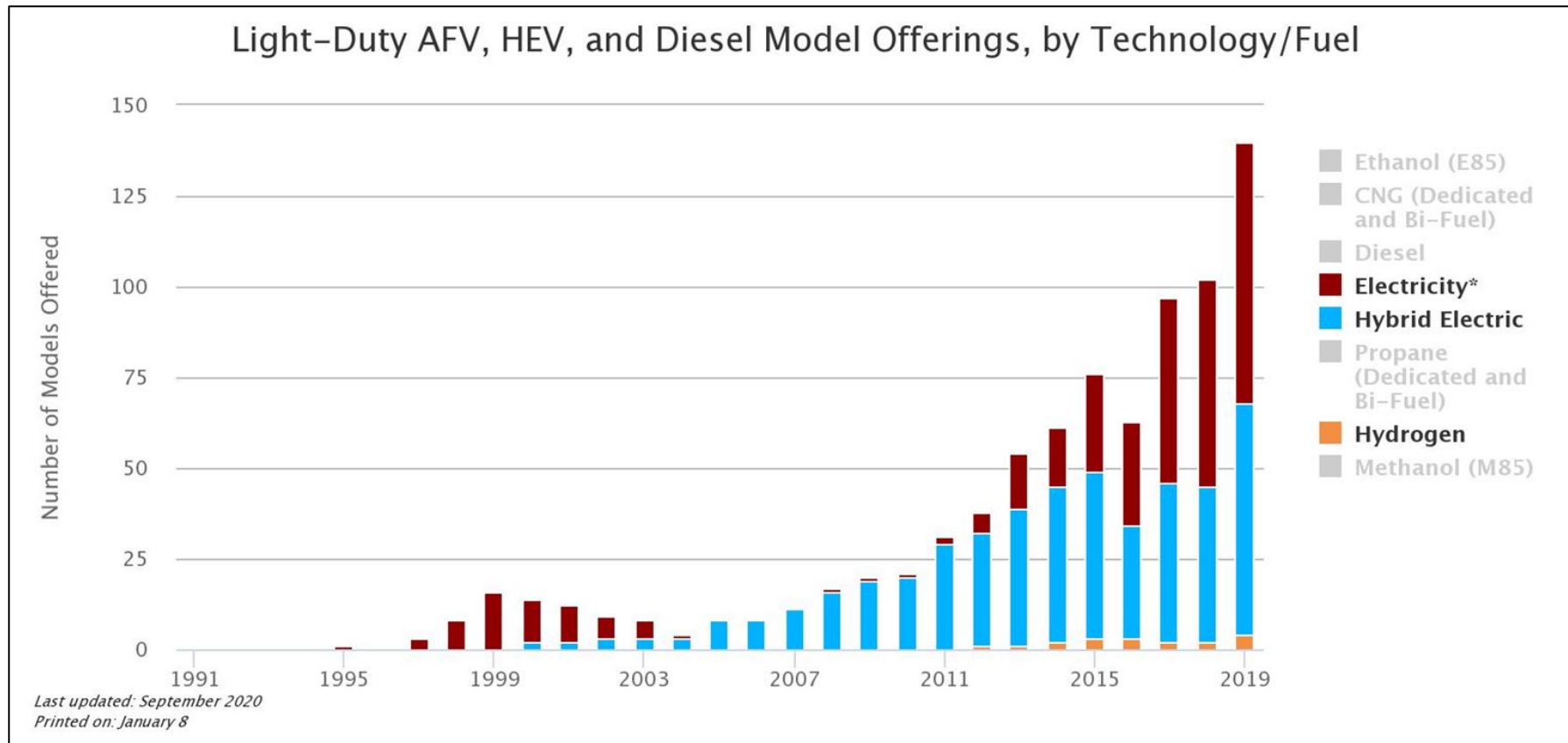


Source: The New York Times



Increasing Vehicle Availability

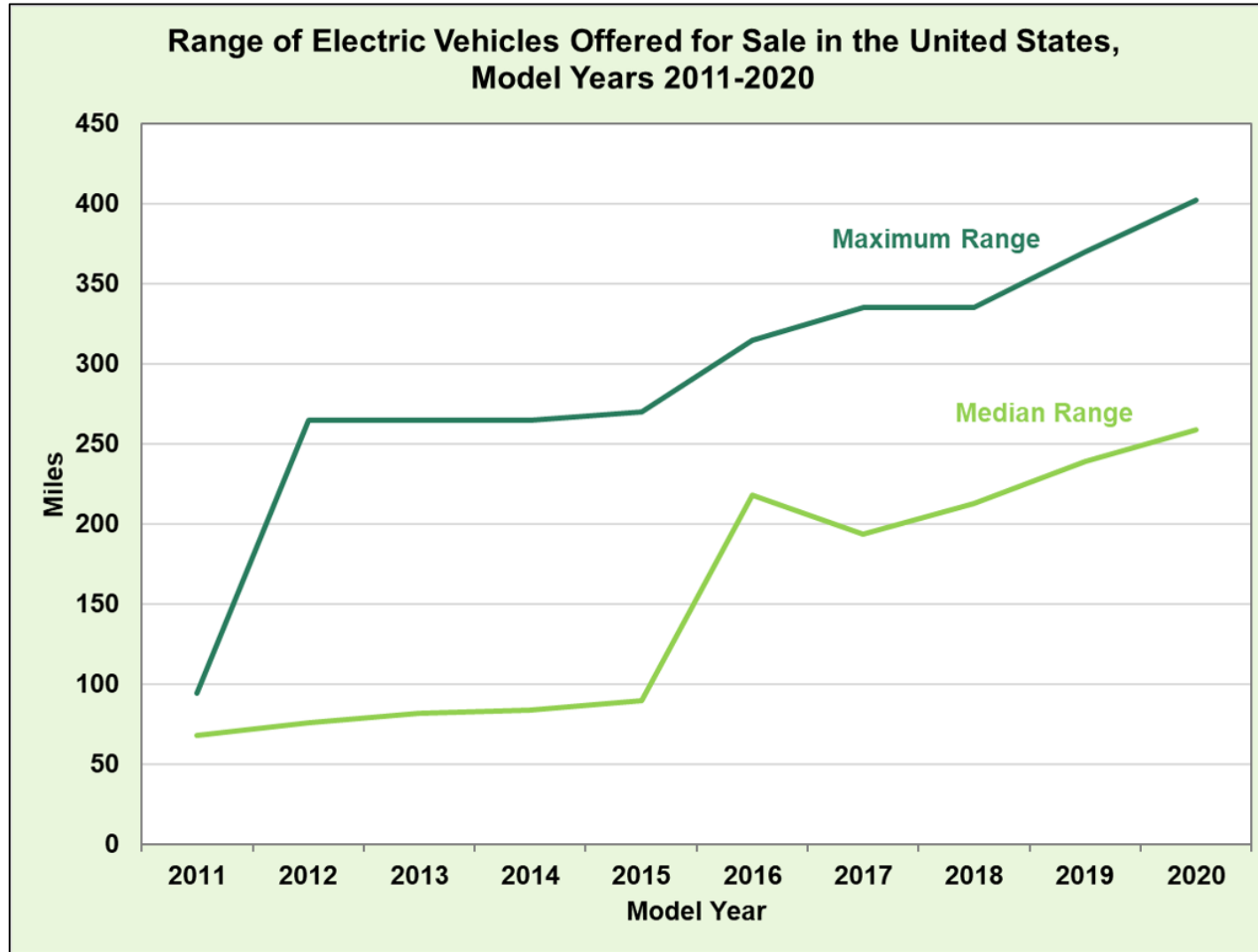
- Between this ZEV standard and the natural progression of the EV market, a greater number and variety of vehicles are available each year.



Source: U.S. Department of Energy Alternative Fuels Data Center website (as of 1/8/2021)



