ALASKA ENERGY AUTHORITY

Alaska EV Working Group

Quarterly Meeting
November 17, 2026



ALASKA ENERGY AUTHORITY

50 YEARS OF SERVICE

Agenda

Introductions

Presentation – Electric Vehicles in the Arctic

- ***Michelle Wilber,*** *ACEP*

Program Update

- ***Quinlan Harris,*** *Alaska Energy Authority*

Around the Room Updates

- ***All***

Michelle Wilber



Latest results on EV research in Alaska

Fall 2026
AKEVWG



ACEP
Alaska Center for Energy and Power

#2318384
#2318385

NSF NNA Electric Vehicles in the Arctic (EVITA)

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Our Mission: Develop and disseminate practical, cost-effective and innovative energy solutions for Alaska and beyond.

Our Vision: Alaska leading the way in innovative production, distribution, and management of energy.



Grid Edge

ACEP's Grid Edge research program seeks to explore a range of distributed energy resources to unlock local, sustainable, healthy and cost-effective energy resources available to all in Alaska and in other parts of the nation and world.

These resources include small- and mid-market solar and wind facilities, behind the meter resources, electrified loads and battery storage.

Our research focuses on cold regions and microgrid environments to:

- Improve our understanding of applications and approaches;
- Test, model and optimize controls to integrate variable energy sources;
- Investigate social, technical, economic and regulatory factors affecting grid edge technologies; and
- Engage and grow stakeholder relationships.

Public Resources

EV calculator

Use the EV calculator

Alaska Solar Manual

Alaska-specific solar energy design information in one easy volume.

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UAF University of Alaska Fairbanks

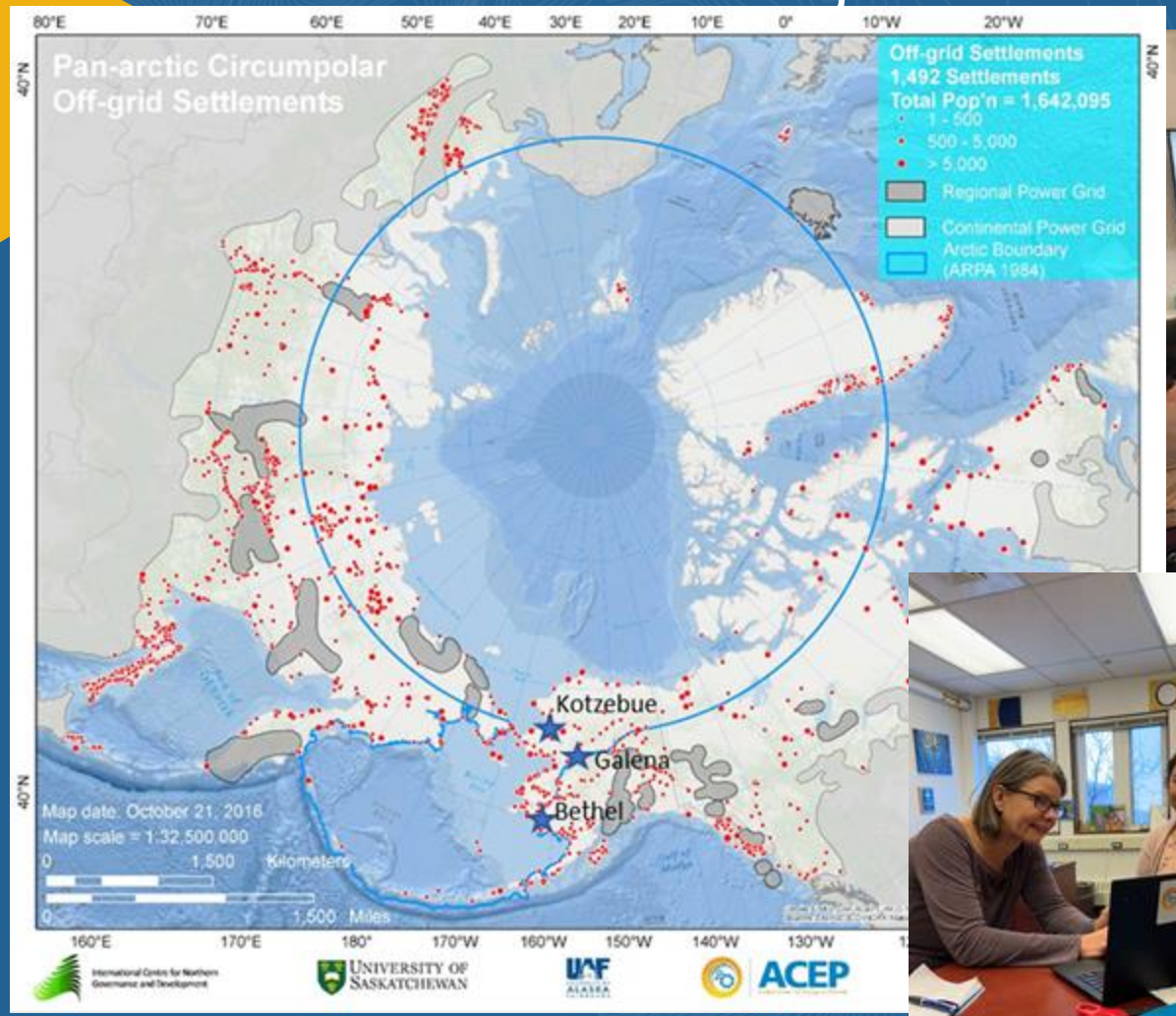
Electric Vehicles in the Arctic



Funders and Partners

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Planning Phase: Community Workshops







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Barriers

Identified by the literature

Price of vehicle
Cold weather performance
Range of travel
Battery capacity
Electricity cost
Local ability to maintain vehicle
Battery disposal
Cost of installing home EV charging
Fear of breaking down

Identified by community members workshops:

Resale value
Fragile
Cost of parts
Access to parts
Would like to see the EVs in action more (familiarity)
Heating
Cost of shipping
Part replacement
Weight
Frozen car batteries that cannot be brought back to life
Public places might not let you charge your vehicle
Vandalizing
Cost of insurance



Benefits of EVs as identified by residents

Benefits	Count	Percent
Cleaner town	10	30%
Lower fuel and maintenance costs	6	18%
Less noise	5	15%
Other (reliability, jobs, keep up with others)	5	15%
Lower dependence on fuel	3	9%
Less contribution to GG	2	6%
Less idling	2	6%
	33	



Based on community response:

- EV maintenance training for rural Alaska
- Vehicle use data collection
- Electric off-road vehicle deployment and data collection
- More research on how EVs would work for rural Alaskans



