DOER

Massachusetts Department of Energy Resources

MASSACHUSETTS LEADING BY EXAMPLE PROGRAM

PUBLIC LEADERSHIP, STEWARDSHIP, COMMITMENT

LBE Council Meeting

September 10, 2024

Agenda

- News & Updates
- Federal Elective Pay and What to Expect
- Internal Funding Resources
- Fleet Electrification: Beyond the Basics
  - Understanding MPG-CO_2e
  - Fleet Electrification Planning
  - Charging in the Wild (i.e., Outside Your Facility)
  - Ways to Engage – Ride & Drive Opportunities + September 25th Show-and-Mow

News & Updates

CPRG Heat Pump Coalition Award

DOER is part of a coalition selected by the EPA to receive a $450 million Climate Pollution Reduction Grant (CPRG) to tackle climate change, improve air quality, and advance environmental justice

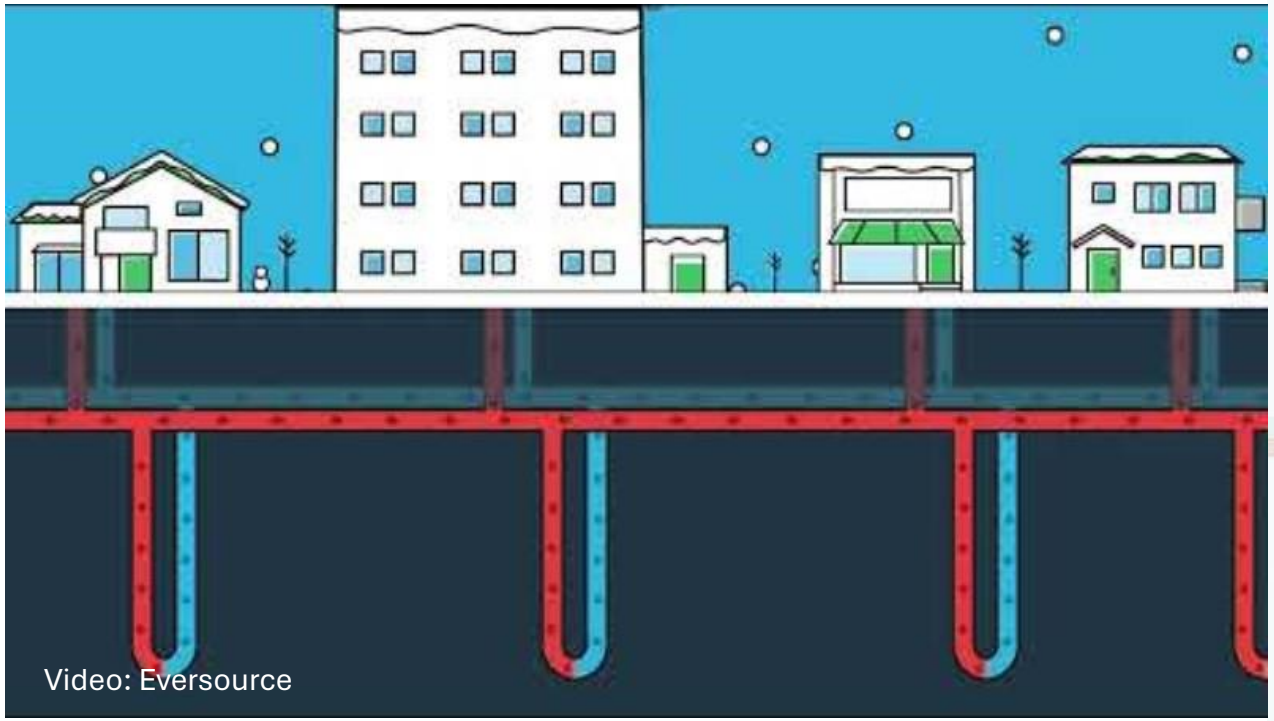
- **The New England Heat Pump Accelerator** will fund projects across Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island
- The objective is to rapidly accelerate the adoption of cold-climate air-source heat pumps, heat pump water heaters, and ground source heat pumps
- Coalition partners aim to provide resources for more than 500,000 single-family and multifamily residential buildings

Combined, proposed projects would reduce GHG pollution by an estimated 971 million metric tons of CO_2 equivalent by 2050

Press Release and WBUR article

DPU Networked Geothermal Guidelines

Networked geothermal: closed-loop geothermal systems that interconnect ground-source heat pumps



Click here to watch video!

- Systems can use existing pipeline infrastructure as a map and employ current gas workers and pipe fitters
- The Pipeline Safety Division at DPU has released new safety guidelines for utility operators
  - DPU's guidelines provide definitions and safety directives to ensure compliance with state laws and regulations
  - Periodic inspections will aim to ensure that emerging distribution systems are operating safely, effectively, and reliably

Source: iBerkshires

Animals to the Rescue

Shellfish as a “Concrete” Solution

Image: Grist/Left Coast

Livestock Landscaping

Sheep in action at “Ewe”Mass Lowell

A hair sheep from Goats-To-Go gets to work on ‘mowing’ wild grass and weeds along the VFW Highway on North Campus.

New England States to Receive $389M in Federal Funding for Transmission and Energy Storage Infrastructure

- US DOE selected the **Power Up New England** proposal to receive $389 million
- Power Up, submitted through the competitive federal Grid Innovation Program, proposes significant investments in regional electric infrastructure including proactive upgrades to points of interconnection in Southeast Massachusetts
- This project is expected to prepare the onshore transmission system for up to 4,800 MW of additional offshore wind

Source: Renewable Energy Magazine

Updates on Offshore Wind

- Massachusetts announced selection of 2,678MW of offshore on Friday, representing nearly 20% of the state's overall electric demand
- Vineyard Wind has resumed construction on its towers off Martha's Vineyard and Nantucket though not cleared for power production
- The second offshore wind port in Massachusetts has broken ground in Salem; the terminal is expected to enter operation in 2026
- NOWRDC announced a $10.6 Million funding opportunity for Floating Offshore Wind Innovations (jointly funded in part by MassCEC)

18th Annual LBE Awards

Deadline to apply or nominate: October 15, 2024

LBE Awards recognize and honor outstanding actions by state entities, municipalities, and public sector staff that impact clean energy and sustainability

New award categories:

- 2 municipalities
- 2 state entities
- 2 individuals

Simple online submission form: **Submit Here!**

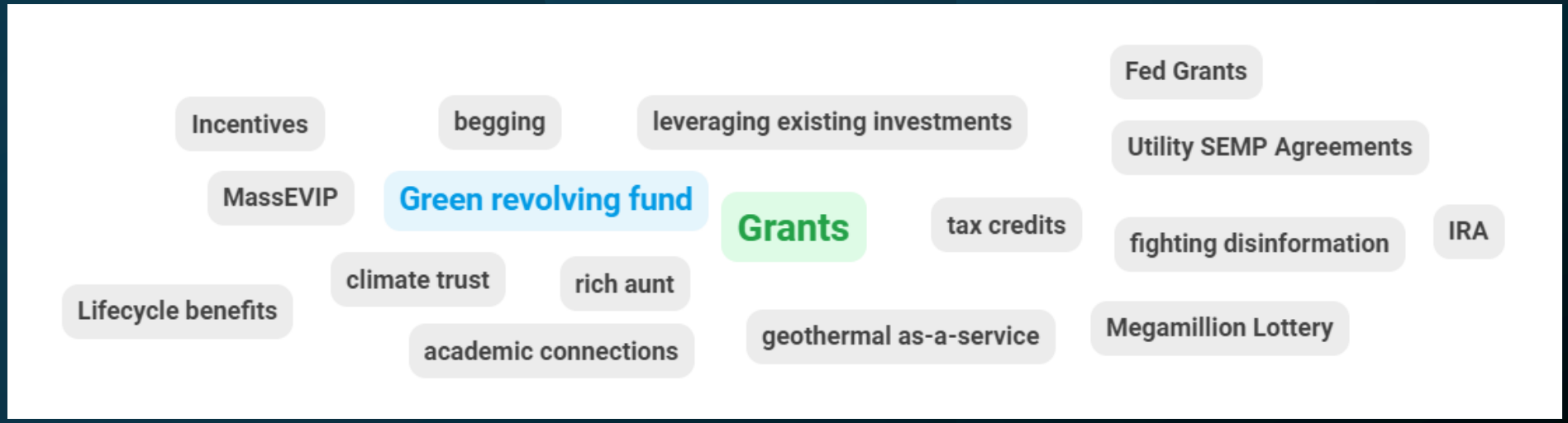
Awards publicly announced at an event this winter with an accompanying press release

Before We Continue...

- Open a new web browser tab or window
- Go to Slido.com

- Enter code **1355275**
- We will refer back to the Slido page throughout the meeting for polls and discussion!

Poll



We know funding for decarbonization is a challenge… in 1-2 words, what creative or innovative funding strategies have you implemented or started thinking about?

Federal Elective Pay

Bob LaRocca, Deputy Director of the MA Federal Funds and Infrastructure Office (FFIO)

Jeffrey Latessa, Stakeholder Liaison, Internal Revenue Service (IRS)

Direct Pay Overview

Executive Office for Administration and Finance
Federal Funds and Infrastructure Office
Governor's Office of Climate Innovation and Resilience

Jonathan Schrag, Deputy Climate Chief, Office of Climate Innovation and Resilience
Bob LaRocca, Deputy Director, Federal Funds and Infrastructure Office

Agenda

- What is Direct Pay?
- Applicable credits for Direct Pay
- Credit Amounts and Bonuses
- Process Timeline
- Helpful Resources

Disclaimer

- The information provided in this presentation does not, and is not intended, to constitute legal or tax accounting advice. Instead, all information is for general informational purposes only.
- This presentation provides a high-level overview of complex tax matters. Please consult an attorney for legal assistance with your specific matter.

What is Direct Pay?

- The Inflation Reduction Act (IRA) makes the largest investment in clean energy in United States history, and much of that investment is delivered via tax incentives.
- Under the IRA, tax-exempt and governmental entities – such as cities and towns -- that do not owe Federal income taxes are, for the first time, able to receive a payment equal to the full value of tax credits for building qualifying clean energy projects or making qualifying investments. This is called Direct Pay (also known as Elective Pay).
- By filing a return and using Direct Pay, these entities can receive a cash refund from the IRS for certain clean energy projects.
- Direct pay applies to projects put into service January 1, 2023 through December 31, 2032, creating a decade of tax opportunity to save money on necessary infrastructure replacements and upgrades while reducing energy costs and carbon emissions.
- **Unlike competitive grant programs, the overall potential of these tax credits to states and municipalities is unlimited.** In most cases, the Investment Tax Credit results in a refund equal to 30% of the project investment.

The Commonwealth's Approach to Direct Pay

1. Understand and execute the Commonwealth of Massachusetts filing process for 2023

2. Provide actionable guidance and resources to cities, towns, and tax-exempt orgs (TEOs)

3. Build strategy for maximizing impact and usage of tax credits for the state/TEOs

4. Provide bridge lending/financing mechanisms for capital projects for TEOS

Most Relevant Tax Credits for Public Entities

Example Projects:
EV Infrastructure Placement in non-urban or low income areas

Example Projects:
EV Fleet Transition

- Gov. vehicles, school buses, public transit, etc.
- Stacking available with EPA funding

Section 30C
Alternative fuel refueling property

Section 45W
Qualified commercial vehicles

Section 45
Renewable electricity production tax credit (PTC)

Section 48
Energy investment tax credit (ITC)

Example Projects:

- Microgrid/ Community Solar
- Storage deployed at distribution level
- Port electrification
- Rooftop Solar or Wind on gov. buildings or affordable housing
- Geothermal HVAC

Credit Amounts

- The most common credit is the Investment Tax Credit (ITC). The amount of the ITC is calculated as a base credit of 6% on the investment basis of the project.

- For the replacement of existing municipal vehicle fleets with new electric vehicles, entities can receive up to $7,500 per light vehicle and up to $40,000 per larger vehicle.

