Welcome to GSA Fleet's Desktop Workshop

Audio: Everyone is automatically muted. Listen via your computer audio if possible.

Presentation & Certificate: You can download a copy of the presentation at https://www.gsa.gov/gsa-fleet-training

Additionally, a copy of the presentation along with a certificate will be emailed after the session.

Questions: Use the Q&A window to ask questions at any time. You may get a typed response or it may be answered aloud at the end of the presentation.

Recorded: The session will be recorded.
Recordings of GSA Fleet Desktop Workshops are available at: http://bit.ly/DtWRecordings

GSA Fleet®

GSA's ZEV/EVSE Offerings & Best Practices

August 2, 2023

Agenda

- ❑ Administrative Priorities and Progress
- ❑ ZEV Offerings and Best Practices
  - ❑ Acquisition Update
  - ❑ On the Road with a ZEV
- ❑ EVSE Offerings and Best Practices
  - ❑ Preparing for EVSE Acquisition
  - ❑ EVSE Pain Points and Solutions
- ❑ ZEV Utilization Across the Federal Fleet
- ❑ Resources/Opportunities

U.S. Electrification Initiative

Transportation Electrification primary pillar of agenda

Public Sector Electrification

Government to Lead by Example

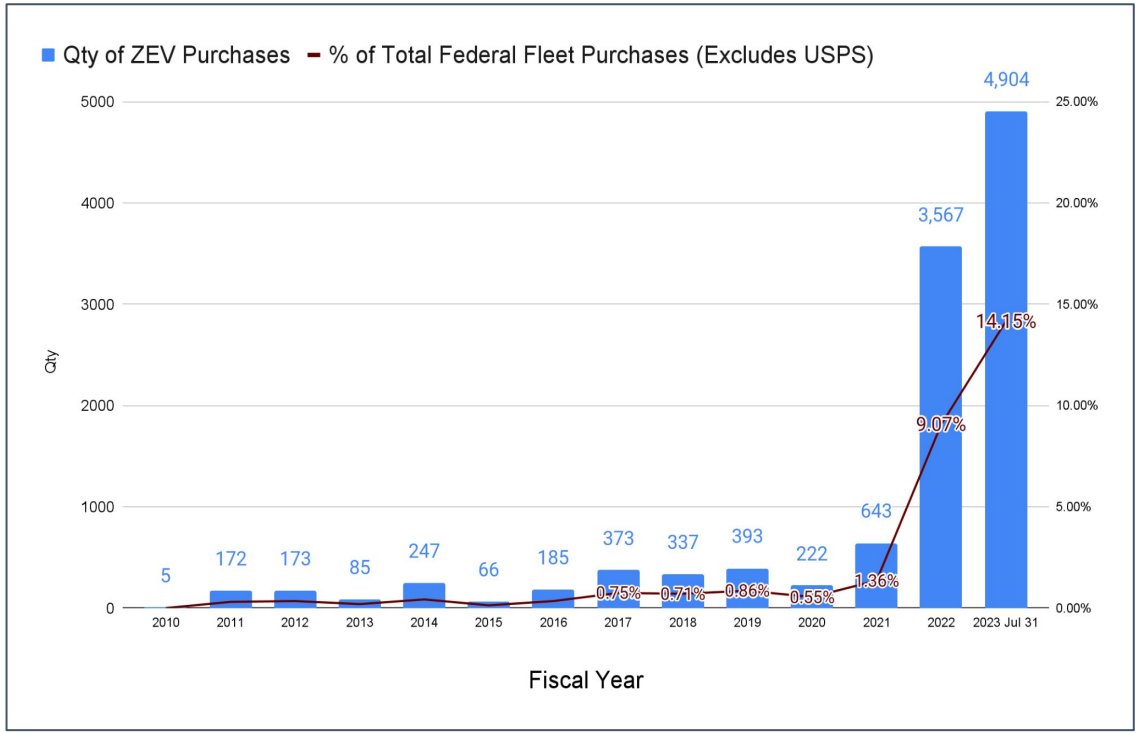
Fleet Goals

100% Light-duty Acquisitions as Electric by 2027 | 100% of all Acquisitions as Electric by 2035 | Intermediary Targets | Update an Annual ZEV Strategic Plan | Telematics for Operational Data | Consolidate Agency-Owned Vehicles with GSA

EO 14057 E.O. Fact Sheet, Official Release, and Memo

ZEV Progress

- As of July 31, we've ordered **4,904** ZEVs this fiscal year!
- That's over **14%** of total orders and light-duty ZEVs make up almost **19%** of Light duty orders
- These new ZEVs will require support from charging infrastructure and other forms of Electric Vehicle Supply Equipment (EVSE)



