Transportation Electrification Update

July 2, 2024
UTC EV Policy Workshop
Rendall Farley, P.E. – Manager of Clean Energy Solutions

Plan Contents

- Charging Infrastructure
- Community and Low-Income Support
- Education and Outreach
- Fleet Support
- Load Management & Grid Integration
- Rate Design
- Technology and Market Research
- Utility Fleets, Facilities and Employee Engagement

Check it out at: myavista.com/transportation

TE Plan – 2023 Report & Future Direction

- Realizing high adoption trajectory for light-duty vehicles (LDVs) – 50% annual growth in 2023
- High customer satisfaction at 97%
- Successful Community Programs and Investments
- Grant awards & Clean Fuels Program (CFP) funding will help scale up future activities
- Key priorities and future challenges / opportunities

4,995	Number of light-duty passenger and truck EVs re service territory in Washington State, as of Dece
50%	% annual growth
$5.9 million	Regional transportation cost savings
15,816	Avoided tons of CO_2 emissions
10,971	MWh charging consumption
2.7	MW charging peak load
$1,104,154	Revenue from light-duty EV charging
$2,074,602	TE Capital investments
$486,646	TE Operating & Maintenance expenses
$208,373	Grant reimbursements received
751	Residential AC Level 2 (ACL2) ports in service
590	Commercial ACL2 ports in service
30	DC Fast Charging (DCFC) ports in service
98%	ACL2 equipment uptime
86%	DCFC equipment uptime
97%	Customer satisfaction with Avista TE programs