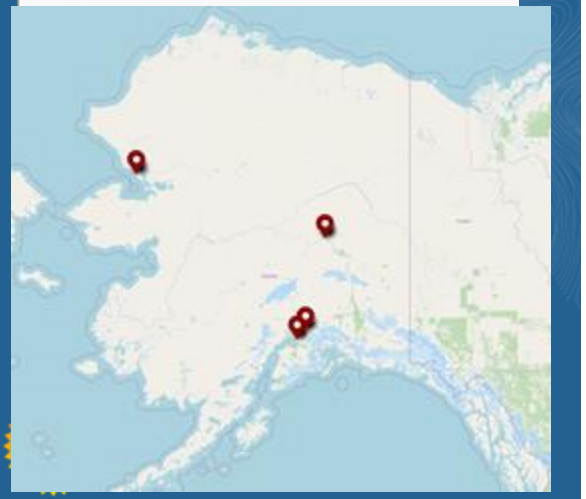
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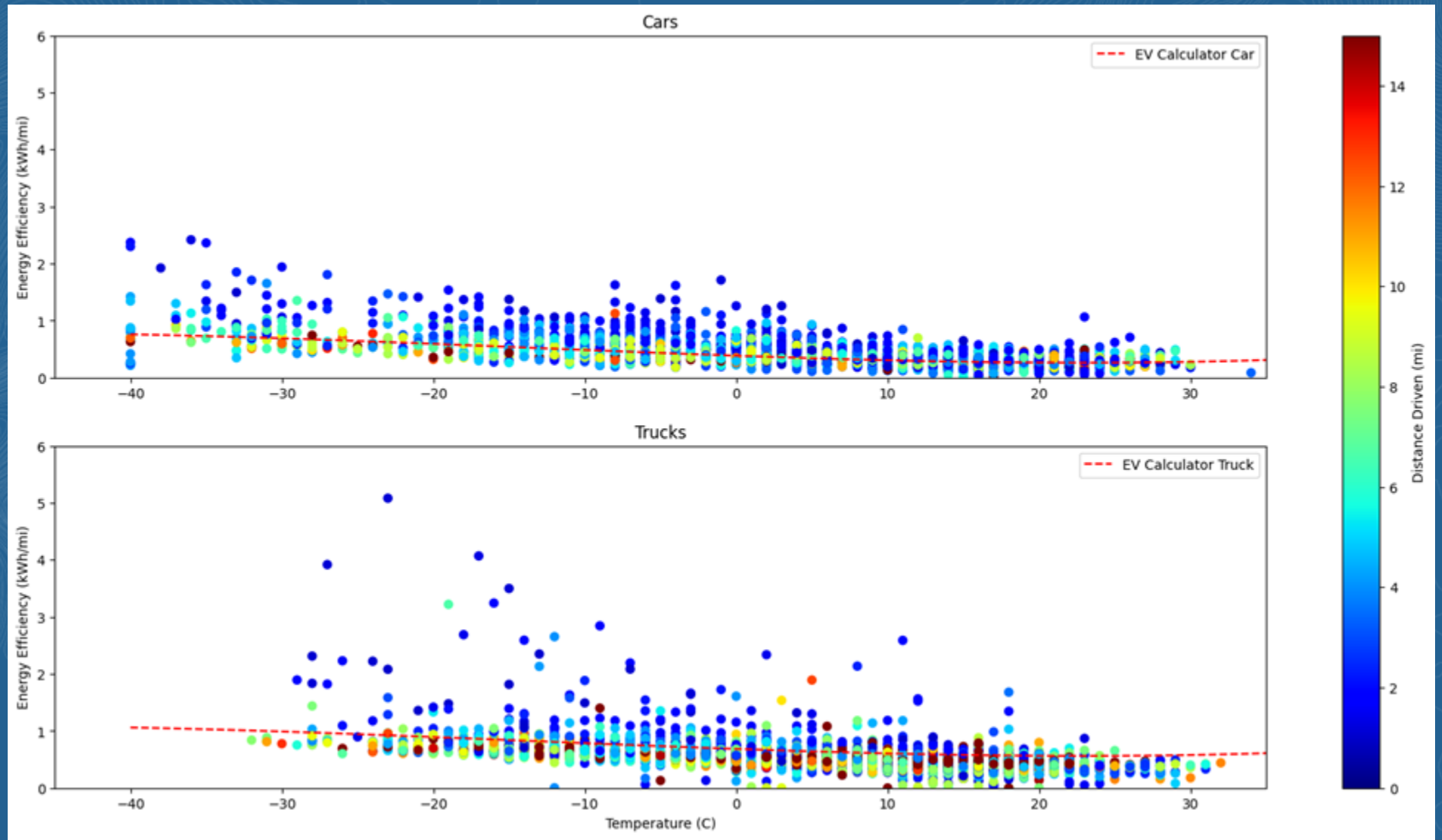
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Crowdsourced Alaska EV data, to -40!

Model	Number of Vehicles
Nissan Leaf	1
Ford F150 Lightning	6
Chevrolet Bolt	4
Subaru Solterra	1
Ford Mustang Mach-e	1
Chevrolet Volt (PHEV)	1
Chevrolet Silverado EV	2
Chevrolet Blazer EV	1
Tesla Model Y	1
Ioniq 5	1
Kia EV9	1
Lucid Air	1