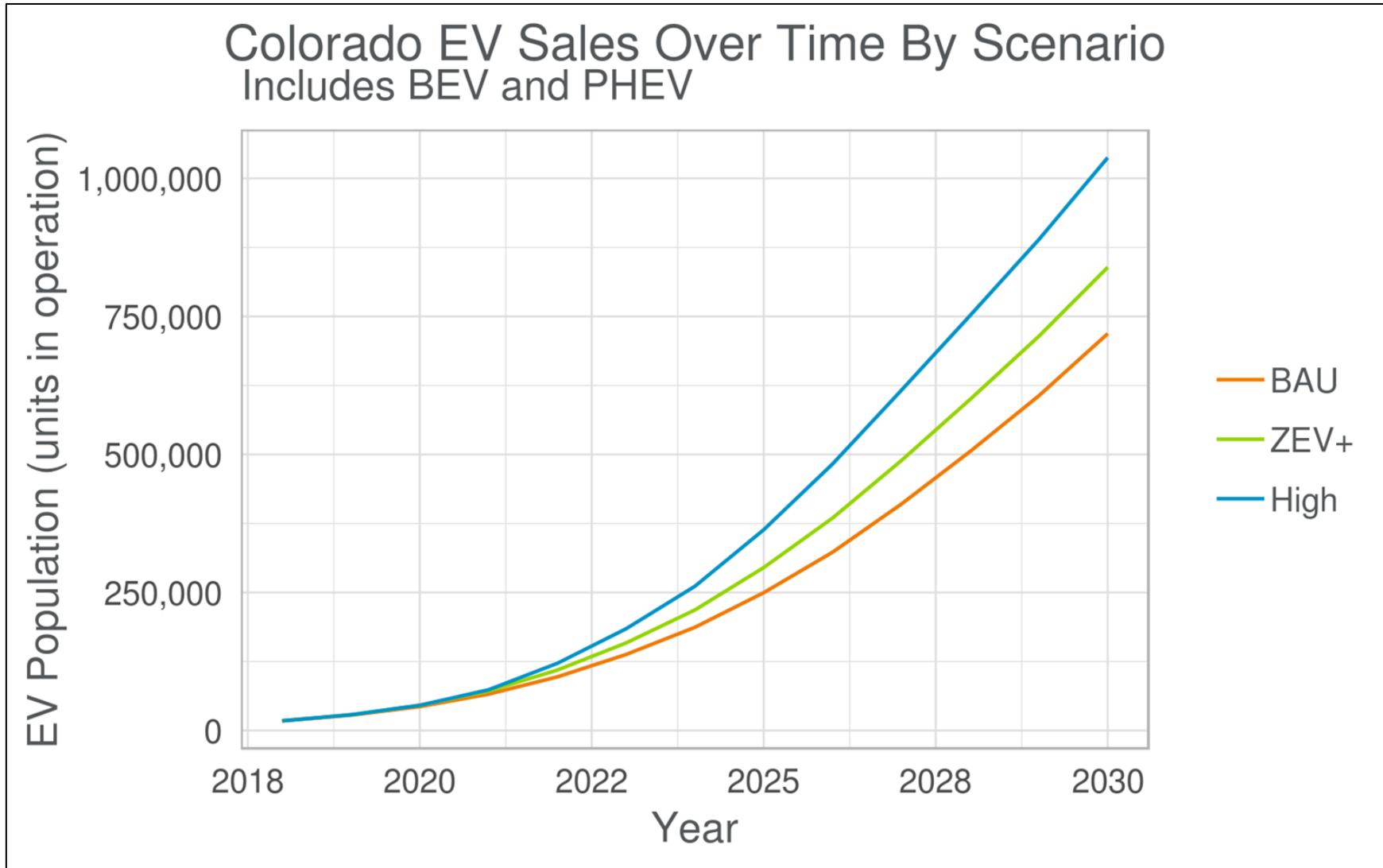
EV Technology Improvement



Source: U.S. Department of Energy and U.S. Environmental Protection Agency, Fuel Economy website (as of 10/30/20)