EV Charging Station Infrastructure

Level-1 Charging 110V/120V

NEMA 15

- J1772 is standard
- 4-6 miles per hour charge time
- $0-$3K

Level-2 Charging 208V/240V

J1772

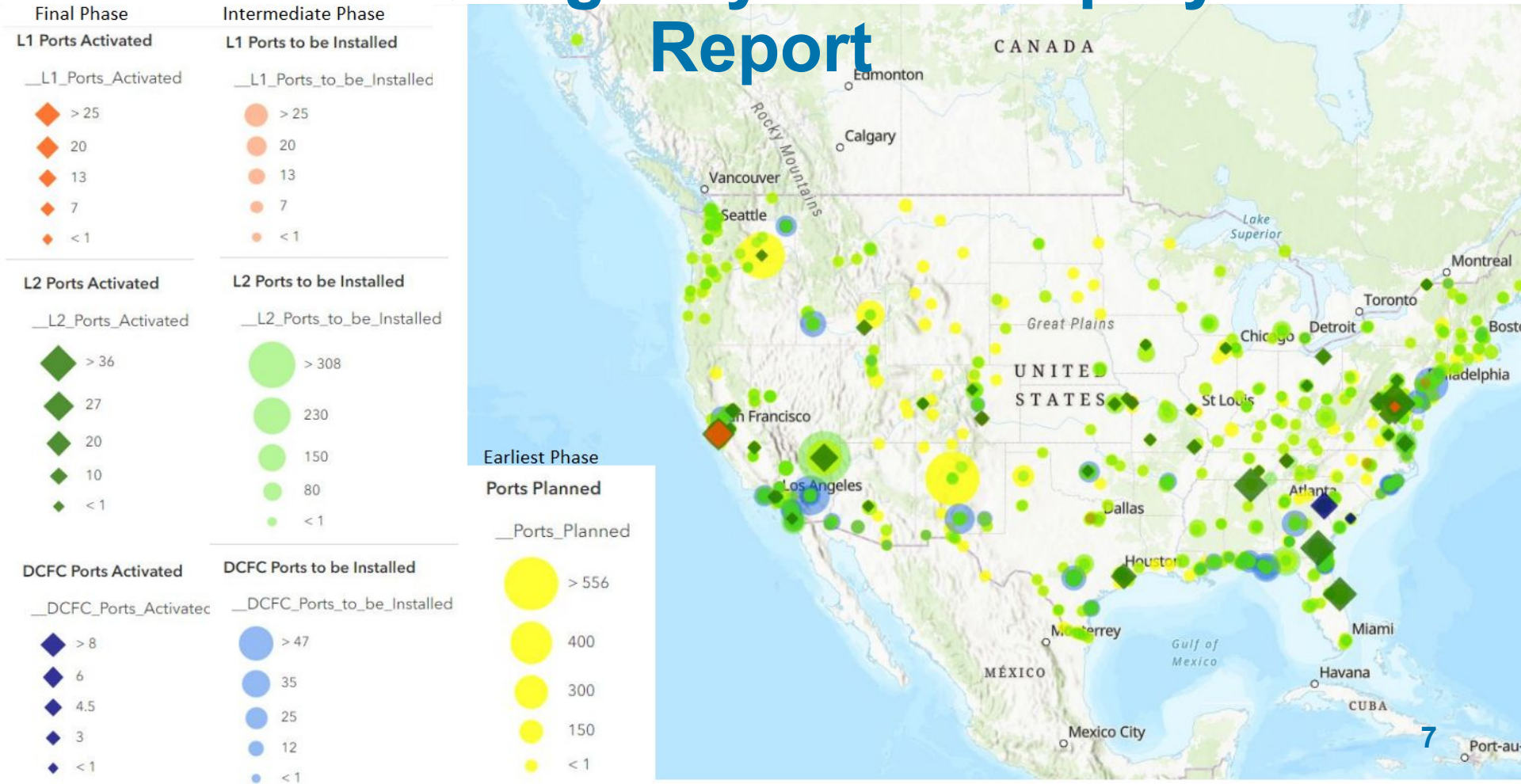
- J1772 is standard (Tesla's come with adapter)
- 10-20 miles per hour charge time
- $500-$12,000

DC Fast Charger 208V/480V

Tesla, SAE Combo, CHAdeMO

- Most vehicles use CCS (Tesla comes with adapter) Nissan Leaf uses CHAdeMo
- 50-90 miles in 30 minutes
- $32,000+