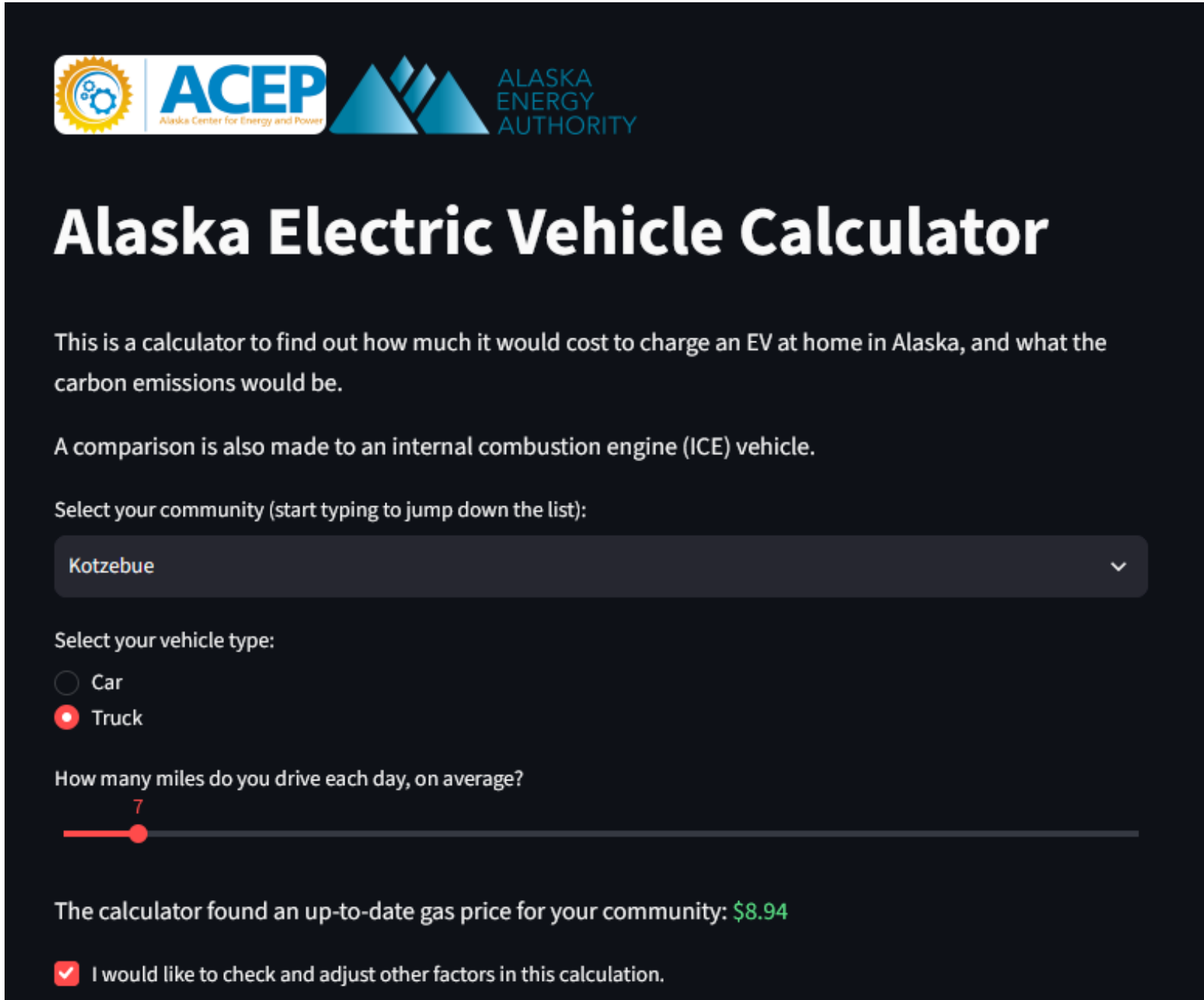
tinyurl.com/akevcalc

User Input

- Community
- Vehicle type
- Daily mileage
- Price of gas

Advanced:

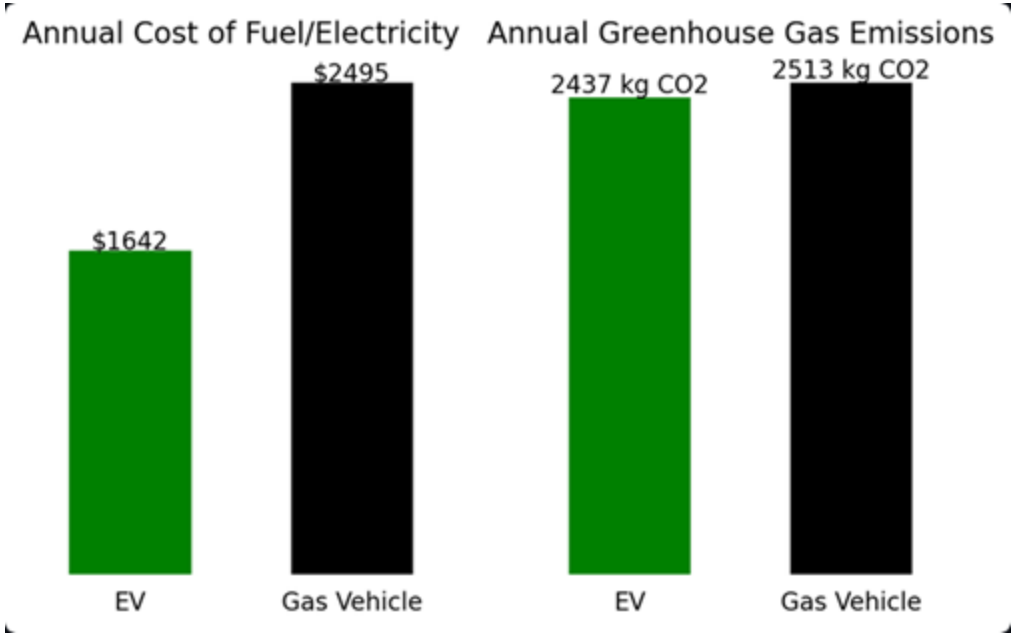
- Utility info (rate/emissions)
- Vehicle efficiency
- Home solar
- Block heater use and idling for gas vehicle
- Garage/temperature
- Weekend mileage

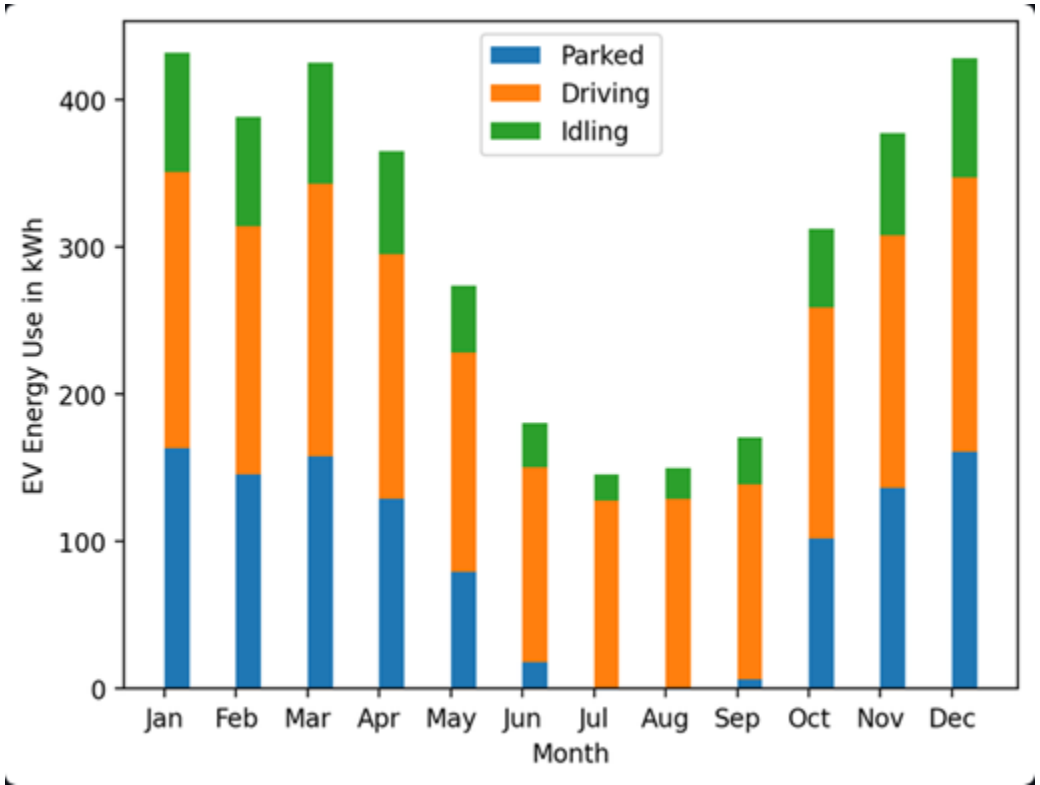


Output

- Cost comparison
- Climate emissions comparison
- Monthly electricity use for EV