Table 1: 2023 TE Results

see: myavista.com/transportation

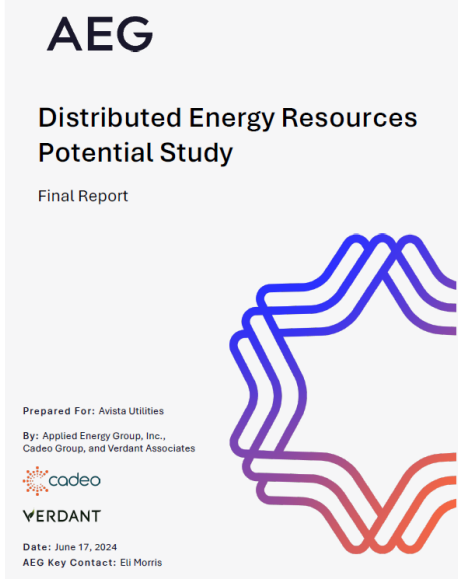
DER Study – Final Report

Table E-1. Year 2030 Electric Vehicle Results Summary, High-Incentive Scenario

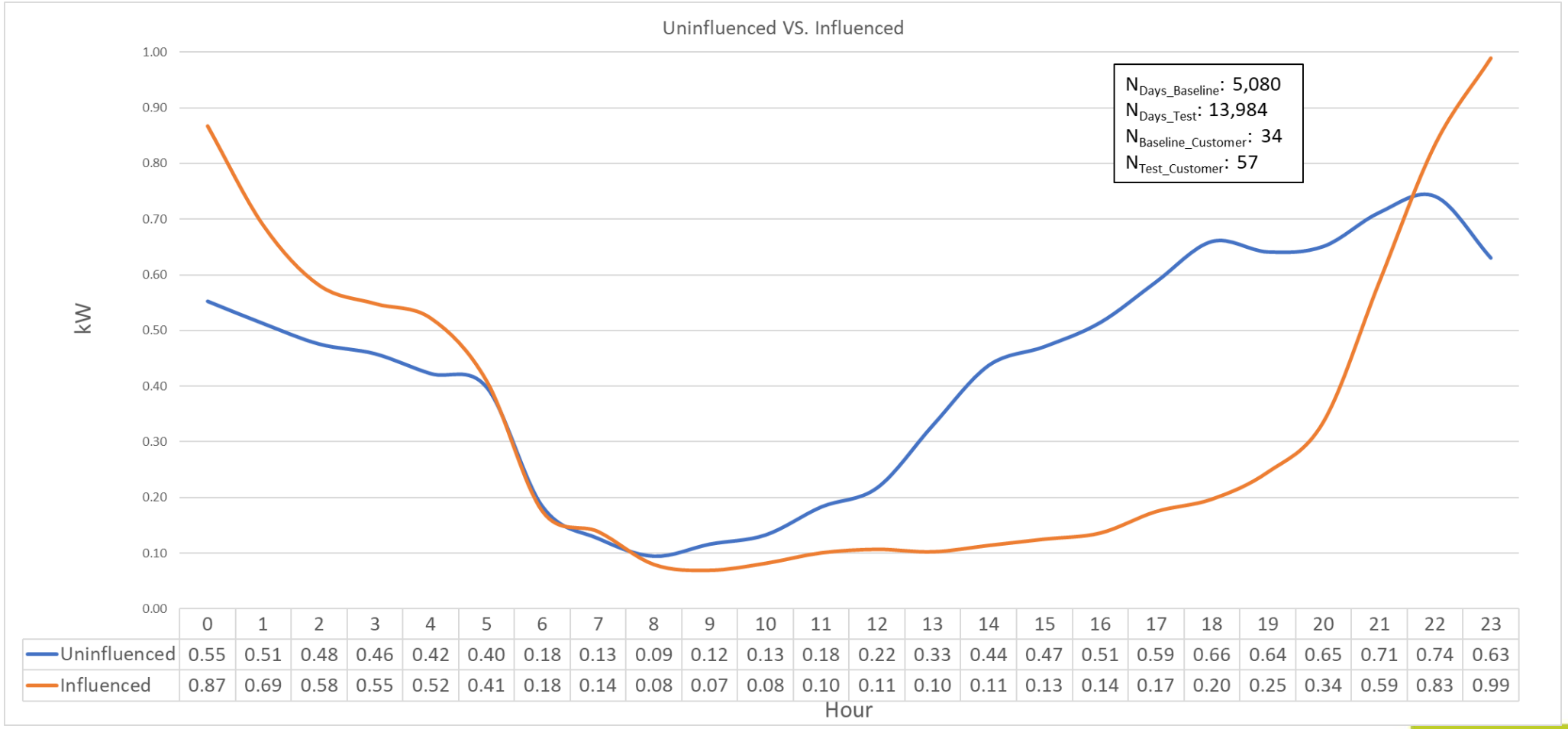
Vehicle Weight Class	Total Vehicles	% Electrified	EVs	Peak Load Impact (MW)	Annual Consumption (MWh)
LDV	519,499	20%	104,838	26.4	284,418
MDV	16,087	3%	436	3.0	25,913
HDV	10,348	3%	350	2.2	15,646
Total	545,934	19%	105,624	31.6	325,977

Table E-2. Year 2045 Electric Vehicle Results Summary, High-Incentive Scenario

Vehicle Weight Class	Total Vehicles	% Electrified	EVs	Peak Load Impact (MW)	Annual Consumption (MWh)
LDV	573,839	74%	426,534	97.8	1,389,054
MDV	17,855	30%	5,434	15.0	286,129
HDV	12,603	37%	4,662	19.3	381,437
Total	604,297	72%	436,630	132.1	2,056,621