Results Q2 Agency EVSE Deployment Report



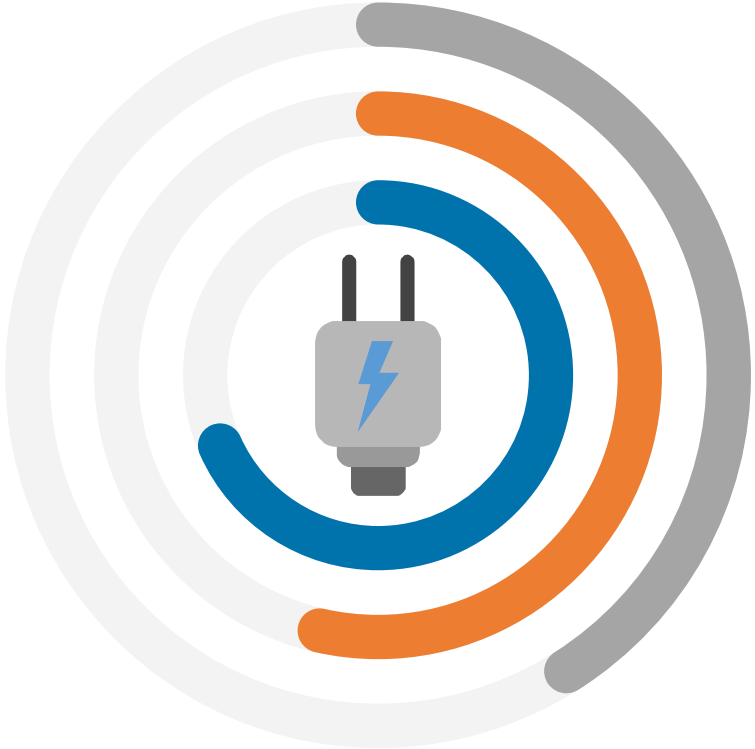
ZEV Offerings and Best Practices

Types of ZEVs

BEVs

100% Electricity & Battery

Ranges 100-400+
0 emissions
LD Acquisition Cost 50% more
Charging plentiful & # of models growing



PHEVs

Gasoline + Electricity

All electric range: 20-50
Total Range (on gas): 310-640
15%–55% less tailpipe CO_2
LD Acquisition Cost 50% more
Models Limited

FCEVs

100% Hydrogen & Battery

Ranges 350-450
0 emissions
LD Acquisition Cost 200% higher
Charging Limited (mostly in CA)
Models Limited (likely to take off in long-haul trucking or busing)

Battery and Plug-in Hybrid EV Comparison

Battery Electric Vehicle (BEV)		Plug-in Hybrid Electric Vehicle (PHEV)
Operate on 100% electricity		Operate on electricity & gas
Optimal for less than 200 miles / day		Optimal for short trips <30 miles/day regularly with occasional 200+ mile trips
Need access to Level 2 charger or higher		Level 1 or Level 2 charger will suffice
Available in Sedan, SUV, Light Truck & Bus		Available in Sedan, Minivan & SUV

BEVs are more efficient, both fuel and cost wise! BOTH types require infrastructure or for PHEVs, at least an outlet to plug into!

Light-Duty ZEV Availability

8E Nissan Leaf
Range: 149/212
Charging:
L2: 7.5 hrs
DC Fast: 60 min.
Increm.: $5,096

9E Tesla Model 3
Range: 272/315
Charging:
L2: 8 hrs
DC Fast: 20-60 min.
Increm.: $28,845

91E/96E Ford Mach-E
Range: 224-310
Charging:
L2: 14.1 hrs
DC Fast: 60 min.
Increm.:
$16,921/$19,574

91E Hyundai Ioniq 5
Range: 220/303
Charging:
L2: 7.2 hrs
DC Fast: 18-30 min.
Increm.: $14,671

96E Tesla Model Y
Range: 279
Charging:
L2: 8 hrs
DC Fast: 20-60 min.
Increm.: $30,968

**See the AFV Guide and ZEV Fact Sheet at gsa.gov/afv for full SIN, make, and model availability.

Considerations: Lightning Pro SSV

- ➔ Rate: $339/month; $0.14/mile
- ➔ Incremental: $11,638
- ➔ SIN 56E - a special service vehicle and **no center console**
- ➔ BEV with a 240-mile electric range
- ➔ Colors: Black, Medium Gray, Light Gray, White, Silver and Blue
- ➔ Same amperage 55E
- ➔ Same upfit capability as a 55E (basics only - lights, handheld radio)
- ➔ This is the only LD ZEV PU truck OPTION, no 55Es are available for FY23

Light-Duty ZEV Availability cont.

98E Hyundai Kona
Range: 258
Charging:
L2: 9.5 hrs
DC Fast: 60 min.
Increm.: $12,223

100E/105E VW ID.4
Range: 255/275
Charging:
L2: 7.5-11.5 hrs
DC Fast: 30-36 min.
Increm.: $14,035/$15,982

34E Ford E-Transit
Range: 126
Charging:
L2: 8-12 hrs
DC Fast: 2-3 hrs
Increm.: $14,499

56E Ford Lightning SSV
Range: 230
Charging:
L2: 10-14 hrs
DC Fast: 41-122 min.
Increm.: $11,638