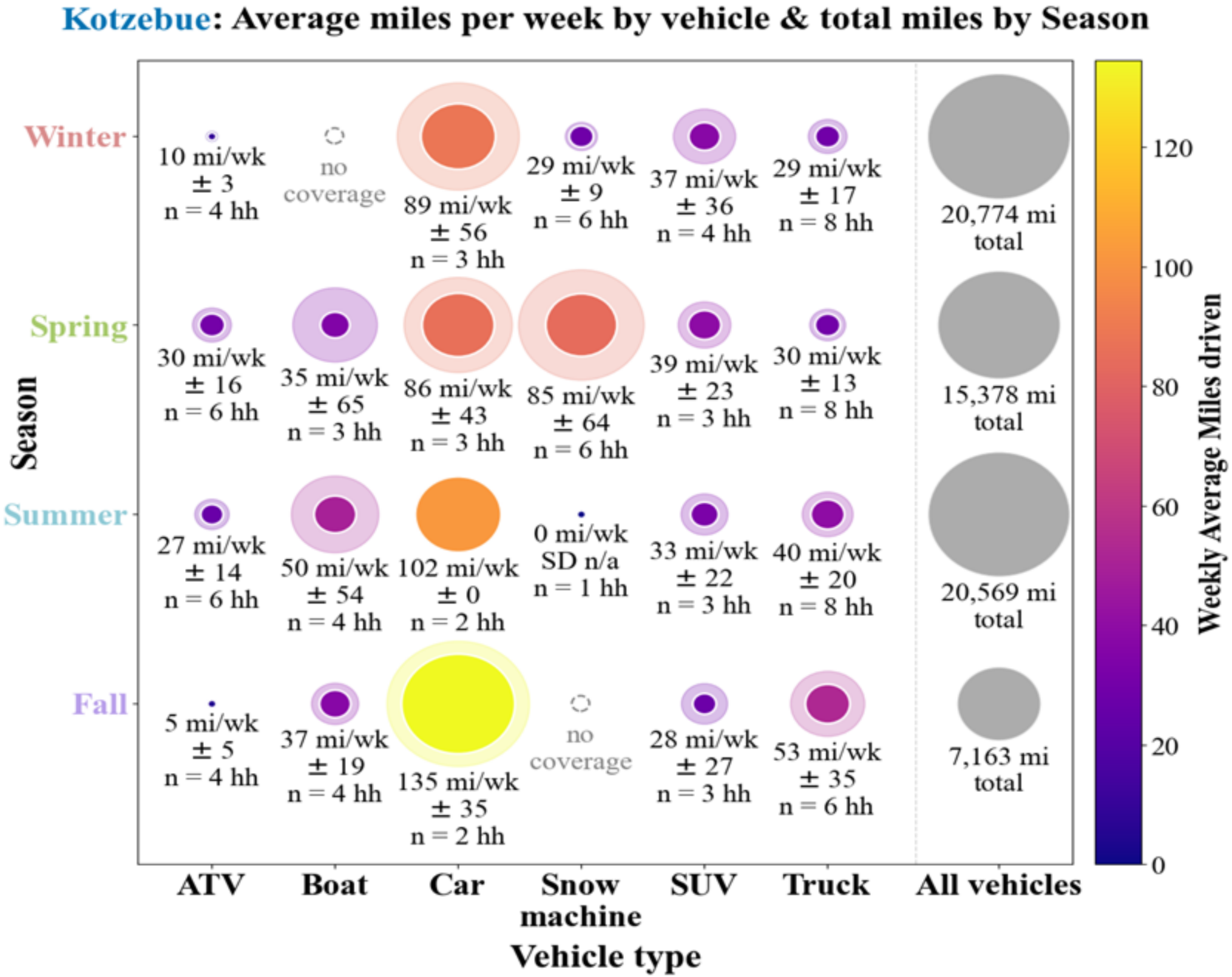


Vehicle Data Collection - in communities, undertaken by community research leads

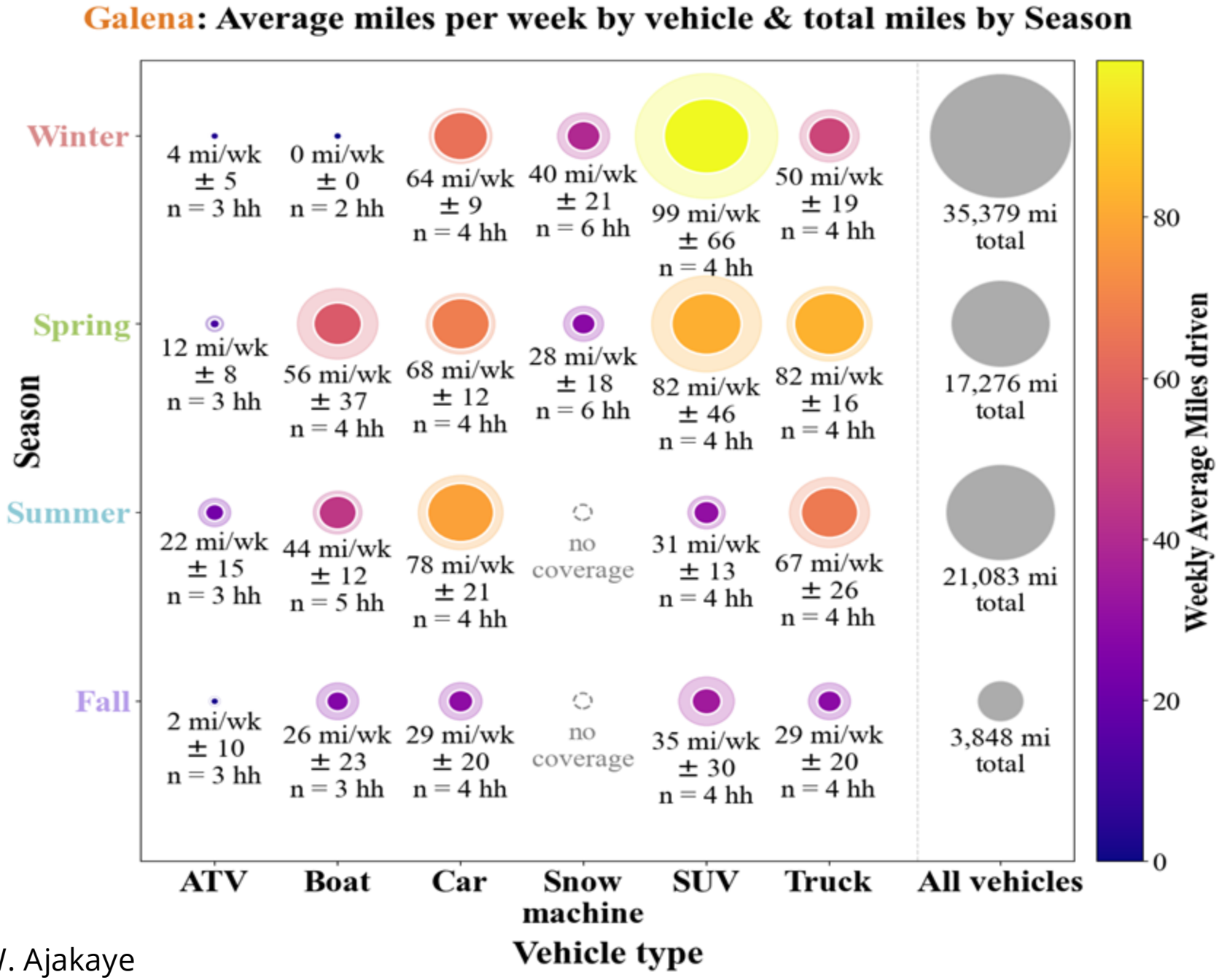
We've collected GPS vehicle trip logger data from 21 participants.