EV Growth Projections

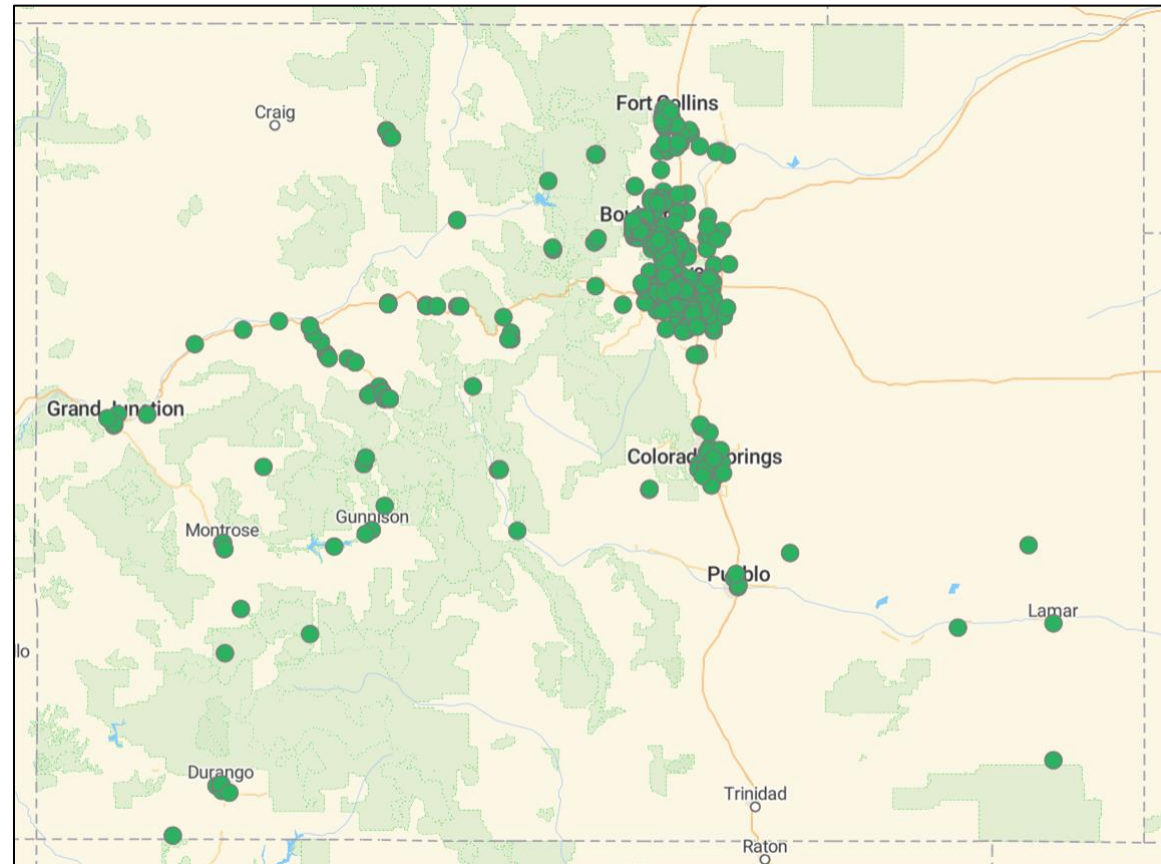


Source: Navigant (2019)



Charge Ahead Colorado Grants

- Partnership between the Colorado Energy Office and Regional Air Quality Council.
- Grants for community-based Level II and DC fast-charging stations across the state.
- Funded via CMAQ, VW Settlement, state EV registration fees, and public/private match.
- Over 1,300 charger grant awards to-date.



Source: Alternative Fuels Data Center <https://afdc.energy.gov/>



DC Fast-Charging Corridor Grants

- \$10.33 million award made to ChargePoint to build 34 DCFC across six corridors (funded by CMAQ, VW Settlement, and private match).
- 2-4 chargers at each site; capable of providing at least 50 kW and up to 150 kW charging.
- Statewide network ensures a consistent driver experience at every station.
- Committed site hosts: retail, grocery, c-store, and local governments.
- State-of-the-art modular technology allows for expansion.
- Anticipated opening of all sites in 2021

