

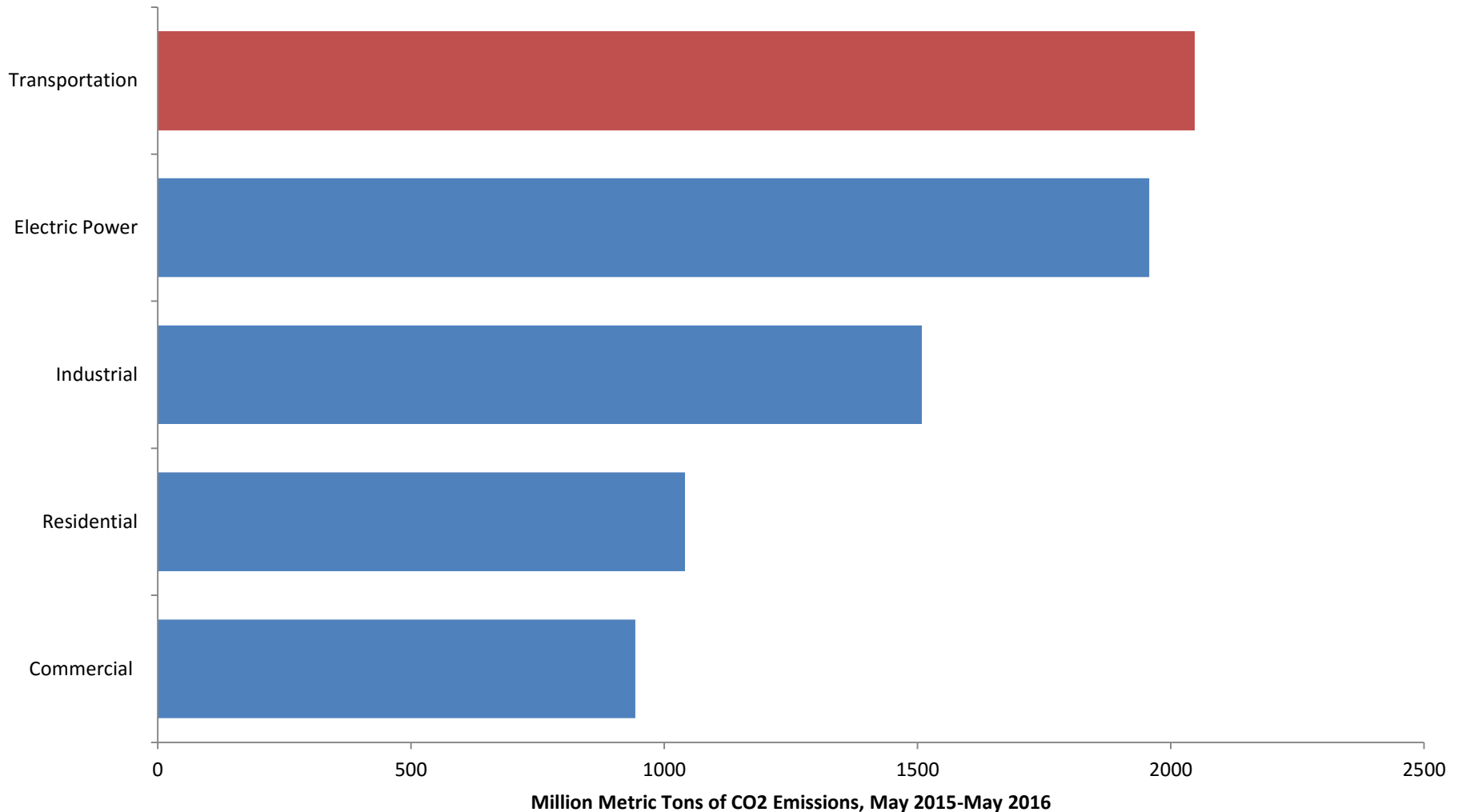
EV policy in Colorado

Will Toor

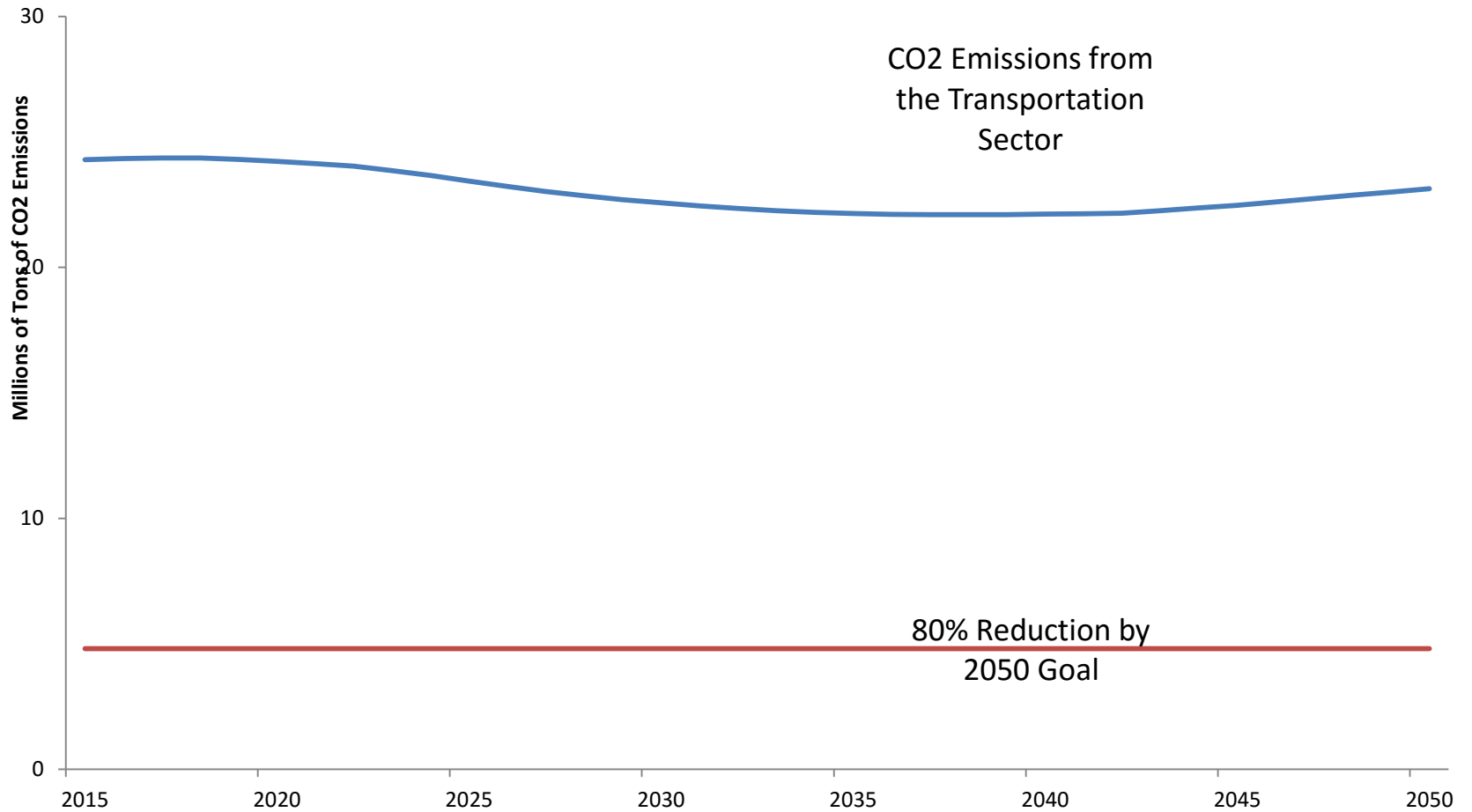
Southwest Energy Efficiency Project



Why EVs? Transportation now largest source