**See the AFV Guide and ZEV Fact Sheet at gsa.gov/afv for full SIN, make, and model availability.

Md/HD ZEV Availability

IC Bus SINs 320E & 322E

Rev Ambulance Group
SIN 212E

Creative Bus SIN 281E

AT&B, BYD, New Flyer,
Proterra, & Gillig
SINs 377D-377I

Freightliner SIN 494E

MCI SINs 397E & 398E

Kenworth SIN 533W

Freightliner
SINs 531E, 533E, 571E, 573E

Freightliner
SINs 524E & 624E

For entire updated listing visit gsa.gov/afv

FY24 Acquisition Landscape

- **Expedited FY24 CAM Cycle**
  - Eligible tag lists sent to HQs prior to CAM launch
  - Earlier CAM launch date and shortened review periods
  - FY24 Surcharge recommendations sent to HQs in late August-early September
- **Uncertainty of vehicle production will continue**
  - Supply and production challenges are expected to continue for the next 12-18 months
    - Raw material & labor shortages, higher profits in retail sector
    - Retail demand for larger SUVs & PHEVs strong

Best Practices

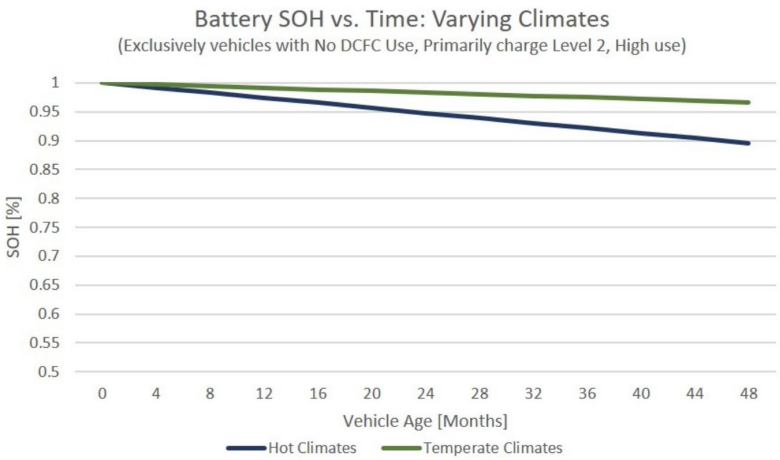
- ❑ Replace vehicles quickly and efficiently
- ❑ Reduce “Do Not Replace” selections
- ❑ Focus on Infrastructure first
- ❑ Select BEVs where infrastructure is available
- ❑ Update CDD before the end of the FY

Maintenance on ZEVs

- ➔ 8 Years 100,000 miles battery pack warranty
- ➔ No oil changes for BEVs; tire pressure, rotate tires flush corrosive materials, replace the cabin air filter and wiper blades, and topping off the washer fluid
- ➔ Will vary depending on climate

Range can be reduced: Factors Impacting Battery Life and Driving Range

Source: DOE NREL



- Temperate (fewer than 5 days per year over 80°F (27°C) or under 23°F (-5°C))
- Hot (more than 5 days per year over 80°F (27°C))

Source: DOE NREL and https://www.geotab.com/uk/blog/ev-battery-health/

Tips to Minimize Range Loss

1. Park your car in a garage.
2. Heat the passenger, not the car.
3. If you need to heat or cool the cabin, make time to “pre-heat” or cool down the inside of the vehicle while still connected to the charger.
4. Inflate your tires.
5. Activate the “eco” mode.
6. Practice Smooth driving habits.

Remember:

- ➔ High vehicle use does not equal higher battery degradation.
- ➔ EVs on average lose 20% of their range in colder climate - can be up to 35%!
- ➔ EVs charge more slowly in cold temperatures.
- ➔ Lower-power charging methods promote longer battery health.
- ➔ Try to charge up to just 80% unless you need the full 100% range

What to Expect: On the Road with a ZEV

Delivers instant power from a stop and glides effortlessly and quietly.

Use one pedal to come to a complete stop using regenerative braking technology.

Need to top off? If you have a station at your site or a public station close by, check whether you are using an L1, L2, or DCFC - charging times vary.

Pay less to fuel up and fuel up less often! You can use your ChargePoint RFID card to charge at >5 public networks, as long as your RFID is connected to a WEX or Voyager Card. Some stations are free!

Using extra energy to temperature control your vehicle during extreme heat or cold weather can drain the battery faster.

Your EV will likely not need to be in the shop as much and may even be pushed “over the air” updates.

Contact your GSA Fleet Service Representative or GSA’s Maintenance Control Center for any maintenance requests or questions.