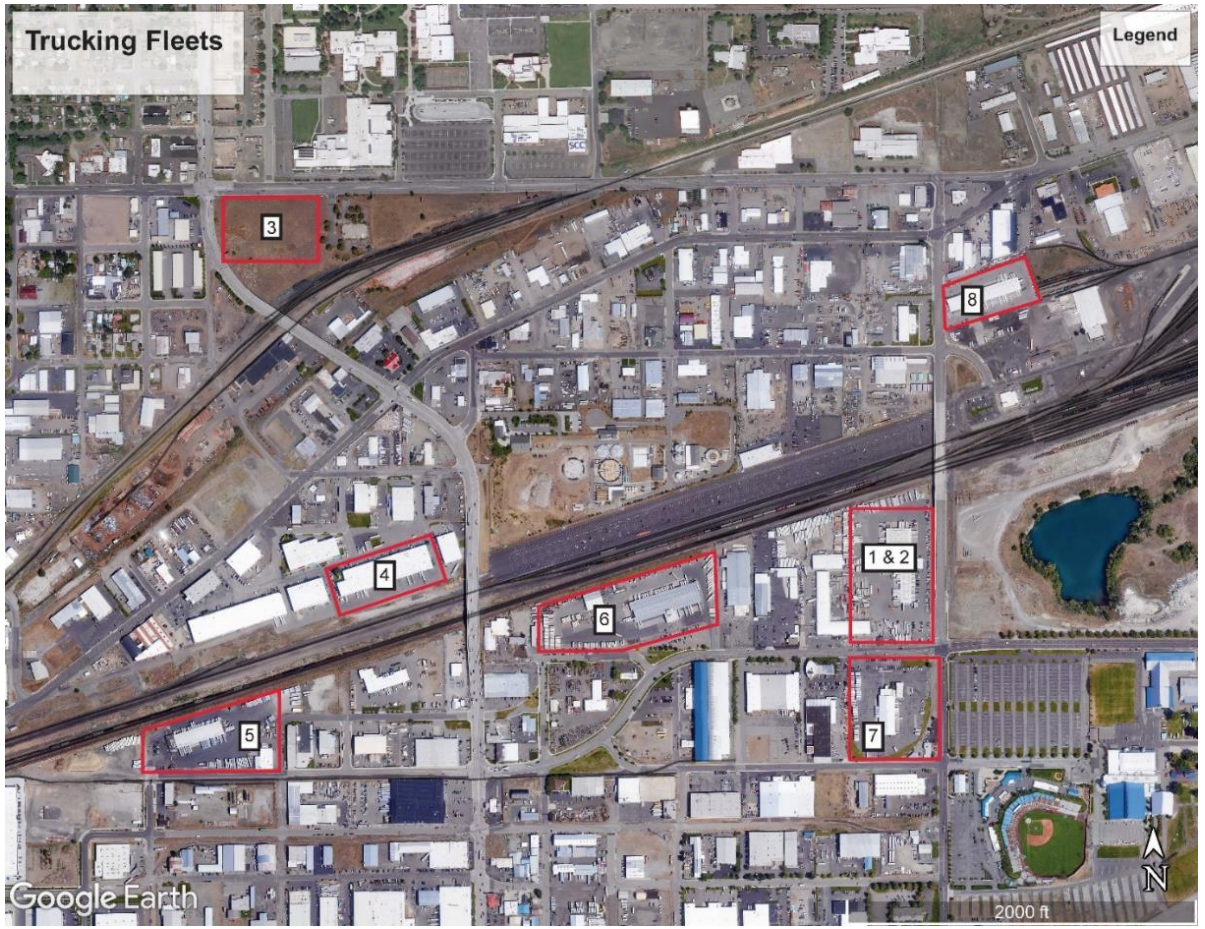
Smartcharging via Telematics – 94% off-peak for influenced control group