of climate pollution in US



Business as Usual Scenario



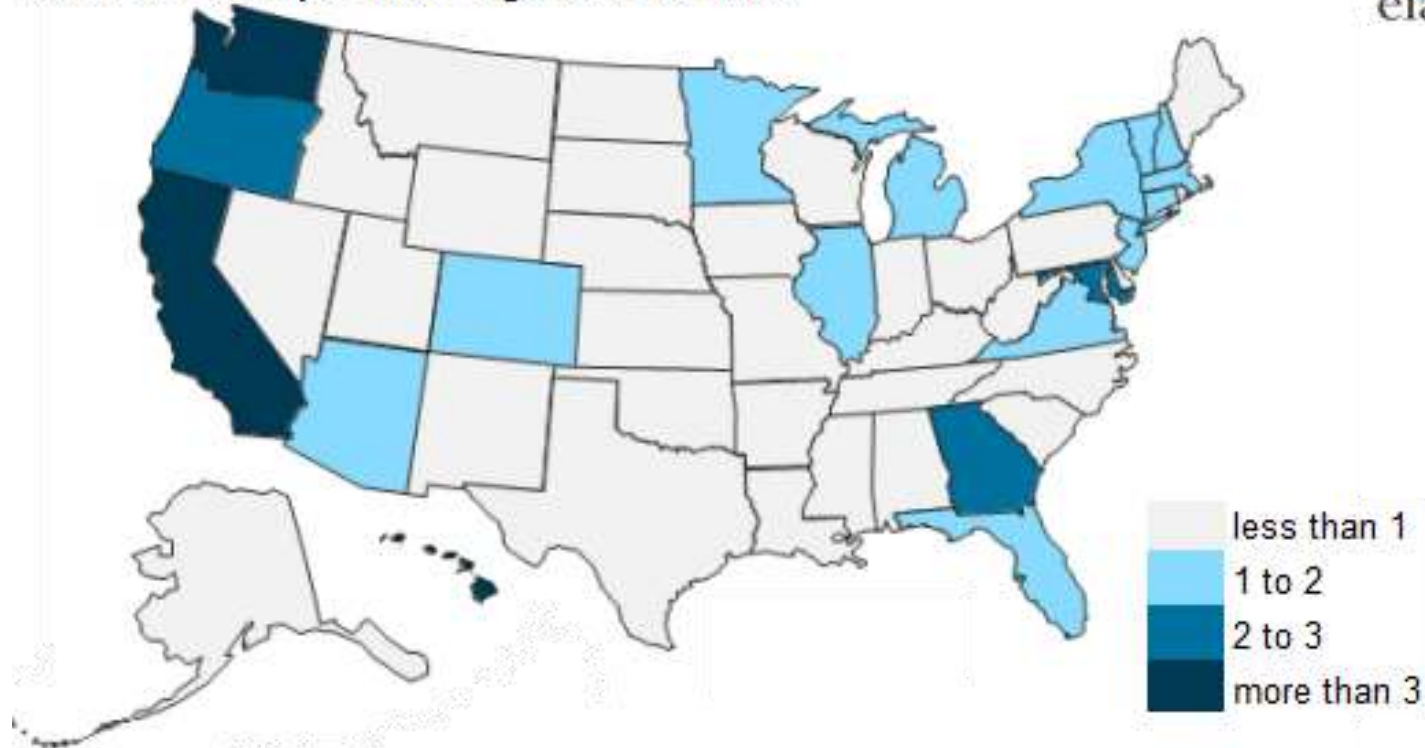
What will it take?

- Must stop vehicle miles travelled from growing as fast or faster than population
- Must increase efficiency of trucks, and convert to low carbon fuels
- **Need to electrify light duty vehicles** – by 2050 need 100% to be EV or PHEV – while moving to low carbon electricity