Abetterrouteplanner.com | Plugshare.com

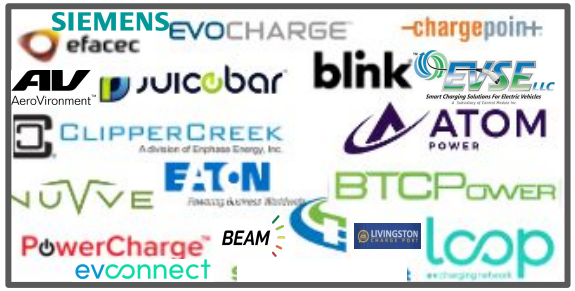
EVSE Offerings and Best Practices

BPA Award Highlights

- Includes hardware, software, O&M, make-ready/site assessment services & more!
- Contract Length: 60 Months
- 16 offerors were awarded, including 9 small businesses
- Over 30 EVSE brands and 1,165 line items
- Onboarding Opportunities
- PBS Contractors can buy from FAS BPA holders creating a 1 stop shop for stations & installation
- View all offerings, pricing and BPA-holder information at gsa.gov/evse

BPA Products & Services

Level 1 & Level 2
CLIN 001-002



DC Fast
CLIN 003

Services
CLIN 006

- Activation
- Site Prep
- Permitting
- Consulting
- Basic Install
- Commissioning
- Site Assessment
- Utility Outreach
- Wiring
- And more

Power Mgt & Networks
CLINs 007-CLINs 008

Solar & Portable
CLINs 004-005

Charging as a Service
CLINs 002-003

- Assembly
- Activation
- Support
- Data
- Analytics
- Power mgmt
- Monitoring
- Maintenance
- Access control

GSA's Complete Infrastructure Solution

Infrastructure is a critical first step to successfully electrify the Federal Fleet

Product & Service BPAs

- Hardware offerings for Level 1, 2 & DC Fast
- Ancillary product services
- Federal IT security compliance
- Product onboarding & offboarding
- Small Business preferences

FAR 51 Deviation allows PBS contractors to buy from EVSE BPA

Design/Build Install IDIQs

- Construction, design & build
- Feasibility studies & site assessment
- Repair and alterations
- Electrical upgrades
- Testing, commissioning, & utility coordination
- Self-service, assisted acquisition, contract support or delegation of procurement authority

gsa.gov/ElectrifyTheFleet

EVSE Ordering Path Options

GSA/PBS Awards & Manages

For buildings in or not in GSA's Building Portfolio

Submit requirements & funding through eRETA

No longer accepting FY23 funding for projects in non-GSA space

GSA/PBS Provides Contract Support

For buildings not in GSA's Building Portfolio:

Agency submits requirements & funding through eRETA

Self-Service Design & Construction

Agency requests GSA Delegation of Procurement Authority from GSA; FULL ACCESS

Flat fee of $1,625

Self-Service for EVSE Products & Services

Agency views offerings & orders from BPA Holder

Preparing for EVSE Acquisition (FAR 8.405 Buys)

➔ **Equipment and Software**

FAR 8.405-1 (a statement of work is **NOT** required when buying equipment/software only). Provide Fair Opportunity to each BPA holder IAW threshold procedures.

➔ **Services (CLIN 006)**

FAR 8.405-2 a statement of work **is required** SOW should include:

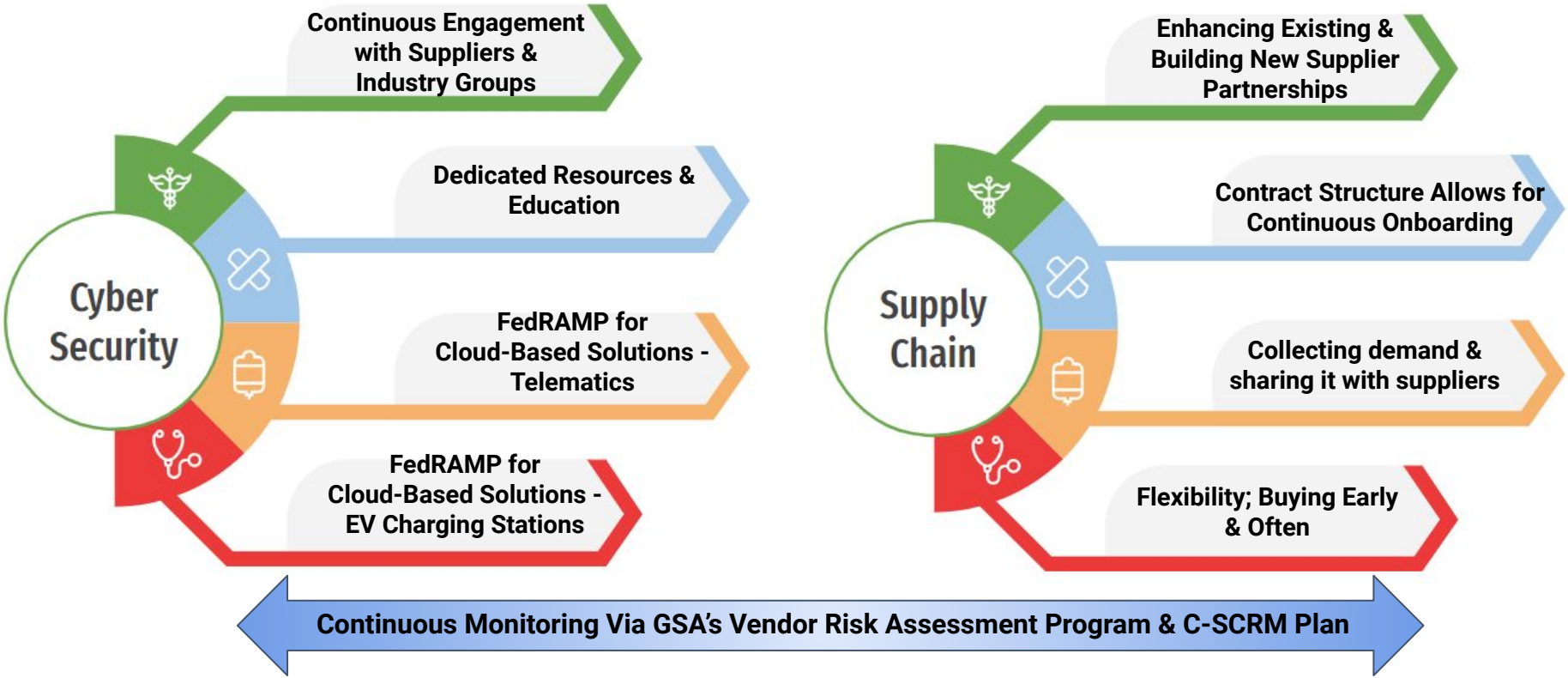
- ❑ the description of the supplies to be delivered or the services to be performed
- ❑ the basis upon which the selection will be made (evaluation criteria)
- ❑ quote
- ❑ due date