Some Basics on Bonuses

Please Note: Additional details apply

Low-income Communities	Energy Communities	Prevailing Wage and Apprenticeship**	Domestic Content* **
10-20% bonus	10% bonus	5x bonus	10% bonus
… if project is in a low-income community with extra bonus if residential or econ benefit project	…if project is in historical "energy community" (i.e., closed coal mine, some brownfield sites)	…if reqs for prevailing wages and registered apprentices are met	…if 100% of applicable steel and iron and an applicable share of 'manufactured products" produced in U.S.
ITC only	Applies to both ITC tax basis and PTC rate	Applies to both ITC tax basis and PTC rate	Applies to both ITC tax basis and PTC rate

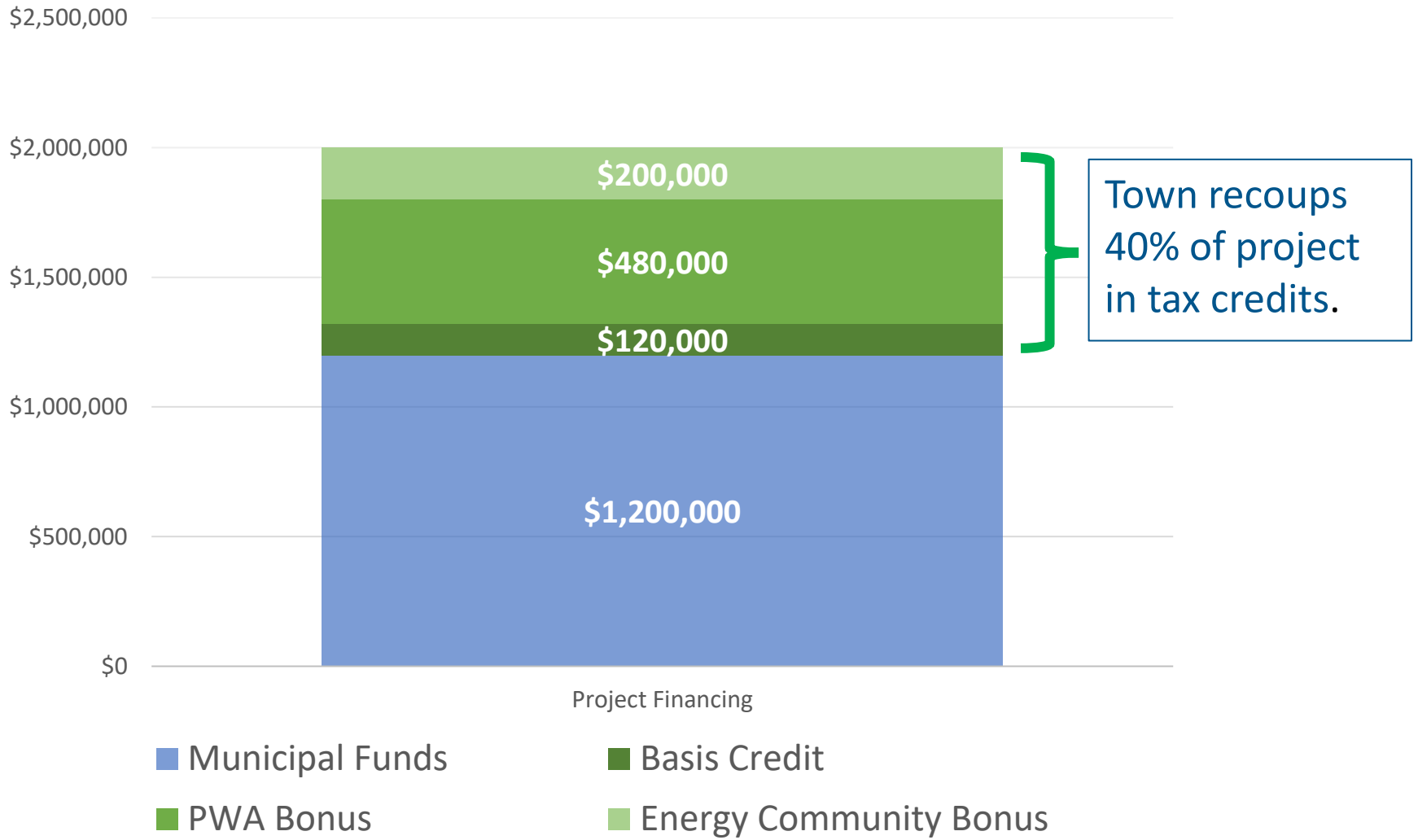
* - On December,28, 2023, IRS issued new guidance on this rule for projects beginning in 2024 (see Notice 2024-9)

** - Applicable for projects of a size >1MW

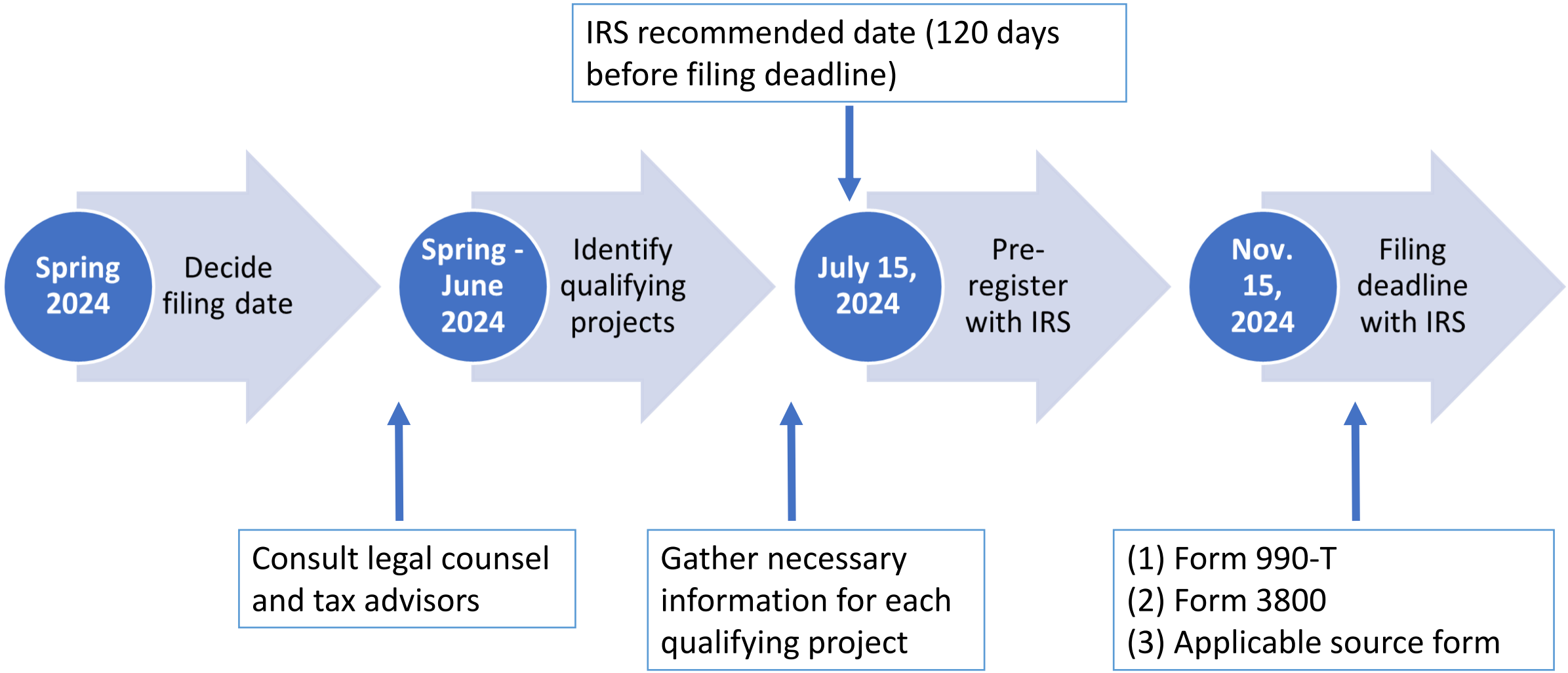
How Direct Pay Credits and Bonuses Affect a $2M Project