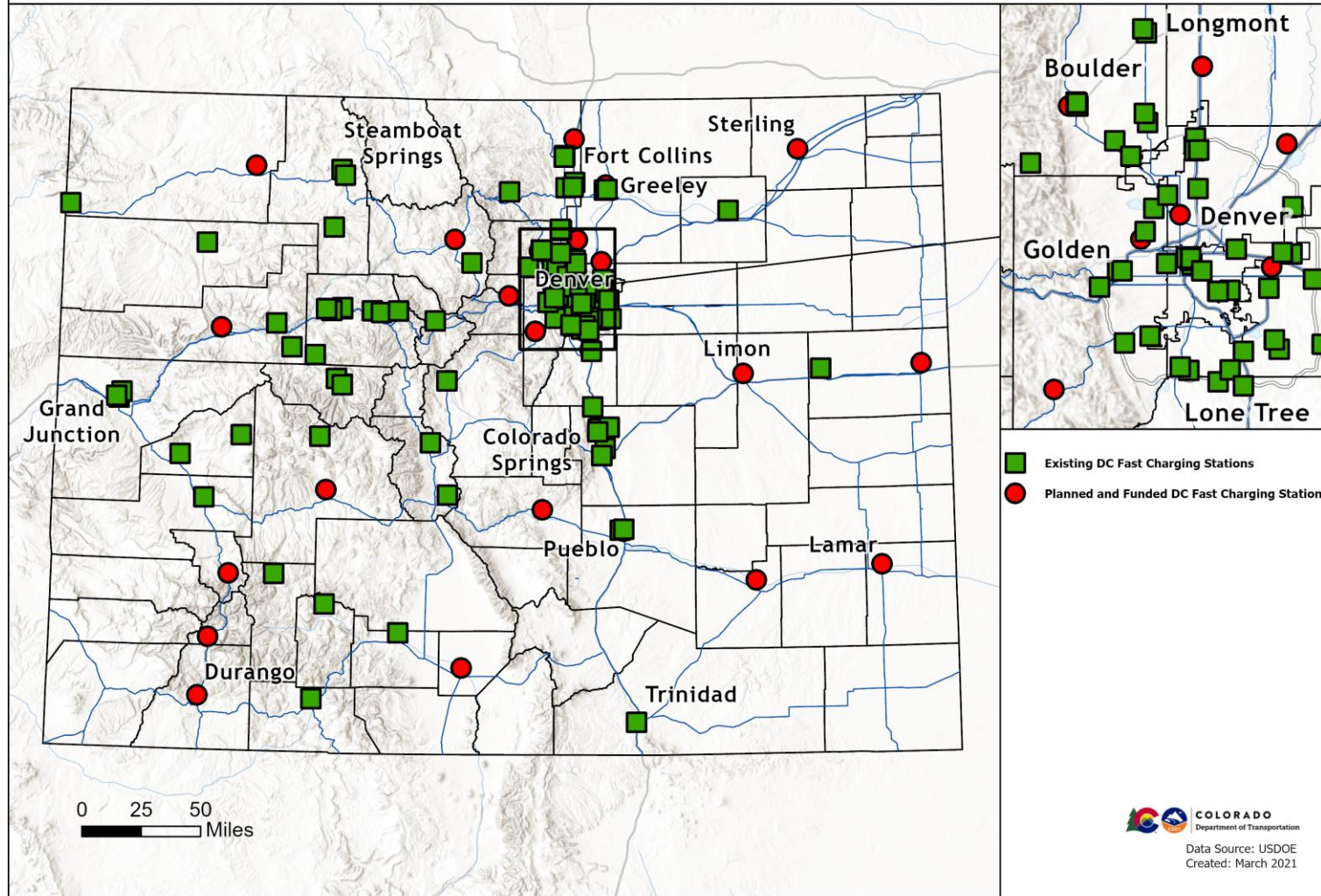


DC fast-chargers at the Dinosaur Welcome Center



Statewide EV Fast