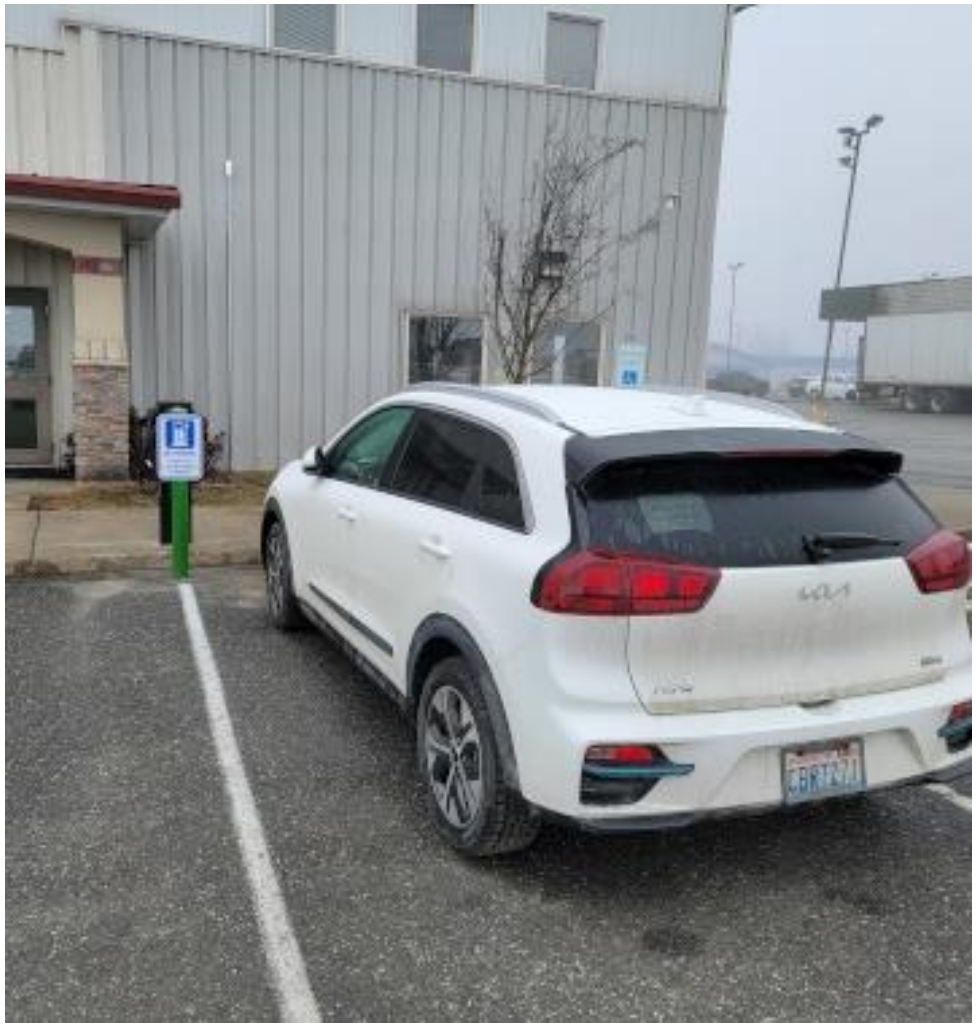
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Uninfluenced	0.55	0.51	0.48	0.46	0.42	0.40	0.18	0.13	0.09	0.12	0.13	0.18	0.22	0.33	0.44	0.47	0.51	0.59	0.66	0.64	0.65	0.71	0.74	0.63
Influenced	0.87	0.69	0.58	0.55	0.52	0.41	0.18	0.14	0.08	0.07	0.08	0.10	0.11	0.10	0.11	0.13	0.14	0.17	0.20	0.25	0.34	0.59	0.83	0.99

Planning for Distribution System Impacts of MHD Fleet Electrification

- Example Commercial /Industrial Area of E. Central Spokane
- 8+ trucking companies, other businesses with high impact potential: >30 MW likely within 10 years
- Even with cost-effective, reliable load management systems, a new substation will be needed at some point
- In general, when is a prudent time to invest and construct for future / anticipated TE load?



Community EV Program



EV and charging for CBO partner
Rural Resources provided by Avista (2023)

- Initiated in 2018
- 10 partner CBOs
- Adding 3 more this summer
- Education & outreach opportunities
- May be expanded in both scope and scale with CFP funding

Named Communities EVSE Investments & Partnerships

Public DCFC and L2 at the HIVE in partnership with the Spokane Public Library (2022)

Electric School Bus Support, Ridesharing, and Carsharing Programs

Avista helps bring first EV car share program to Spokane

by Janelle Kraft

Avista employees and community members pose for photos at the EV car share launch.

Working with community partners Zev Co-op, Urbanova and Gonzaga University, Avista's Electric Transportation team; **Rendall Farley** and **Lisa Garrett**, launched the first electric vehicle car-sharing program in Spokane.

ZEV co-op | Electric Carshare Cooperative

VL Transport & Avista
electric school buses placed in service (2023)

Challenges and Opportunities

- Funding for Smartcharging Program
  - CFP insufficient & inconsistent
  - Tariff rider or tracker could solve problem
- Get ready for MHD fleet electrification
- Utilize grants and CFP funding to expand Community EV and other programs
- EVSE reliability and maintenance
- DCFC regional buildout
- Vehicle-Grid Integration (VGI)

Electric Trolley Streetcars in Downtown Spokane (ca. 1900)

Appendix

Market Research – Q2 2024

Knowledgeable Negative 45%

"Overpriced, expensive vehicles with terrible towing capacity and limited range. There is a lack of uniform charging systems and service locations. The resale market for them is chance-y. When an EV can tow 3500lbs 350 miles and be ready to do it again with a 10-minute fill up time, I might consider one."

Knowledgeable Positive 17%

"Cheaper to operate."

"The future of all transportation."

"Environmentally sound vehicle."

"Electric vehicle=less pollution."