Example:

- A municipality with brownfield status installs microgrid with solar and energy storage.
- Eligible for an ITC (Energy ITC, Sec. 48)
- Project cost is $2M



Do You Have 2023 Projects? Here's the Process Timeline



Next Steps for Elective Pay: Beyond 2023

1. Identify projects in the pipeline with in-service dates of 2024 or later:
   - Build an internal team by working with financial advisors and counsel to confirm eligibility, gather documentation, address key questions.
   - Complete pre-registration for each project in the IRS Pre-registration portal. This should be completed 120 days prior to the tax filing deadline.
   - File Tax Forms generally 4.5 months after the end of the tax period.
     - May 15th for calendar year filers and November 15th for fiscal year filers.

2. Inventory capital needs (new construction, retrofits or vehicles) over the next decade:
   - Include tax credit value into real estate and vehicle fleet planning.
   - Ensure architects, designers, and facilities managers are aware of tax credit opportunities.

3. Make a plan for how your entity will get its share of refunds over the next decade.

Helpful Resources

- FFIO's Direct Pay Information Page
- Elective Pay Overview
- CAP webinar on Direct Pay
- Lawyers for Good Government Elective Pay resources, including worksheets on:
  - EV Purchase
  - EV Infrastructure
  - Tracking ITC and PTC projects
  - Slides from a presentation to local governments (but provides overview of Direct Pay for all)
- IRS Video Tutorial on pre-registration
- IRS Q&A

Thank you!

Robert.E.LaRocca@mass.gov

Additional Slides

Applicable Credits for Direct Pay:

- Direct Pay enables cities and towns to leverage both production tax credits ("PTCs") and investment tax credits ("ITCs")
- PTCs include credits for producing electricity from renewable sources, including wind, biomass, geothermal, and solar (Sec. 45).
- ITCs include credits for investing in renewable energy projects such as solar, small wind, microgrid controllers, and combined heat and power properties (Sec. 48). ITCs also include credits for purchasing commercial clean vehicles (Sec. 45W) and investing in alternative fuel vehicle refueling and charging properties (Sec. 30C).

Next Steps: Do You Have 2023 Projects?

1. **Decide filing date.** Public entities must first decide whether they will file based on a **calendar or fiscal year**. Filing on a calendar year would enable the entity to potentially receive credit for clean energy projects placed into service at any point during 2023.
    - The IRS is giving public entities an automatic one-time 6-month extension. Normally, entities filing according to a calendar year would have to file 4.5 months after end of tax year (May 15), For this time only, that deadline is automatically extended to **November 15th**.

2. **Identify qualifying projects & gather necessary information.** The IRS requires that eligible entities **own the asset** for which they are seeking credits. To understand if a project owned by an entity qualifies for a particular year, the entity must determine that the project was **placed into service**.

3. **Pre-register 120 days before filing date.** Entities must pre-register with the IRS to obtain a Unique Registration Number for each applicable credit property. The IRS recommends registering 120 days before the applicable filing deadline. This would be **July 15th** for calendar year filers.

4. **File on November 15th, 2024!** For calendar year filers seeking to claim credits for 2023 projects, file **Form 990-T, Form 3800, and the applicable source form** for calculating and claiming any applicable credits

Inflation Reduction Act:

The Commercial Clean Vehicle Credit, Alternative Fuel Vehicle Refueling Property Credit and Elective Pay

September 10, 2024

Credit For Commercial Clean Vehicles

- The credit is available for businesses and certain tax-exempt entities; **tax-exempt entities can receive the credit as an elective payment.**
- The maximum credit amount is **$7,500** per vehicle with a gross weight rating of less than 14,000 pounds or **$40,000** for all other vehicles.
- Commercial Clean Vehicle Credit | Internal Revenue Service (irs.gov) provides information about eligibility requirements for the credit.

IRC Section 30C: Alternative Fuel Vehicle Refueling Property Credit

•**Consumers** who purchase and install qualified alternative fuel vehicle refueling property for their principal residence, including electric vehicle charging equipment, between December 31, 2022, and January 1, 2033, may receive a tax credit for each item of property that is generally the lesser of 30% of the property's cost or $1,000.

•**For businesses as well as applicable entities**, including state, local, tribal and other qualifying tax-exempt organizations, the credit for each item of property is generally the lesser of 6% (or 30% if certain prevailing wage and apprenticeship requirements are met) of the property's cost or $100,000. The credit is available for property placed in service between December 31, 2022, and January 1, 2033.

Eligible census tracts fall into two categories and eligible property can be in either type of tract (or both, if the tract falls under both categories) to qualify:

1. **Low-income community census tracts:** Population census tracts as described in Internal Revenue Code section 45D(e), i.e., the "low-income community" definition of the New Markets Tax Credit (NMTC).