On-Road	Off-Road
Car	Boats
SUV	Snowmachine
Trucks	ATV





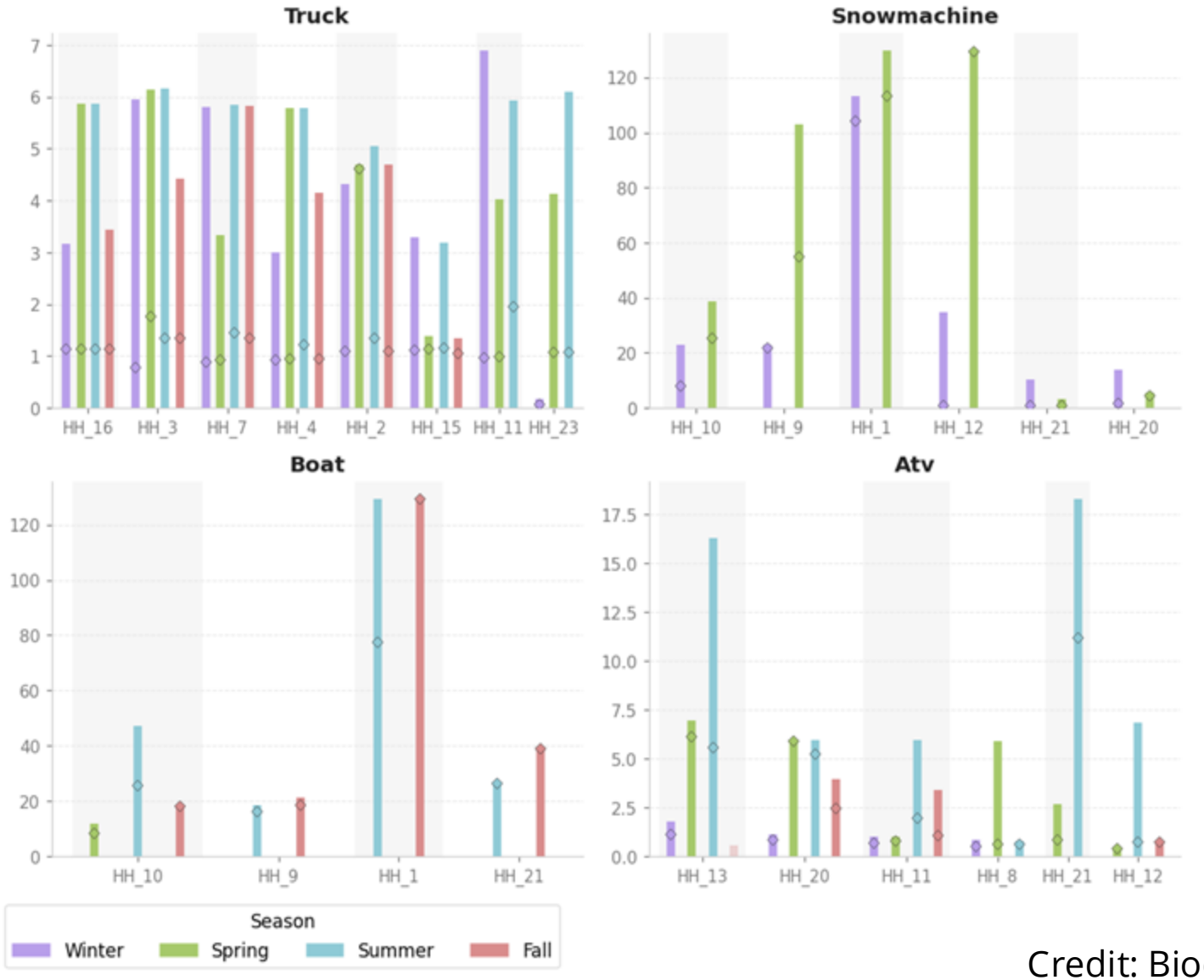
Credit: Biodun W. Ajakaye



Credit: Biodun W. Ajakaye

Kotzebue: geographic range from home, by season

Bar = 0→max distance reached; ◆ = 95th percentile. Faded = n<5 trips (1 lane, descriptive only).