Low Knowledge Negative 30%

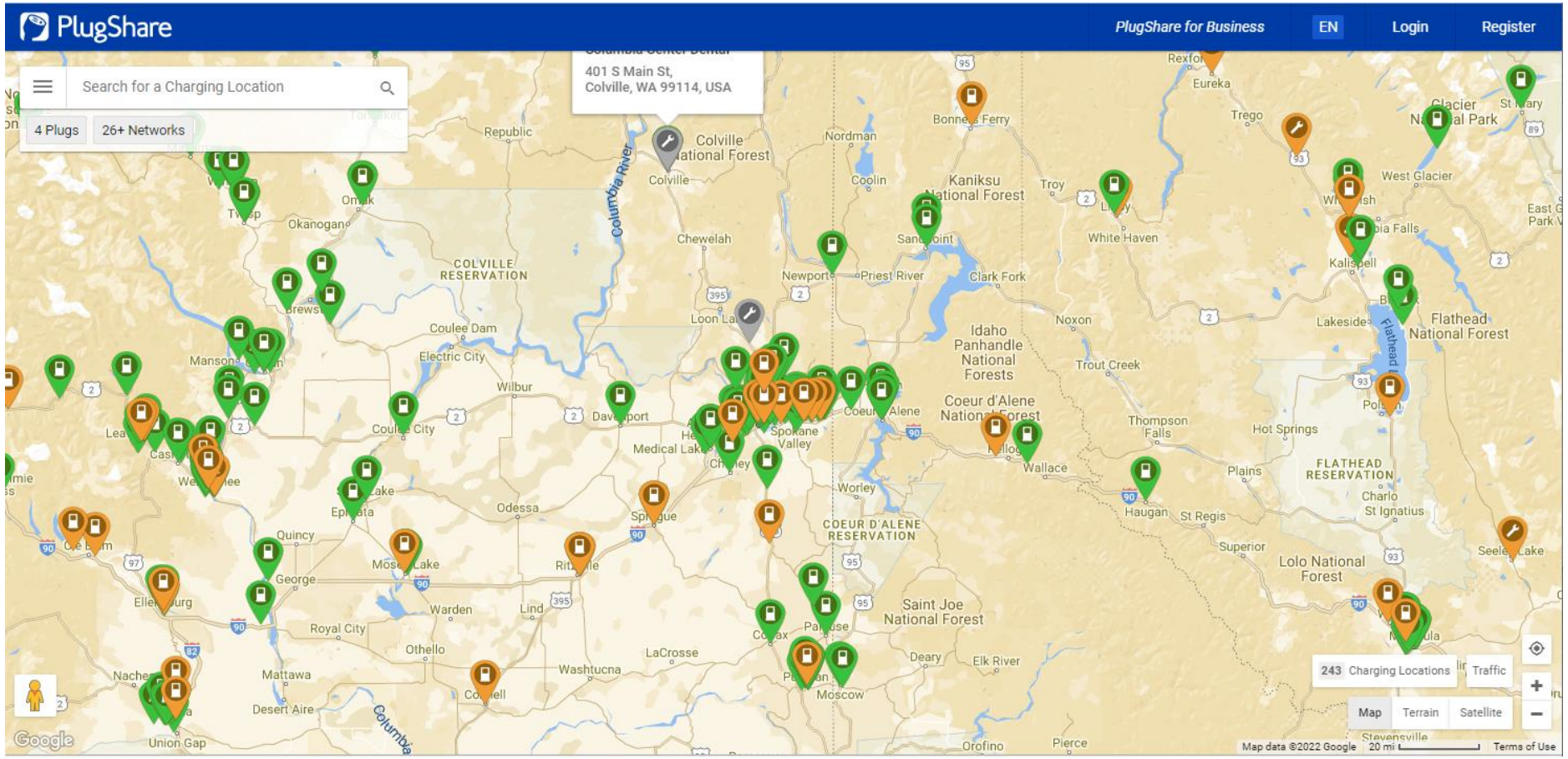
"No way would I ever drive one. I do not like the idea of having to stop and charge for hours. I like to go on road trips, and we can pack extra fuel. You cannot pack electricity. I think of the poor children working in unsafe mines to dig up cobalt and lithium, and the ridiculous cost to replace a battery."

Low Knowledge Positive 8%

"No gas fumes, easy maintenance, preference if affordable."

"Electric Vehicles saves gas, reduce emissions and will be all that is available in the future."

Current and Future State of Public charging



see plugshare.com