2. **Non-urban census tracts:** Population census tracts defined as "not an urban area" (or "non-urban area") according to Treasury/IRS guidance.

What is Elective Pay?

Elective pay allows applicable entities, including tax-exempt and governmental entities that would otherwise be unable to claim certain credits because they do not owe federal income tax, to benefit from some clean energy tax credits. By choosing this election, the amount of the credit is treated as a payment of tax and any overpayment will result in a refund.

See **Publication 5817-G** for a list of credits that are eligible for elective pay

Making the Elective Payment Election

1) **Identify and pursue the qualifying project or activity**
2) **Determine your tax year, if not already known**
3) **Place in service:** The applicable credit property must be placed in service before a registration number will be issued
4) **Complete pre-filing registration with the IRS**
5) **Satisfy all eligibility requirements for the tax credit**
6) **File Form 990-T by the due date (or extended due date) and make a valid elective payment election**

See State and Local Government, Publication 5817-E for details

Office Hours for Elective Pay of Clean Energy Credits

Date	Time	Register
September 18, 2024	1:00-2:30 p.m. EDT	Register
October 2, 2024	1:00-2:30 p.m. EDT	Register

Additional Commercial Clean Vehicle Credit and Elective Pay Resources

- Publication 5724-B Credit for Commercial Clean Vehicles
- Alternative Fuel Vehicle Refueling Property Credit | Internal Revenue Service (irs.gov)
- Prevailing wage and apprenticeship requirements | Internal Revenue Service (irs.gov)
- Register for elective payment or transfer of credits | Internal Revenue Service (irs.gov)
- Elective pay and transferability frequently asked questions | Internal Revenue Service (irs.gov)
- Inflation Reduction Act (IRA) and CHIPS Act of 2022 (CHIPS) Pre-Filing Registration Tool -- User Guide and Instructions, Publication 5884
- Sign up for IRS Federal, State & Local Government (FSLG) e-News Subscriptions at: e-News subscriptions | Internal Revenue Service (irs.gov)

Internal Funding Resources

- Solar + Decarbonization Grant
- Small-Scale Decarbonization Grant
- Clean Energy Feasibility Study Grant
- Fleet EV Charging Funding
- Fleet EV Incentives

LEADING BY EXAMPLE SOLAR-DECARBONIZATION GRANT PROGRAM

NEW

Provides enhanced incentives for new state solar PV deployment, battery energy storage, electric vehicle charging, and decarbonization efforts to support to state entities in meeting Executive Order 594 targets and objectives

COMING THIS WEEK OR NEXT!

SOLAR DEPLOYMENT

STRONG SOLAR PRESENCE

To date, there is ~33 MW of solar installed across 47 state properties, 80% of which is on already developed parking lots and building rooftops

THE PUSH FOR ADDITIONAL SOLAR

- Contribute to a greener electric grid
- Opportunity to lead by example
- Operational benefits (e.g., cost certainty, electricity cost and demand charge savings)
- Ancillary benefits (e.g., mitigating heat island impacts)
- Integrated decarbonization

A MODULAR FUNDING STRUCTURE

Incentives for new state solar deployment that vary based on project type

- Rooftop, ground-mount, solar canopy, or innovative
- Behind the meter or front of meter
- Commonwealth- or third party-owned

+

Stackable funding for:

- Battery energy storage installation
- EV charging build-out and/or
- Decarbonization efforts at the site

ADMINISTRATIVE DETAILS

AVAILABLE FUNDING

- $25,000,000 total

ELIGIBLE APPLICANTS

- Executive Branch agencies
- Public higher education
- Quasi-public authorities

APPLICATION PROCESS

- Applications received, reviewed, and awarded on a rolling basis through June 30, 2027

AWARD MAXIMUM

- $2,500,000 per project including any add-on funding

TO LEARN MORE, REGISTER NOW

LBE Solar-Decarbonization Grant Webinar

October 1, 2024

1:00–2:00 PM

Learn more here!

LBE Small-Scale Decarbonization Grant

Total Funding: $2,450,000

Eligible Entities: Executive branch agencies, public institutions of higher education, and quasi-public authorities

Deadline: Applications accepted on a rolling basis through **June 30, 2027**, or until funds run out

Air Source Heat Pumps[1]	Heat Pump Water Heaters[1]	Facilities Maintenance, Operations, and/or Landscaping Equipment	Commercial Kitchen Equipment
• 40% of total project cost • Max $350,000 per site address	• 40% of total project cost • Max $150,000 per site address	• Handhelds: 40% of total project cost • Ride-on mowers and UTVs: 55% of total project cost • Max $150,000 per site address	• 40% of total project cost • Max $150,000 per site address

Updates

- Five applications have been received for a total of over $200k
- DOER has received statements of interest for every project type

[1] Need to adhere to the Build America Buy America Act Requirements

Learn more here!