Charging Corridors

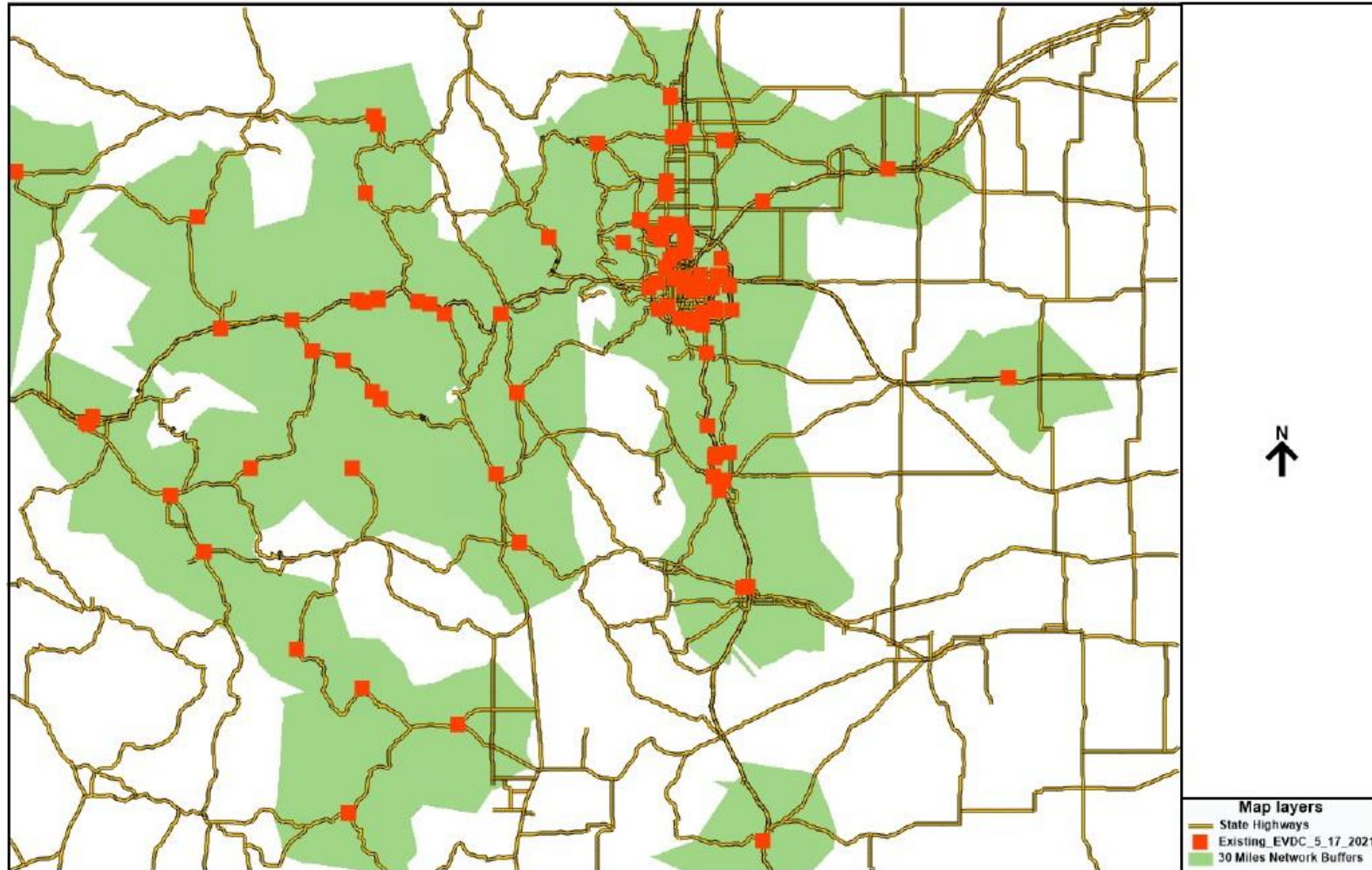
Publicly Accessible EV Fast Charging Network 2021