Colorado well positioned for EVs; but we could do better

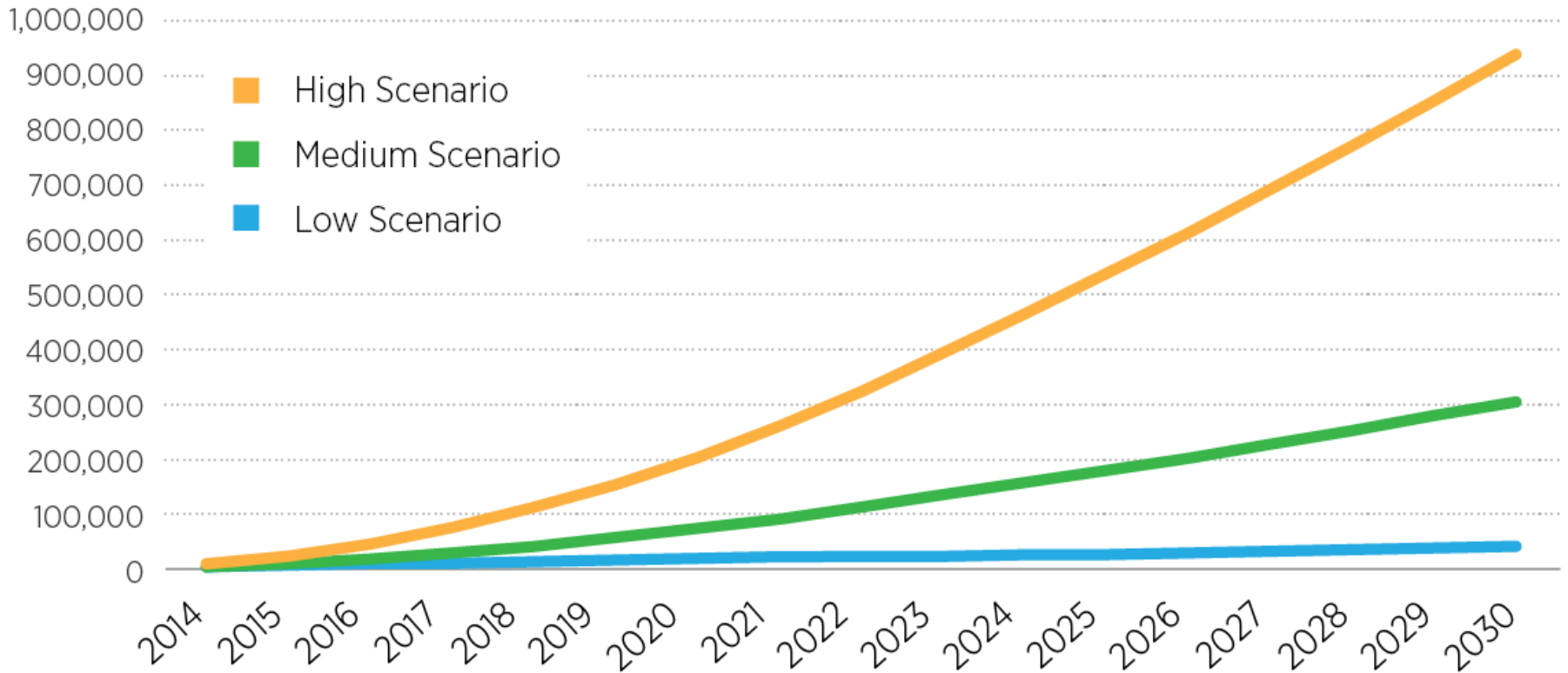
- State tax credit is best in nation
- EV group purchase programs are a national model