Sample RFQs, ordering guides, and templates are available at gsa.gov/evse

Benefit of BPAs:

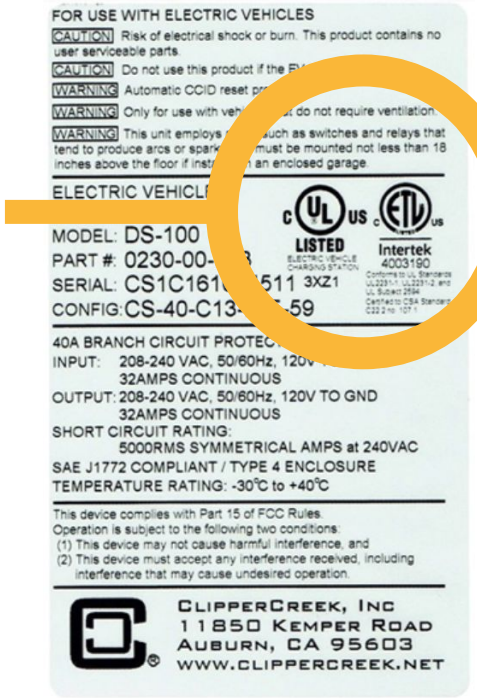
Market Research can be pulled from BPA Offerings Sheet on gsa.gov/evse

How GSA is Mitigating Risks



EVSE Safety

- Charging an EV is safe and easy!
- Use the appropriate equipment for charging your EV
  - Look for approved safety certifications (UL, SAE etc.)
  - Choose reputable manufacturers
  - Buy Energy Star labeled products
  - Ensure stations stay grounded
  - Look to BPA offerings as a guide and for product info
- Don't leave out cords
- Do use proper signage
- Leave installation to the professionals
- If station will not be networked, you may want to see if it can be in a secure/gated location
- Consider American with Disability Act requirements
- GSA's P100 Building Standards can be a guide (section 6.5.7.8 covers EVSE)
- Check with Fire Protection & Building Manager and ensure you're following proper policies and procedures



EVSE Pain Points & Solutions

Pain Points	Proposed Solutions
Funding for procurement	Check out DOE's EV Utility Finder, Consolidate to GSA leasing, Utilize ZEV Lump Sum offering*
How/Where to charge.	Reach out to your FSR to secure a ChargePoint RFID card. Use DOE's AFDC, PlugShare App.
Need Starter 101 course/materials.	Visit gsa.gov/gsa-fleet-training for past EVSE trainings.
ZEV supply issues with OEMs.	FY24 will have an expedited CAM cycle - order early to secure models - Supply chain will improve. Focus on EVSE first and then look to BEvs which ARE available
One size doesn't fit all.	Attend FEVAR working group (email federal.fleets@nrel.gov)talk to others in your agency INCLUDING facility and energy managers. Check out DOE's Success Stories

Infrastructure Planning - Best Practices

Start with a Site Assessment (CLIN 006 on BPAs or Feasibility Study through Design/Build Contracts)

Requirements Development -

- ➔ Plan for long term to scale quickly & keep overall cost down
- ➔ Allow for payment collection if needed for POV charging
- ➔ Network capability if station(s) will not be in secure location

Solution should be:

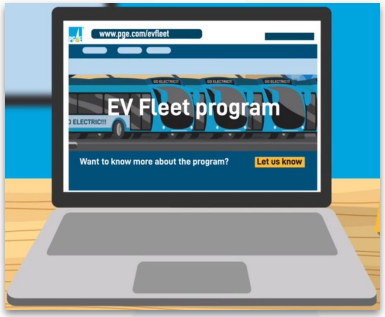
- ➔ Repeatable
- ➔ Standardized as possible
- ➔ Lowest cost option that will fit needs

Level 2 will be sufficient for most agencies except possibly for LE missions

Look to solar & battery storage where capacity doesn't exist or will be costly

Considerations: Non-Traditional Funding Opportunities

State/local government and utility incentives



Leverage Utility agreements

Energy Savings Performance Contracts

EVSE can be included in larger Energy Savings Performance Contracts if:

- ❑ The vendor is agreeable.
- ❑ Project financing can cover the cost within the allowable 25 year term.
- ❑ Agencies should Check with their legal counsel

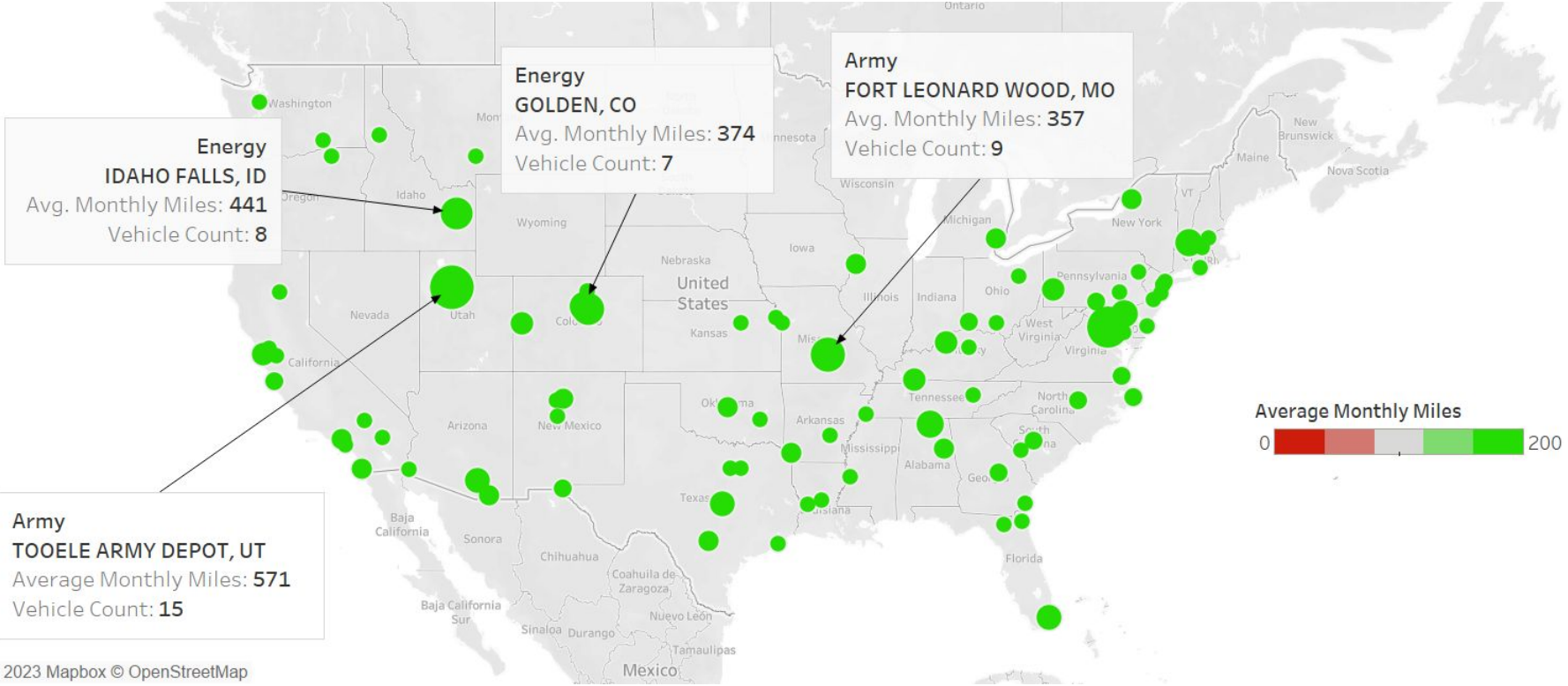
DOE's EV Utility Finder

Federal Funding Programs

(only some apply to federal agencies)

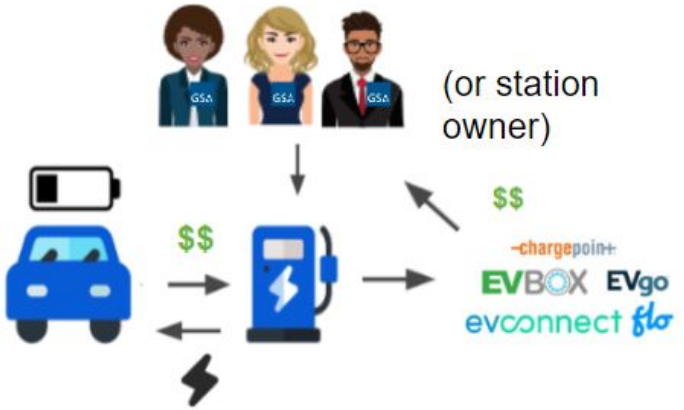
ZEV Utilization Across the Federal Fleet & Best Practices

EV Utilization: Nationwide Overview



Set Up Payment if Needed & Bring in Experts!