LBE Clean Energy Feasibility Study Grant

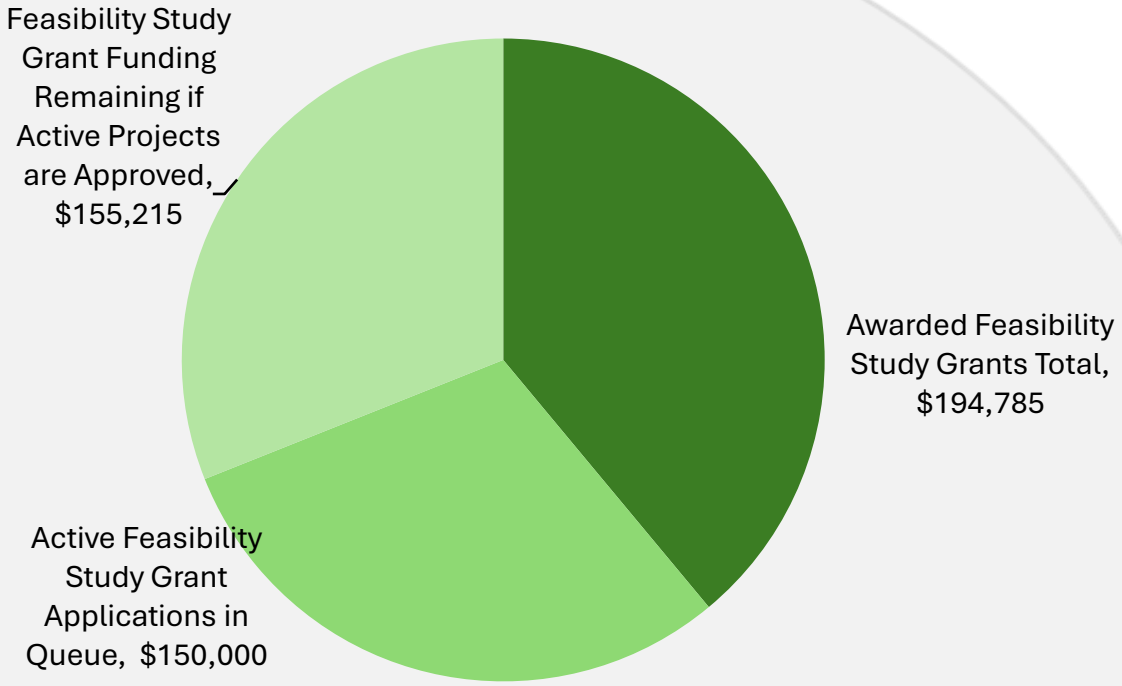
Total Funding: $500,000

Max Award: $150,000

Eligible Entities: Executive branch agencies, public institutions of higher education, and quasi-public authorities

Deadline: Applications accepted on a rolling basis through **June 30, 2025**, or until funds run out

Current Program Budget



Eligible Projects

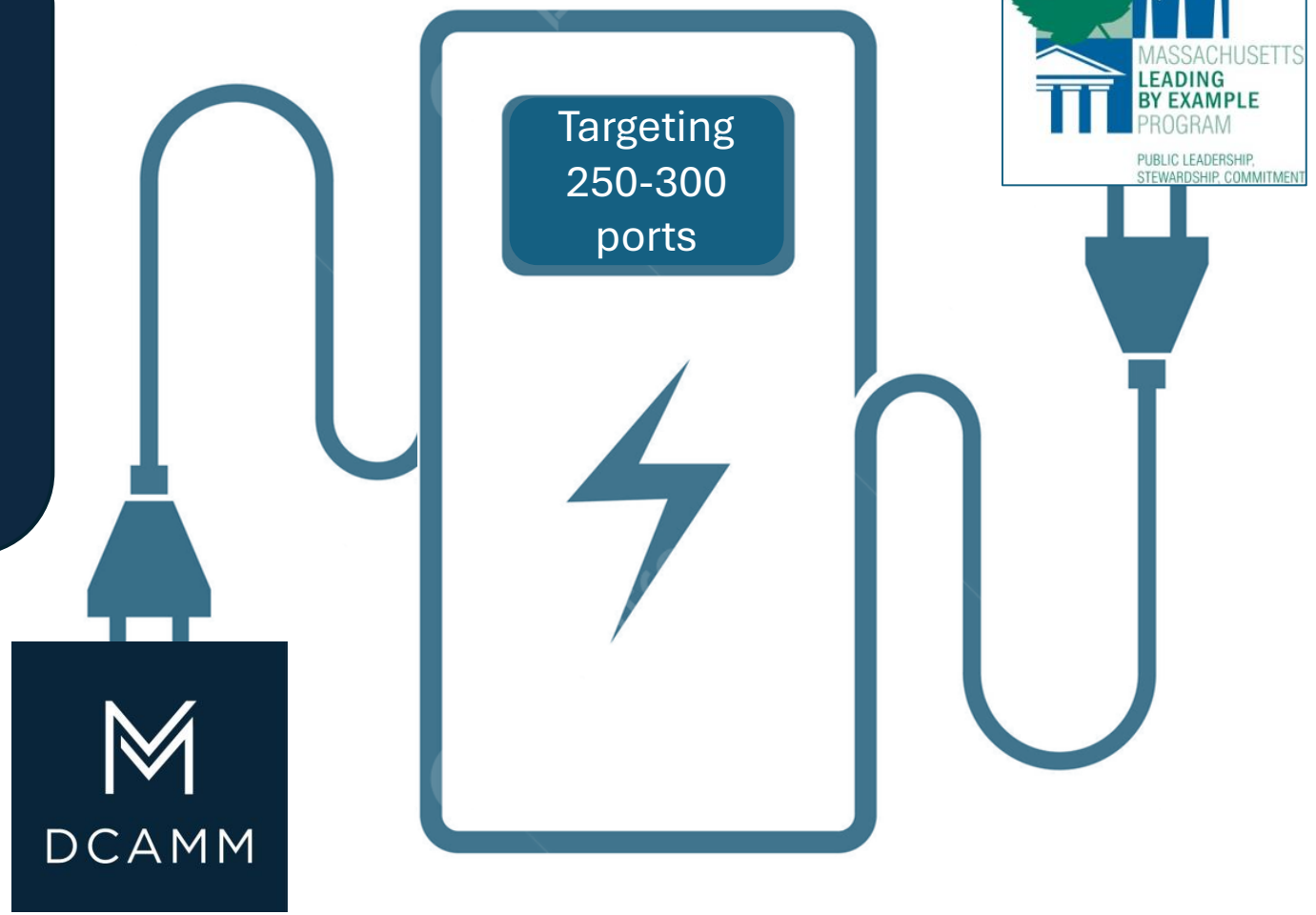
Studies on renewable thermal, innovative solar, renewable CHP fuels, energy resilience, energy storage, long-range decarb roadmaps, and other clean tech or strategies that targets reductions in energy use, emissions, and fossil fuels

Agency/Campus	Status	Project Type
Montachusett Regional Transit Authority (MART)	Complete	Study of electrification at HQ (EVSE, solar, etc.)
UMass Chan Medical School	Complete	Decarbonization Roadmap
UMass Lowell	Awarded	Analysis of fleet EVSE needs and EVSE implementation plan

Funding for Fleet EVSE Deployment

Allocating $9.5M in ARPA funding for fleet EVSE deployment across dozens of high priority sites

All funds to be encumbered by December 2024



(Apply here)

Grant program with $1.5M in ARPA funding to cover 100% of costs for fleet EVSE deployment at non-DCAMM sites (e.g., authorities, leased facilities, etc.)