Credit: Biodun W. Ajakaye

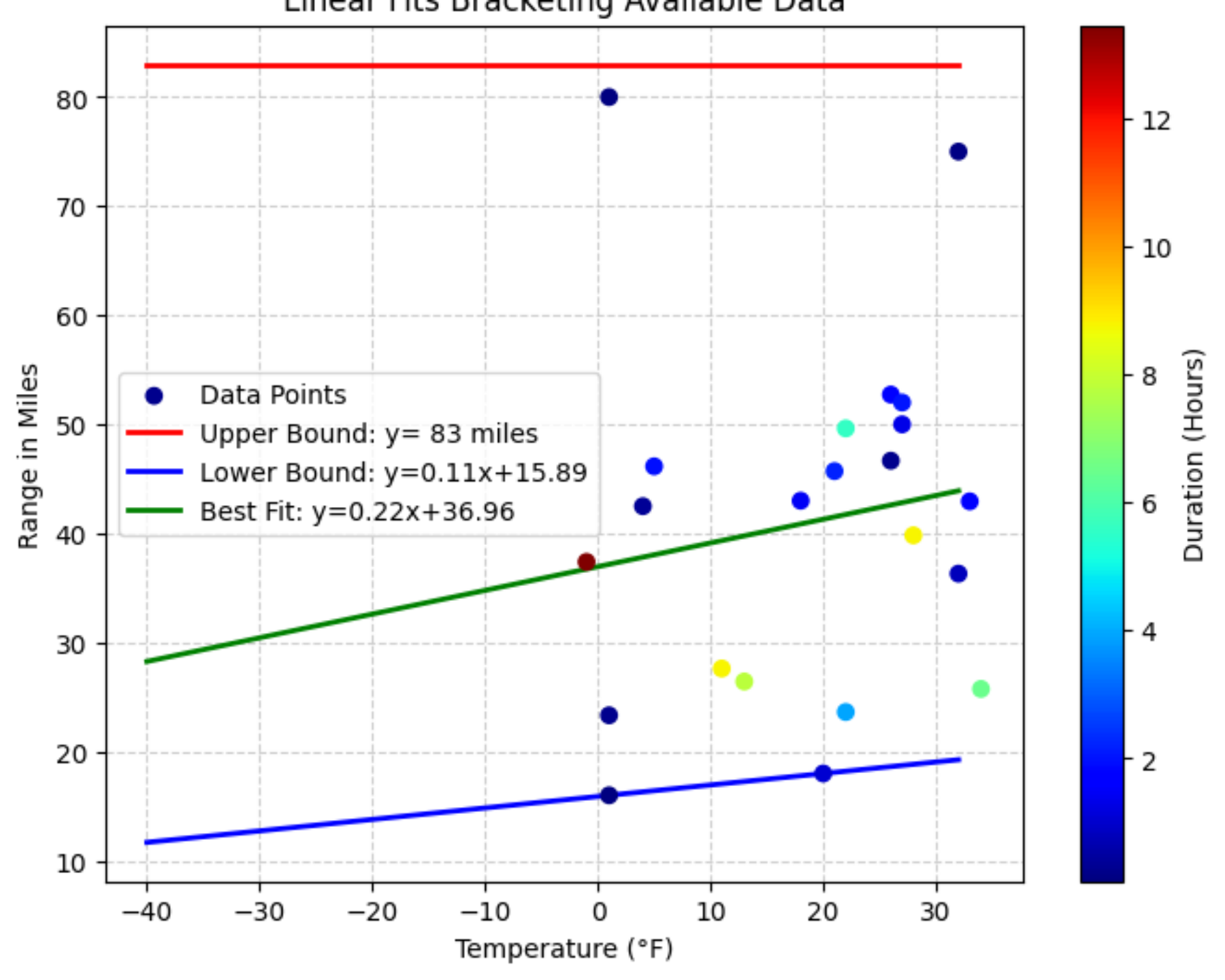
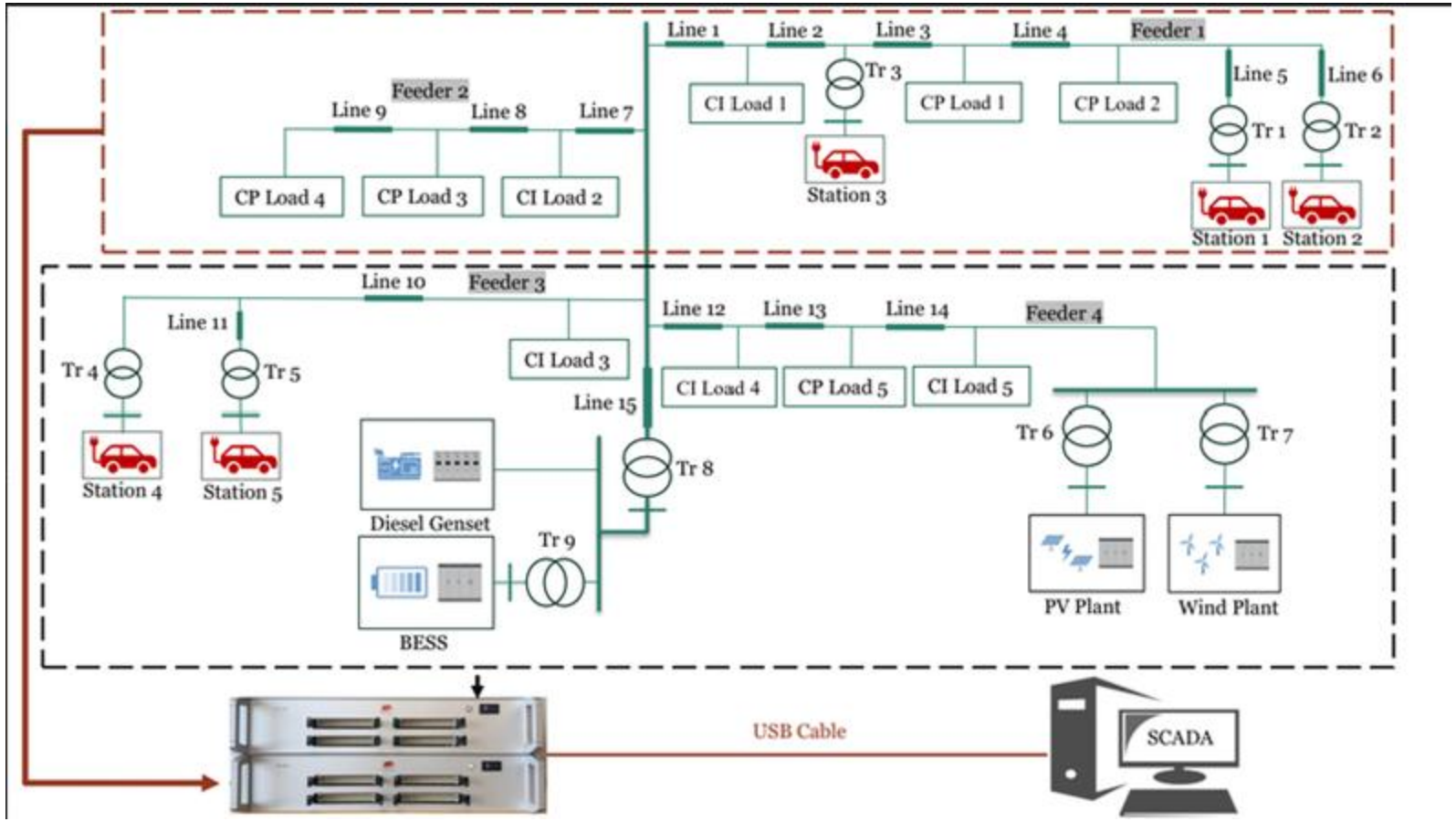




Photo Credit: Jennifer Schmidt

Real-Time Digital Twin-Assisted Operation of a V2G-Integrated Island Microgrid

Nazmun Nahar Maria[1], Milad Beikbabaei[2], Alys Korosei[1], Michelle Wilber[3], Mohammad Heidari Kapourchali[1,3], Long Zhao[4], Ali Mehrizi-Sani[2]



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EV Maintenance Training

-Working with ATC, Galena City School District, UAA Community and Technical College and others to develop an introductory training course for people in rural Alaska.

-This course will be taught once a year from 2025-2027.



Interim/Draft Survey results for Alaska Rural EVSE Deployment project (with AEA)

Gemini helped, but had to be corralled a bit, so take with a little grain of salt…

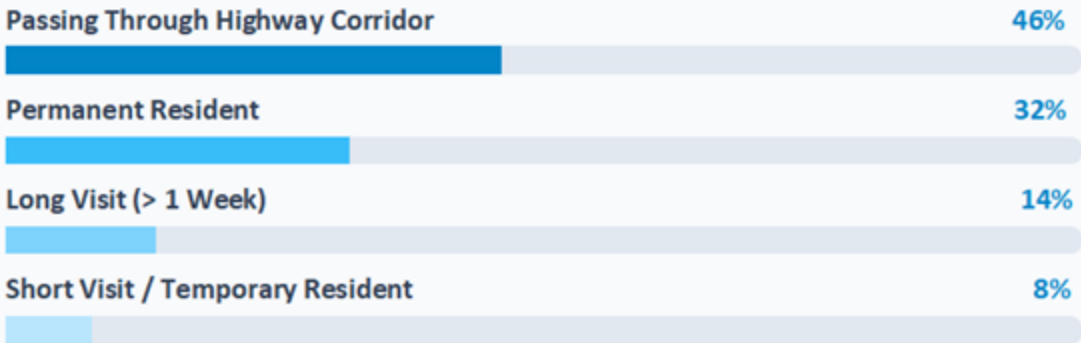
ALASKA 6-STATION EVSE SURVEY DATA • VERIFIED METRICS

EV User Travel Profile & Station Usage

Strictly Survey Questionnaire Data

Travel Situation Breakdown

% Respondents



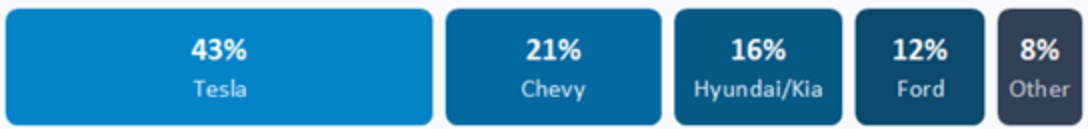
Station Usage Frequency

% Respondents



EV Make / Model Distribution

Survey Share



Includes Tesla (Model Y/3/S/X), Chevy Bolt, Hyundai Ioniq 5/6, Ford F-150 Lightning/Mach-E, Rivian R1T.