Electric vehicles per 1,000 registered vehicles



Colorado EV Market Projections

COLORADO EV STOCK GROWTH TO 2030 BY SCENARIO

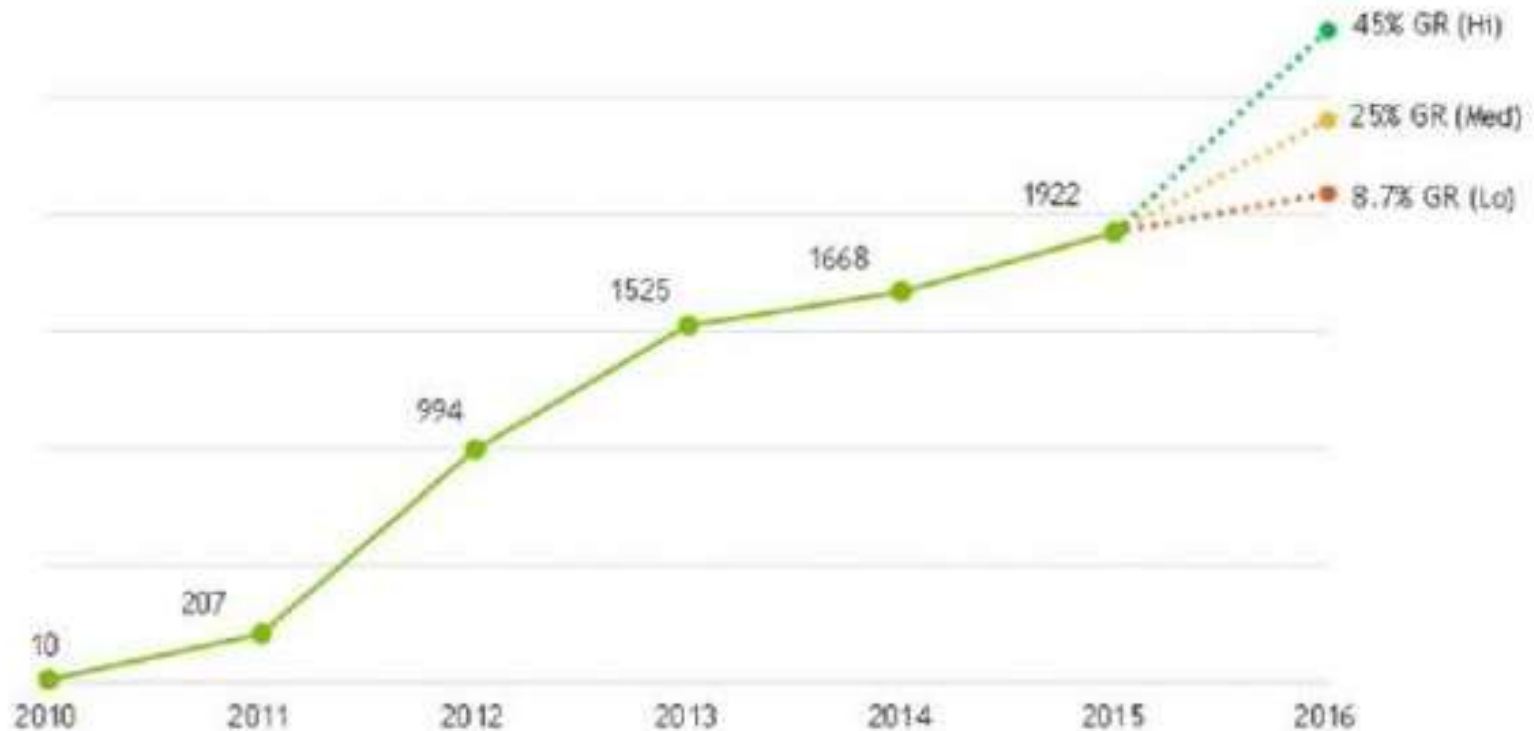


Source: Colorado EV Market Implementation Study, Colorado Energy Office, 2015,

Significant sales increases each year



New Colorado EV Registrations



Data Source: R.L. Polk

EV/PHEV sales growing rapidly

- 2016 YTD – PHEV sales up 68% over 2015
- 2016 YTD – BEV sales up 16% over 2015
- Source: hybridcars.com 9/16 dashboard

Colorado Policy map

- Removing regulatory barriers – deregulating resale of electricity for charging
- Net metering for charging to support EV/PV
- Financial incentives – EV tax credit
- Marketing/Group Buys
- Investment in charging – leveraging federal transportation \$
- Engaging utilities
- EV friendly building codes

Removing regulatory barriers

- 2012 legislation deregulated resale of electricity for charging+ required net metering for solar+ charging



Financial incentives for vehicles

- 2013 tax credit legislation of up to \$6,000 for EV + CNG vehicles, authorized through 2021
- 2016 – simplified to \$5000 flat credit, assignable and refundable
- “What's the best place in the country to buy a new electric car? That honor arguably goes to Colorado” – Washington Post, May 2016

CO EV tax credit

- “What's the best place in the country to buy a new electric car? That honor arguably goes to Colorado” – Washington Post, 5/24/16



Gov Hickenlooper signs HB 1332

Boulder Daily Camera headline 9/26:

- **Hundreds in Boulder County sign on to Solar Benefits Colorado program**
- **Bulk-buying initiative for electric vehicles and solar systems may be expanded**



Investment in charging

- 2013/14 legislation created state EV Infrastructure Fund
- Ongoing funding from \$20 annual EV fee
- State DOT and MPO have made multiyear commitment of federal formula funds (CMAQ) for CNG + EV
- Administered by Energy Office and Regional Air Quality Council
- VW Settlement could bring \$9.2 million for charging + ZEV grant fund