All funds to be encumbered by December 2024

Incentives for Fleet EVs

MassEVIP Fleets funding for public light-duty vehicles

- Up to $7,500 per vehicle
- Maximum of 25 EVs per entity (lifetime)

Apply for MassEVIP Fleets Incentives | Mass.gov

MOR-EV funding for Trucks & MHD vehicles

- Pickup trucks and Class 2b through Class 8
- Rebates between $7,500 and $90,000 based on class
- +10% EJ Adder available
- Option for public entities to use a vendor “passthrough” for the rebate

Eligible Trucks | MOR-EV.org


Navigating programs and resources for the state of Massachusetts

For Your Business, Municipality, or Agency

Fleet Electrification Planning

The Mass Fleet Advisor program through MassCEC offers free technical assistance for business and nonprofits interested in electrifying medium- and heavy duty fleets. For more information, visit their website.

Electrify Your Fleet and Maximize Your Savings

MOR-EV has rebates for your organization to electrify your fleet.

For pick-ups and class 2b vehicles (8,501 - 10,000 lbs), your business could qualify for rebates. Apply within 90 days of purchase for this rebate. Light duty rebates are also available through participating dealerships at point-of-sale.

For medium- and heavy duty vehicles, you may qualify for rebates. To qualify, apply for a voucher prior to purchasing your fleet, and redeem within 12 months of purchase.

Fleets (public only) For public entities seeking to acquire electric vehicles for their fleets (provided by MassDEP/MassEVIP).

Support for Municipalities

Mass Green Communities may have funding available for your projects. If you're a municipal employee, please reach out to your regional coordinator for more information.

Funding to Install EV Charging Stations

MassDEP has several categories of incentives available for installing electric vehicle charging infrastructure.

Workplace & Fleet Charging For employers and fleet operators.

Public Access Charging For property owners and managers.

Multi-Unit Dwelling & Educational Campus Charging For multi-unit dwellings with five or more units and educational campuses with at least 15

Utility Rebates

Eversource and National Grid offer Make-Ready programs when you meet qualifications.

National Grid

Eversource

RECHARGE MA

Navigating programs and resources for the state of Massachusetts

For You and Your Home

Drive Electric, Save Big!

Visit the MOR-EV website for a list of vehicles that qualify for rebates through purchase or lease.

Residential Utility Rebates

as well. Check out information for Eversource and National Grid

National Grid has a residential EV charger installation rebate. To qualify, you must enroll in their off-peak charging program.

nal Grid customer? Find out what d if EV incentives are available.

s Provided by MassCEC

ntivise electric transportation.

NEW! **1-pager resource guide to MA EV incentives and programs.**

POLL

What would be the most helpful for you and your team in staying abreast of these and other funding opportunities?

New LBE Funding Resources Webpage!

Click here for Funding Resources Webpage

Funding Programs and Grants for State Entities

This webpage contains basic information about a variety of grants and incentives as well as links to specific funding opportunities across several different categories, including renewable energy, electric fleet vehicle acquisitions, and decarbonization.

The DOER Leading by Example Division (LBE) assists state agencies, public higher education institutions, and quasi-public authorities with technical assistance and financing. Here, visitors can learn about several incentive programs and grants for state government projects offered by DOER, MassDEP, utilities, and other sources. These programs and grants can lower the upfront and/or ongoing costs of clean energy projects.

This webpage contains basic information about a variety of grants and incentives as well as links to specific funding opportunities across several different categories: renewable energy, energy storage, electric fleet vehicle acquisitions, EV charging, decarbonization, and clean energy feasibility studies.

This webpage includes a repository of active programs that may provide complete or partial funding that can be used in addition to other funding sources available to state entities. Funding sources could include, but are not limited to, capital investment funds, deferred maintenance, and agency budgets. The LBE Division can be a valuable resource for state entities interested in pursuing any of these programs, offering information and guidance; please contact LBE-grants@mass.gov for additional assistance.

What would you like to do?

Clean Transportation

- State Fleet Electric Vehicles →
- State Fleet EV Charging Infrastructure →
- Other EV Charging Infrastructure Funding →

Clean Transportation

This webpage contains information and links to specific funding opportunities for state entities related to clean transportation.

TABLE OF CONTENTS

State Fleet Electric Vehicles (EVs)

ZEV: zero emission vehicle; BEV = battery electric vehicle; PHEV = plug-in hybrid electric vehicle.

MassEVIP Fleets ⇒ Administered by MassDEP, this rolling grant program supports Massachusetts cities, towns, state agencies, and public colleges and universities in acquiring BEVs and PHEVs for their fleets. BEVs are eligible for up to $7,500 while PHEVs are eligible for up to $5,000.

MOR-EV Trucks and MOR-EV Medium/Heavy-Duty Rebates ⇒ Administered by DOER, the MOR-EV Program provides public fleet rebates for the purchase or lease of pickup trucks between 6,000-10,000 pounds GVWR, other Class 2b ZEVs between 8,501-10,000 pounds, and Class 3-8 ZEVs including trucks, vans, and buses over 10,000. Rebate amounts vary by GVWR, and additional funds may be available for ZEVs registered or operating in Environmental Justice communities.

LBE Decarbonization Grant ⇒ Administered by LBE, this grant program provides funding for small to medium system and facility equipment decarbonization projects, including electric utility vehicles.

Fleet Electrification: Beyond the Basics

Understanding MPG-CO_2e

Shorthand for “miles-per-gallon carbon dioxide equivalent,” MPG-CO_2e is a standard way to understand and compare emissions from electric vehicles….