Home Charging Access Status

% EV Owners

78%
Have Home Charging

22%
No Home Charger

Public chargers serve as critical lifeline for the 22% lacking home charging infrastructure.

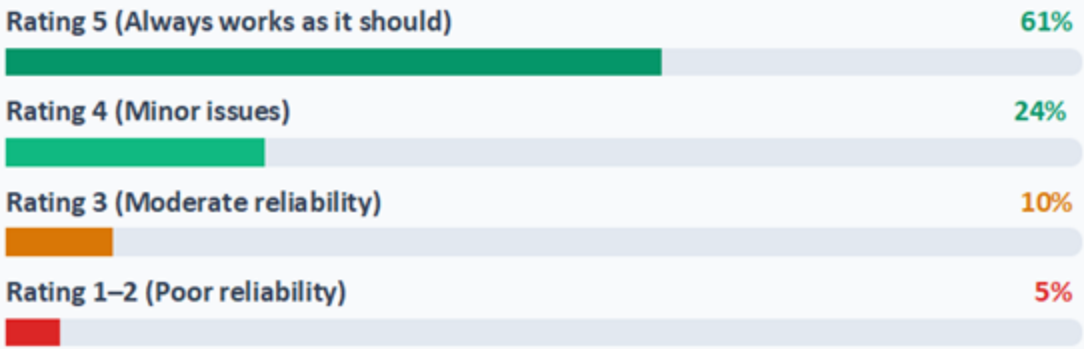
Stations Analyzed: Cooper Landing, Delta Junction, Glennallen, 3 Bears (Chugiak), ARG, CEA

Respondent Experience & Impact

Station Reliability, User Experience & Local Impact

Station Reliability Rating

% Respondents (1–5)



Ever Had Unsuccessful Initiation?

% Survey Respondents

79%
Never Experienced

21%
Had Unsuccessful Try

Reflects respondent history (% who have ever encountered a failed initiation at this charger), not total session failure rate.

Spending at Nearby Businesses

Patronage Frequency



Influence of Station on EV Ownership

1 (None) to 10 (Essential)



56% state charger does not limit ownership ability (1–3), consistent with 78% having home charging access.

Source: Aggregated Alaska EVSE Survey Datasets (Cooper Landing, Delta, Glennallen, 3Bears, ARG, CEA)

Cross-Site Breakdown

Key Station-by-Station Comparative Differences

User Base: Highway vs. Metro Corridor

Travel Situation

Remote Highway Sites (Glennallen / Delta / Cooper Ldg) — Primarily Pass-Through

Mostly used by long-distance road-trippers traveling between regions or on extended visits.

Anchorage & Commuter Sites (CEA / ARG / 3 Bears Chugiak) — Higher Resident Share

Greater share of local permanent residents (Anchorage, Eagle River, Chugiak, Palmer) using stations weekly.

Economic Impact & Site Co-Location

Business Spending

3 Bears Co-Locations (Chugiak & Cooper Landing) — Frequent Local Spend

Drivers at both 3 Bears stores—metro commuter and highway gateway alike—frequently patronize adjacent retail ("Often").

Standalone / Utility Sites (CEA) — Fewer Nearby Amenities

Higher share of "No nearby businesses" responses; users elsewhere explicitly request grocery store sites.

Corridor Role & Network Gap Feedback

Route vs. Local Needs

Interior & Peninsula Gateways (Glennallen / Delta / Cooper Ldg) — Inter-Regional Connectors

Key stops along the Glenn, Richardson, and Sterling Highways; users cite low route-charger confidence.

Anchorage–Eagle River–Chugiak Corridor (CEA / ARG / 3 Bears Chugiak) — Local Capacity Demand

Users highlight insufficient local fast-charger density in Anchorage and Eagle River for daily/renter use.

Reliability & Station Feature Requests

Initiation & Amenities

Reliability Performance — 85% Rated 4 or 5

High overall satisfaction across sites; isolated initiation failures reported by 21% of respondents.

Top Open-Ended Requests — Canopies & 150kW+ Speeds

Respondents across sites consistently request overhead weather roofs/canopies and higher-power chargers.

Source: Comparative analysis of responses across Cooper Landing (3 Bears), Delta Junction, Glennallen, 3 Bears (Chugiak), ARG, & CEA

Questions?