Statewide EV Fast Charging Corridors

Colorado Existing EV Fast Charging Stations (126) (with 30 Miles Travel Buffers) Updated 05/26/2021



Total State Hwy Miles	30 Miles Network Buffer's Miles	% of State Hwy Miles In Buffers
9,067	4,604	51%



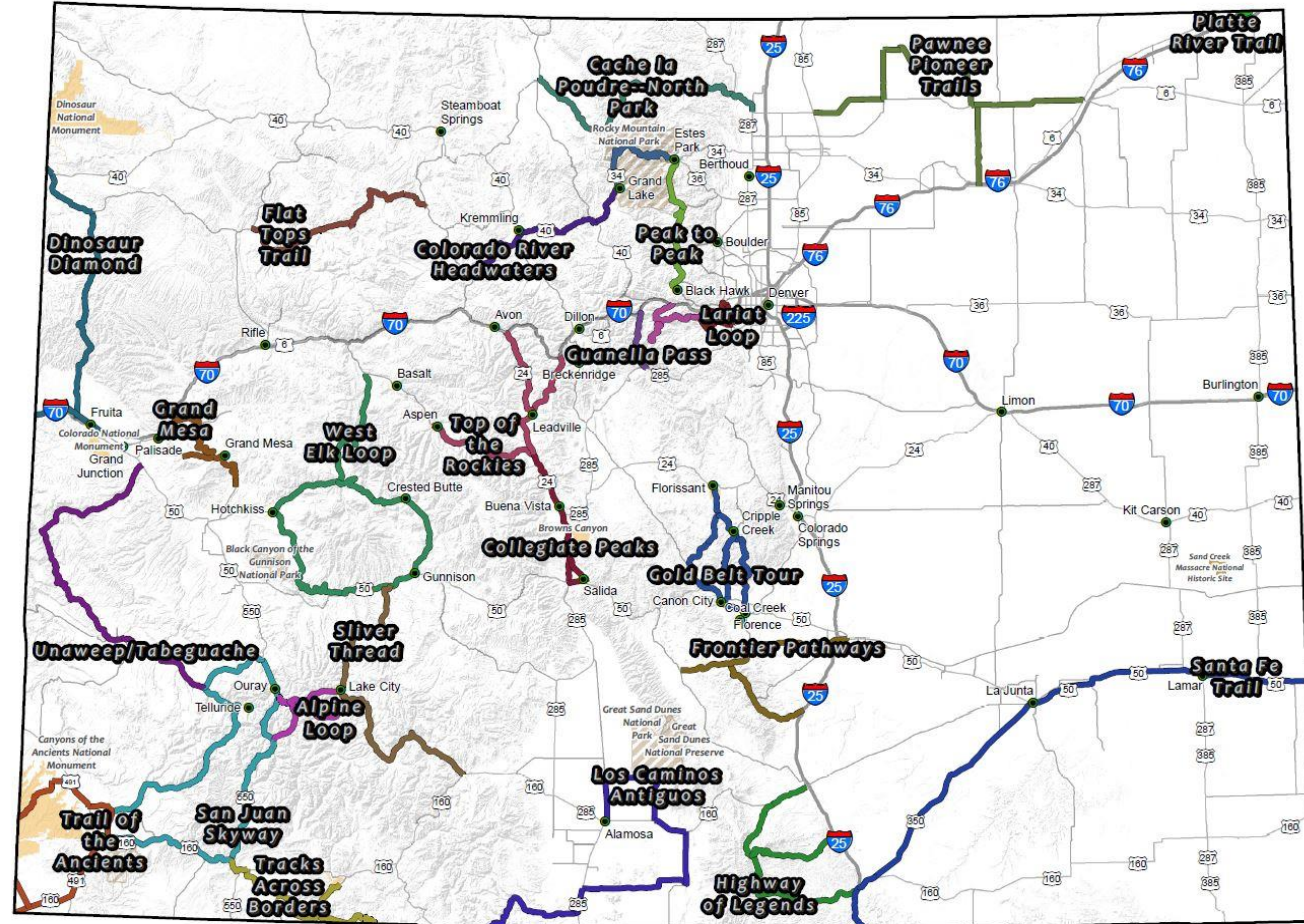
Scenic Byways Electrification & Rural Economic Development

Completed

- Lariat Loop
- Grand Mesa
- Silver Thread
- Collegiate Peaks
- Flat Tops Trail
- Trail Ridge Road
- Top of the Rockies