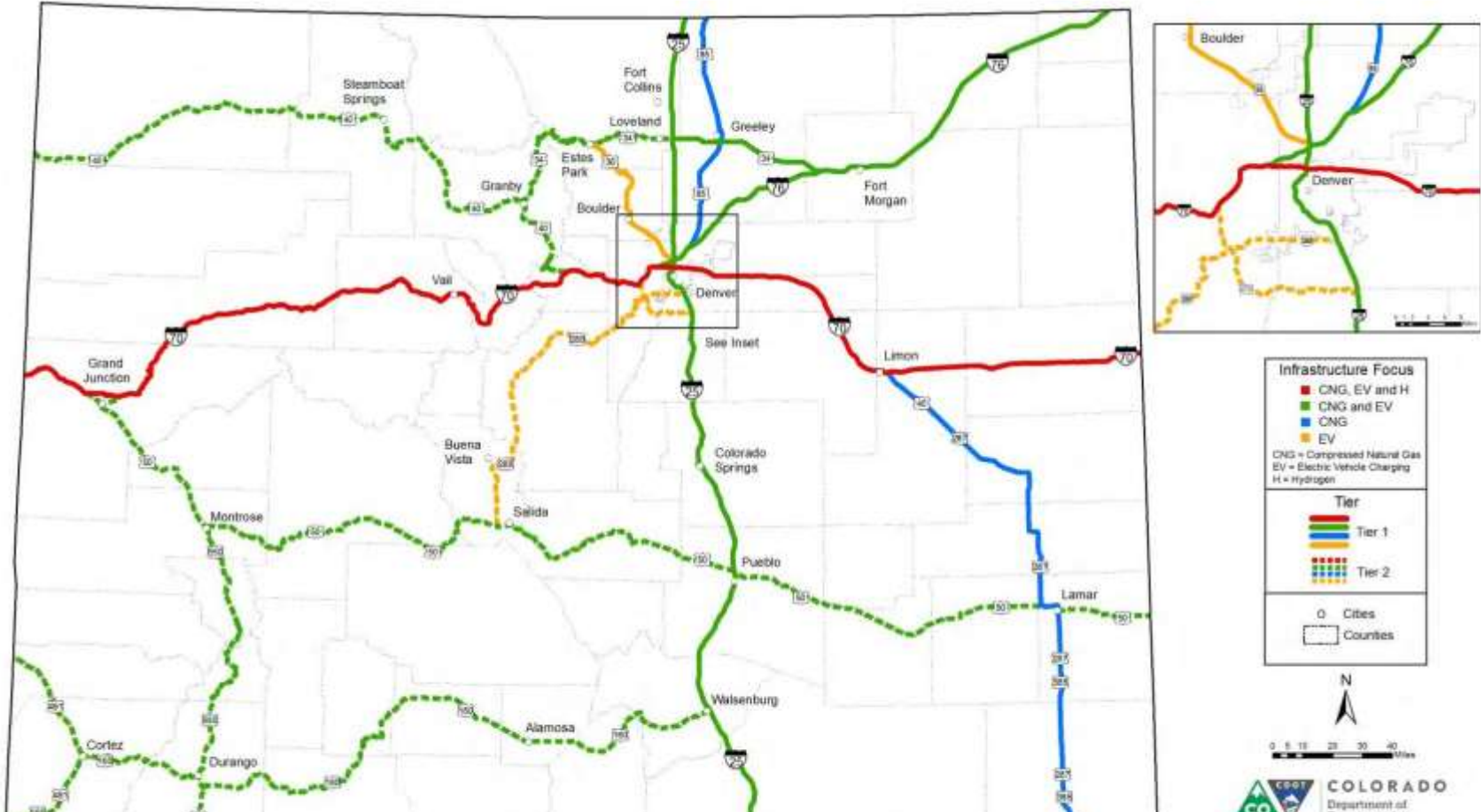
VW Settlement Opportunity:

- Colorado will receive \$61.3 million through environmental remediation fund
- Up to 15% may be used for light duty EV charging
- Remainder can be spent on trucks, buses for new diesels, natural gas vehicles or electric vehicles
- Greatest benefits- focus on investment in EV charging and replacing diesel buses with electric buses
- Create the CO electric highway network



Fast charge corridors

Vehicle Corridors – Source CDOT



Utilities should be major players supporting EVs

“The bottom line is that the electric utility industry needs the electrification of the transportation sector to remain viable and sustainable in the long term.”

-Conclusion of Edison Electric Report, June 2014

Adding EV load pushes rates down

- Most EV charging is at night, during off peak
- Net effect is downward pressure on rates
- Smart management of charging also could allow more use of renewables

Potential Colorado policy

- Authorize utilities to rate base investment in EV infrastructure and programs
- Require utilities to develop EV action plan for submittal to PUC
- Plan should address consumer rebates; utility investment in charging; demand charges for fast charging; and consumer education
- In 2015, 2016 California, Oregon, Utah all passed utility EV legislation

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