- ➔ Army at Ft. Leonard Wood hired a contractor so they didn't have to worry about the maintenance and procurement
  - ◆ So far 7 stations are installed with an order for the contractor to purchase and install 8 more.
- ➔ Set up Payment with 3rd Party Processor so DPW (that manages the energy) can be paid



Did you know?

Ft. Leonard Wood also has one of the highest EV utilizations in the country.

- Their 9 ZEVs average 350+ miles/month.

Federal Use Cases for Charging

Public Charging

Home to work

Agency-Owned Charging

- Charge at ChargePoint or through its Roaming Partner network
- Charge at Free Stations
- Charge at the Tesla Network

- Agency provided & managed stations (on site or in employee home)
- Stations can be networked or non-networked

WEX Accepted

Free Station

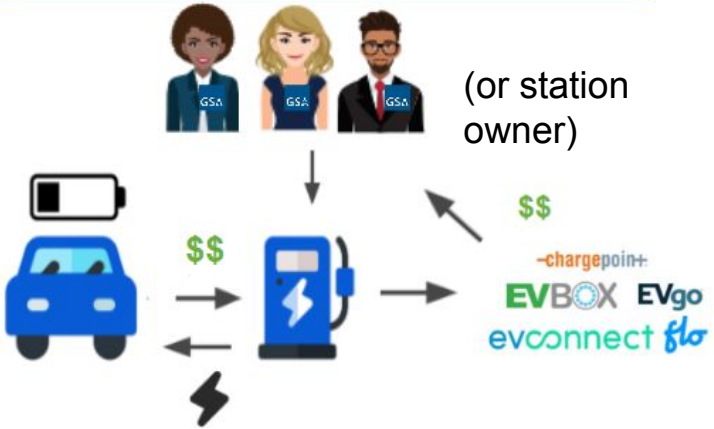
Plug & Charge through Tesla Business App (WEX not required)

Options for Paying for Electricity

How could an agency pay for EVSE electricity use?

Networked:

- Using an RFID card or app that pays for usage directly



Non-networked:

- GSA or the agency pays the utility company directly through utility bills
  - Tenant agency pays building/station owner
- Monthly fee to PBS (Reimbursable Work Agreement)?
- Parking Premium

Tesla/Plug n Charge Capable:

- Automatic to one central account

**Only Tesla can charge @ Tesla stations until 2024-25

Federal Payment Process Options for both GOV and POV Charging

The following companies offer payment solutions:

- Blink - Does not accept WEX
- ChargePoint - Accepts WEX
- EV Connect - Accepts WEX via ChargePoint roaming agreement
- Siemens DepotFinity - Does not accept WEX

Features

- Monthly or Quarterly payment available
- Can link bank account, debit card/credit or pay.gov**
- Returns payment via ACH, check, bill.com (for EVConnect)
- Fees (ChargePoint charges 10%)
- Check not differentiated; but can view GOV use in charging provider portal if distinguished
- Fleet & POV charging
- Differentiate b/t GOV & POV charging
- Flexibility on pricing, access restrictions
- Can set based on kWh, time spent and overstay fees
- To date, GSA's OCISO is not looking at payment processing solutions to go through FedRAMP

**Accepting firms can link to WEX or Voyager

Fact Sheet on Payment Collection Offerings on BPA

Celebrate your Successes!

Ceremony at Ft. Knox's Eisenhower Avenue EV Charging Site

Ribbon Cutting at Savannah River Site in Aiken, GA

Save the Date! EVSE Virtual Showcase

This free, two-day virtual event features training to help you to accelerate your EVSE deployment along with virtual “booths” that provide the opportunity to connect one-on-one with EVSE firms.

- August 29, 2023 and August 30, 2023 beginning at 10 AM ET
- Virtual conference hosted on WebEx
- Register **here**

See the Electrification resources and training page for more information.

Resources

- gsa.gov/ElectrifyTheFleet
  - AFV Guide & ZEV Fact Sheet
  - EVSE BPA Information
  - Public Charging Fact Sheet
  - Workplace Charging Information
  - EVSE Acquisition Resources
  - Design/Build Install Contracts
- GSAFleetAFVTeam@gsa.gov (ZEVs, EVSE & ZEV deployment)
- pbs-evse-solutions@gsa.gov (EVSE Design, Construction & Install)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