In-Progress

- West Elk Loop
- Colorado River Headwaters
- Guanella Pass
- Peak to Peak



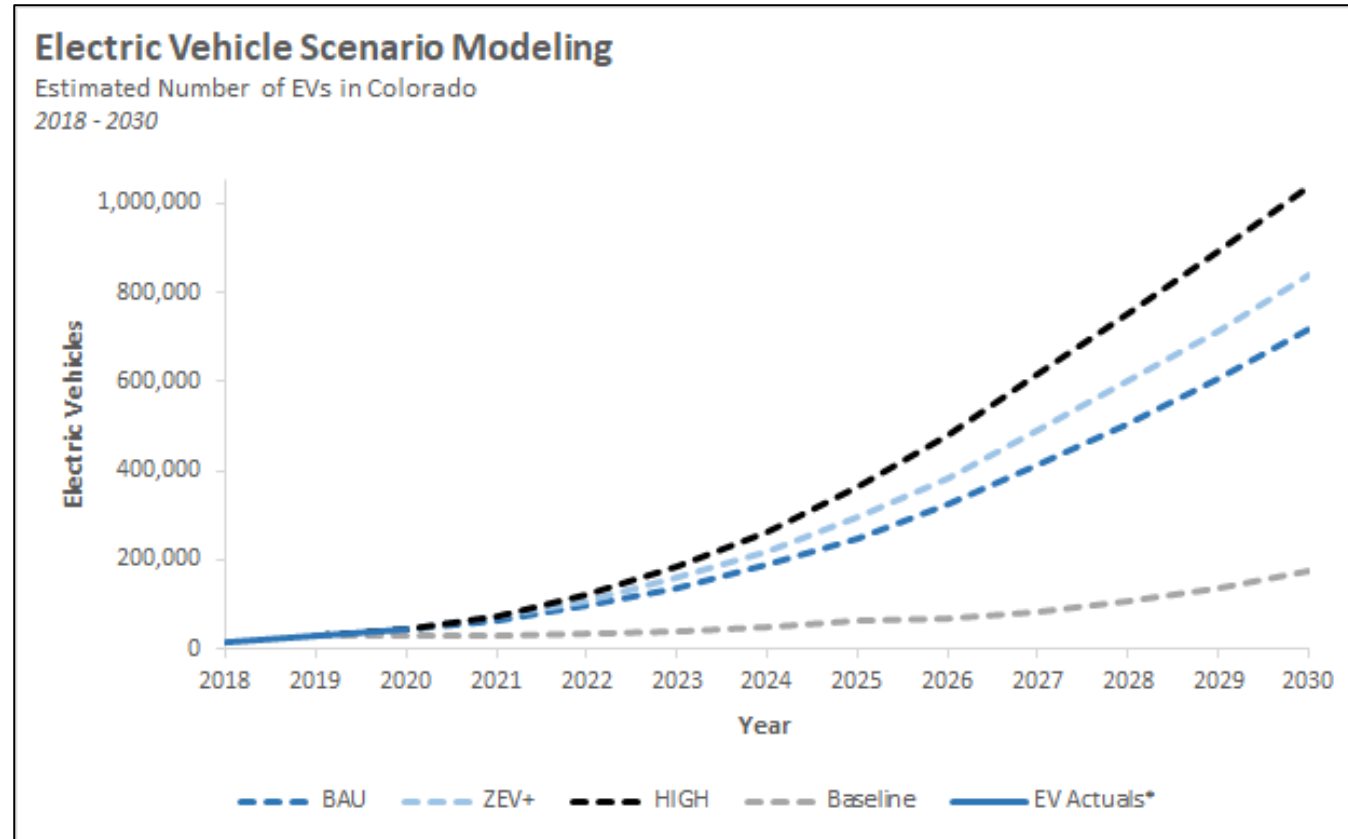


CDOT Funding Streams

Funding Type	Total / Remaining Funds	Funded Programs	Pros/Cons
Congestion Mitigation & Air Quality Improvement (CMAQ)	\$15 million / \$1.5 million	Alt Fuels Colorado (DCFCs and Vehicles) Charge Ahead Colorado (L2s and DCFCs)	<u>Pros:</u> Large, consistent funding pool <u>Cons:</u> Buy America waiver issues
Volkswagen Settlement	\$10.3 million / \$4.4 million	Alt Fuels Colorado (DCFCs) Charge Ahead Colorado (L2s and DCFCs)	<u>Pros:</u> "Outside" money (i.e. no internal competition) <u>Cons:</u> Limited eligibility; one-time allocation; scrapping required
State HUTF	\$3 million / \$2.8 million	Electrified Byways & Tourism Program (L2s and DCFCs)	<u>Pros:</u> More flexibility than federal funds (i.e. match levels) <u>Cons:</u> Smaller, conditional allocations
State EV Registration Fees	≈\$1 million per year / ongoing	Charge Ahead Colorado (L2s and DCFCs)	<u>Pros:</u> Self-sustaining resource <u>Cons:</u> Small and unpredictable