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Quinlan Harris



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AEA EV Program Update

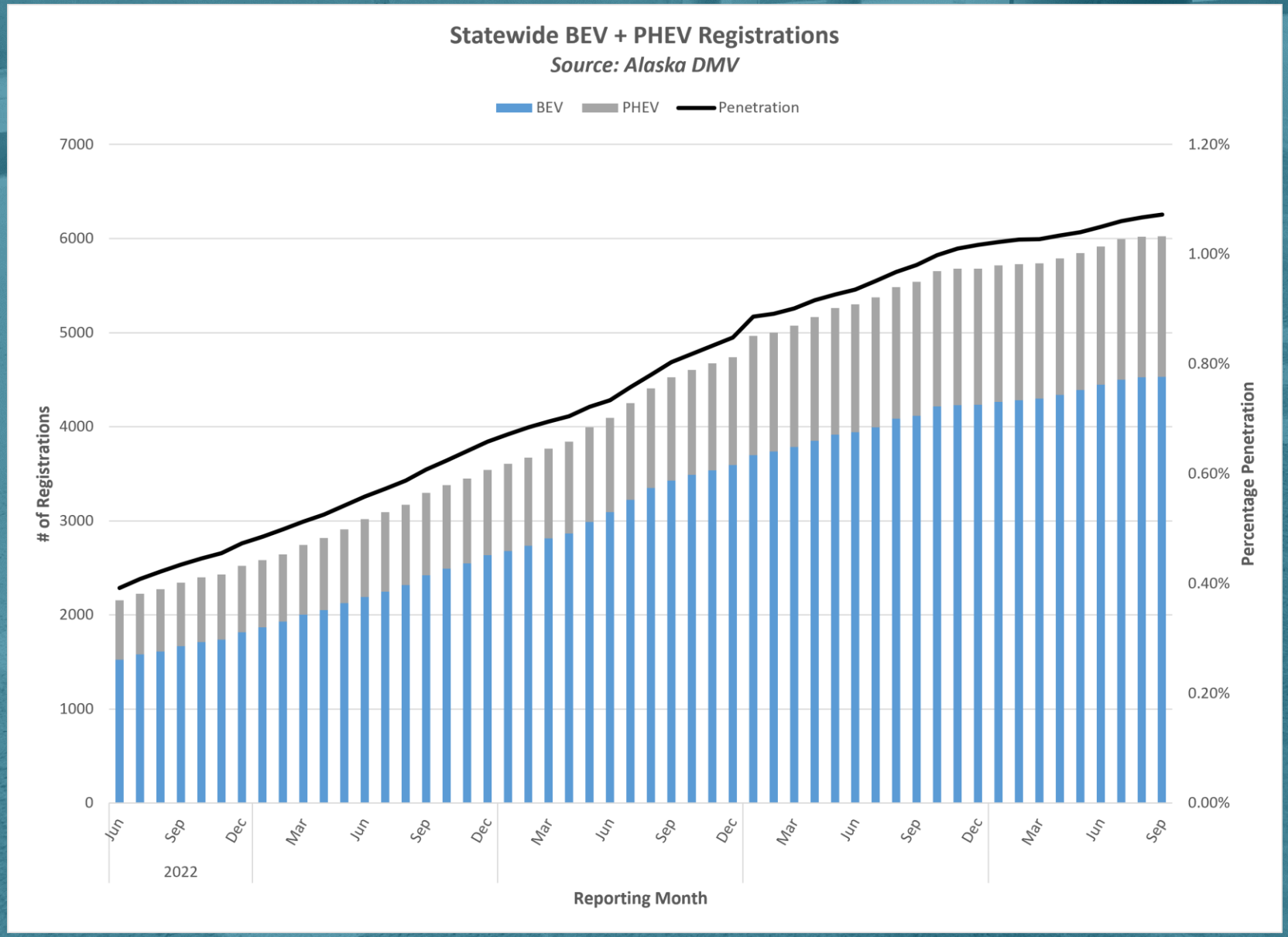
Quinlan Harris
Project Manager

EV Working Group

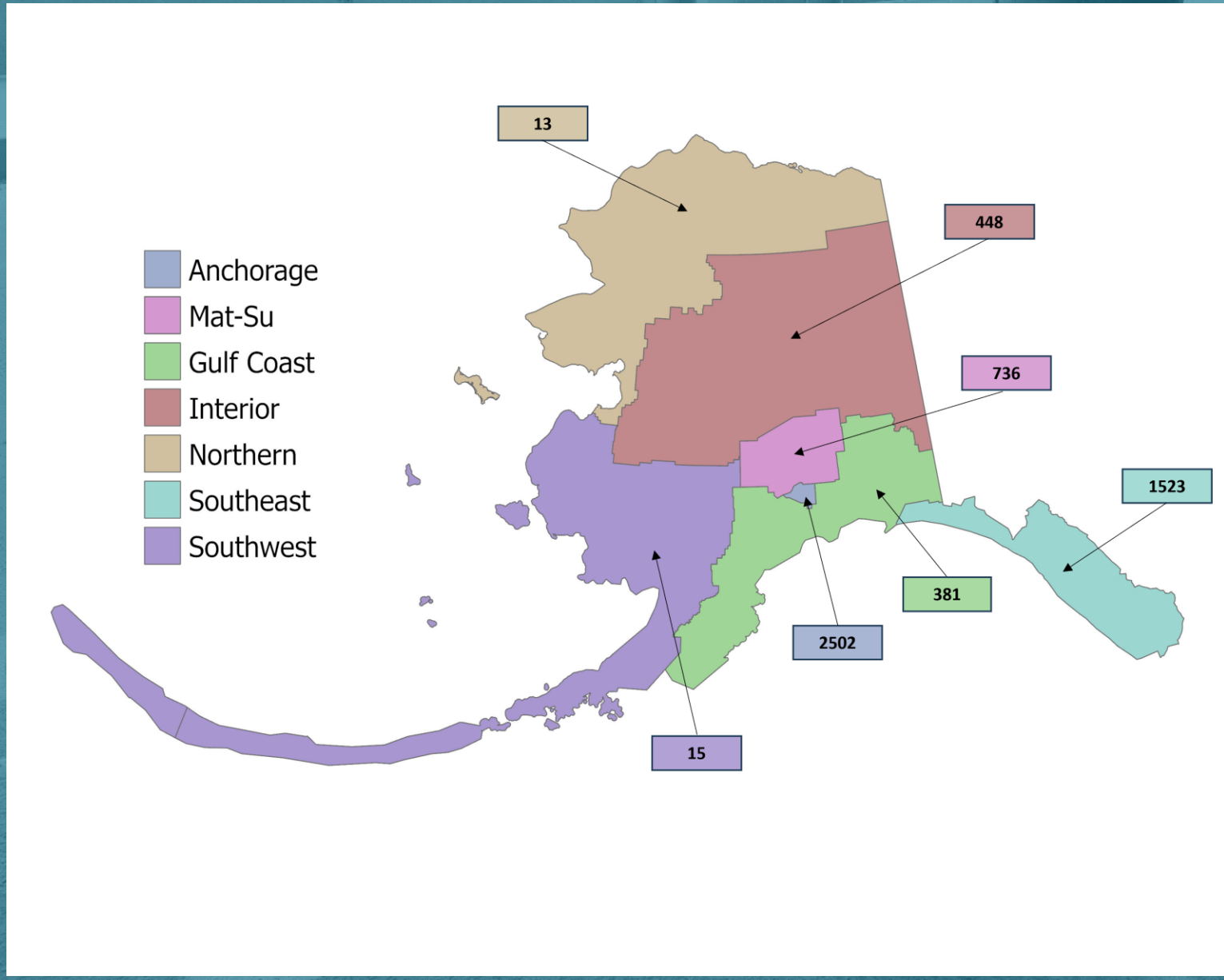


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BEV+PHEV Adoption Data



BEV and PHEV Geographic Distribution





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Alaska Rural EVSE Deployment

Engaging and supporting transportation and mobility options for Alaskan communities.

Meeting communities and hosts where they are

Priorities focused on stakeholder engagement to identify communities and sites with interest

Targeting 9+ communities for installation

Commissioned

2 Communities

Chargers **3**

Identified

8 Current Additional Interested Sites

Federal

Funded through the DOE Transportation Technologies Office, focused on improving mobility options and sparking economic opportunity

Support reliability, resilience, and opportunity

FEDERAL FUNDS

$1.6M

To support installation

COMMUNITY

20%

Community Match

National EV Infrastructure (NEVI)

Significant emphasis on coordinating with state and federal partners to navigate Title 23 restrictions.

Now shifting focus to obligate or transfer federal funds in advance of the potential recission with the new fiscal year.

ORIGINAL AWARD
$52.4M
Title 23 Federal Funds

RECISSION
$37.5M
Remaining after recission

TIMELINE
2027-2031
Anticipated period of performance for sub-award

NEAR TERM
<obligated>
Working closely with state and federal partners to allocate, designate, and deploy funding



Around the Room Updates





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