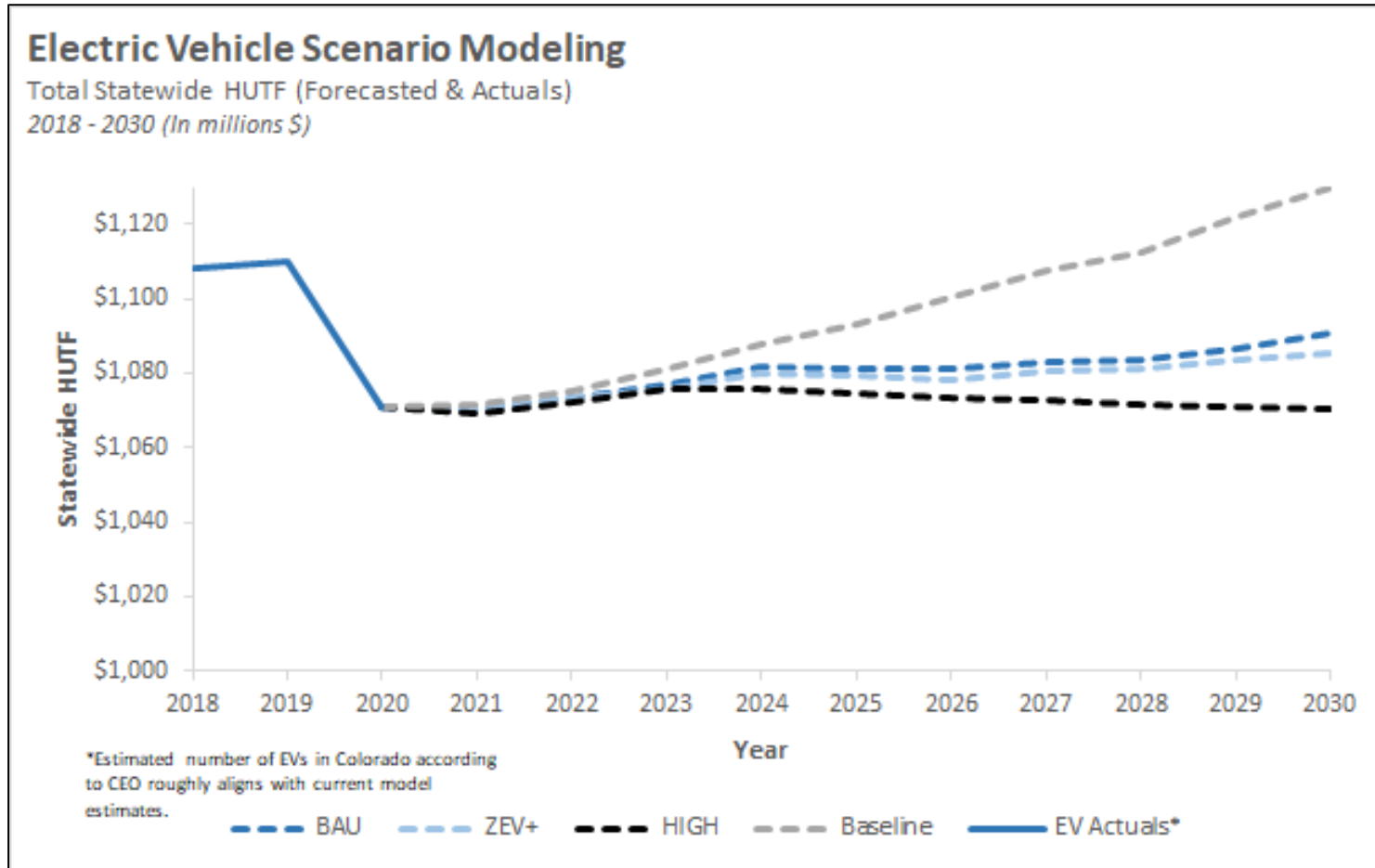
CDOT Revenue Impacts



- CDOT Accounting & Finance staff integrated EV adoption forecasts into the existing CDOT revenue model to assess high-level impacts
- Scenarios included the model's baseline plus 3 scenarios developed by Navigant for the CEO in 2019



CDOT Revenue Impacts



- Results indicated that under the highest EV adoption scenario, overall HUTF decreases by approximately \$19 million in 2025 and \$59 million in 2030 (out of \$1.07 billion) compared to the baseline scenario



Questions & Contact



Contact:

Michael King

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Webinar Overview



Wrap-Up

**Thank you for attending
today's webinar**

**The BATIC Institute will post responses
to all questions received today on its website**

**The recorded webinar will also be available
on the BATIC Institute website:**

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