Specifically, it is the fuel economy a gas-powered car would have to achieve to generate an equivalent amount of pollution

Higher MPG-CO_2e = less global warming pollution

Source: Union of Concerned Scientists

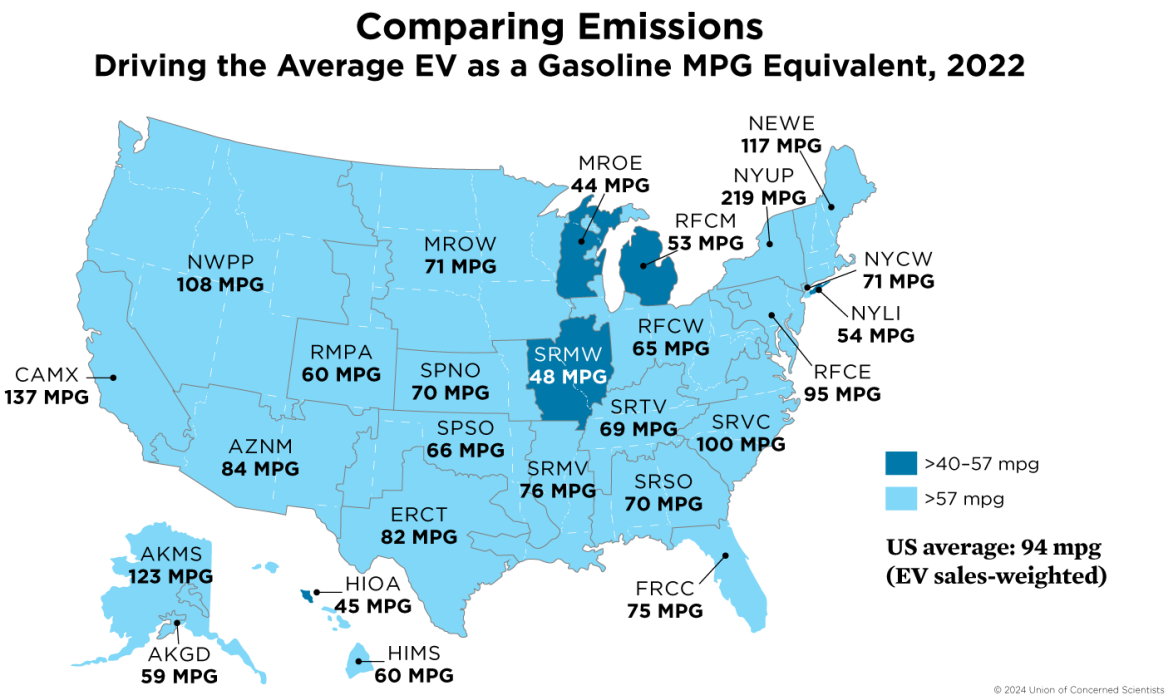
POP QUIZ

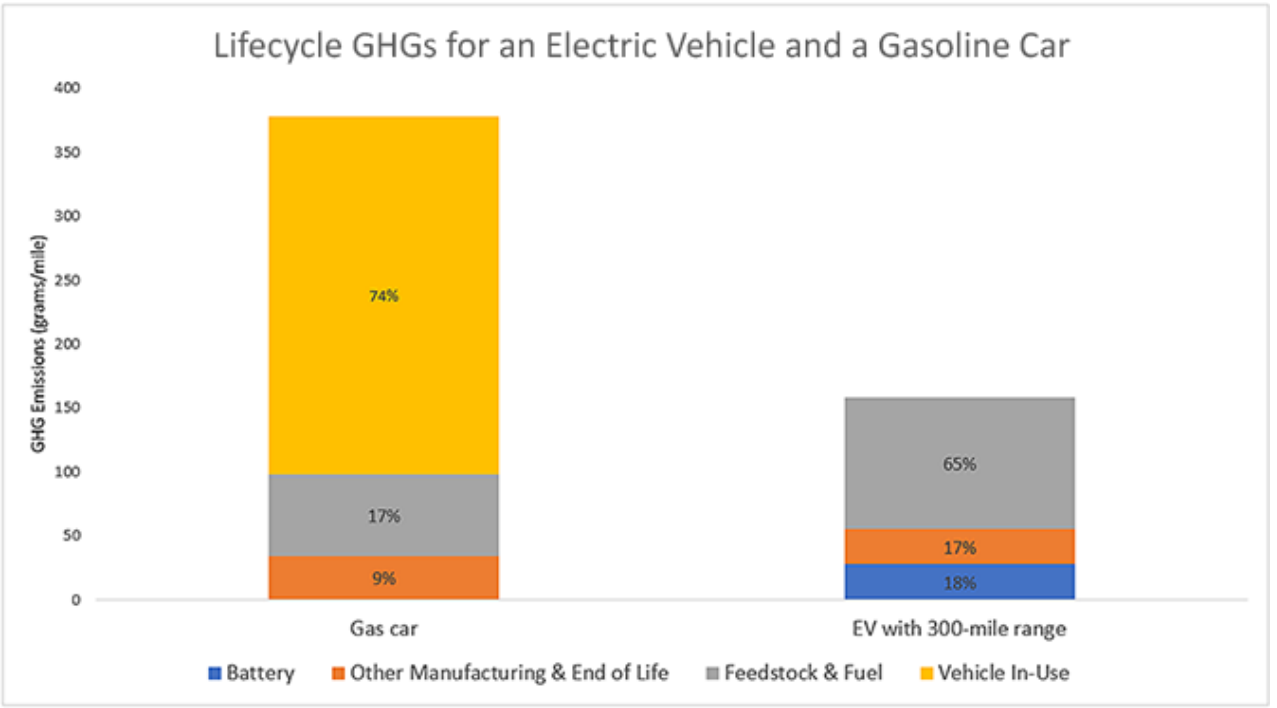
What do you think is the average MPG-CO_2e of an EV driven in Massachusetts?

Emissions from Driving Electric in the Commonwealth

On average, EVs produce less carbon pollution than comparable gasoline-fueled cars; *how much* less depends on where they're charged

As the US electricity grid gets cleaner, the benefits of EVs compared with gasoline vehicles will continue to grow





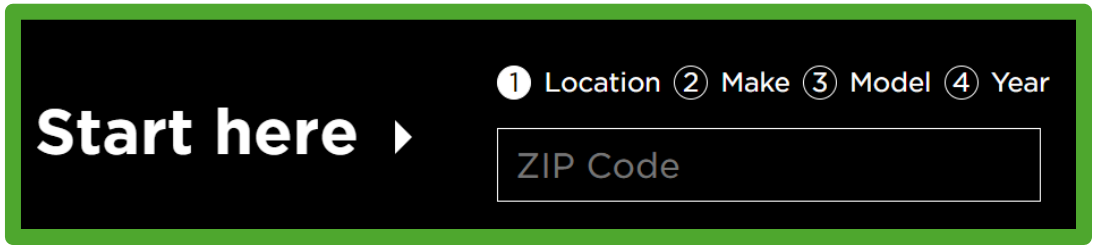
Driving on Electricity Is Now Much Cleaner than Using a Gasoline Car - Union of Concerned Scientists

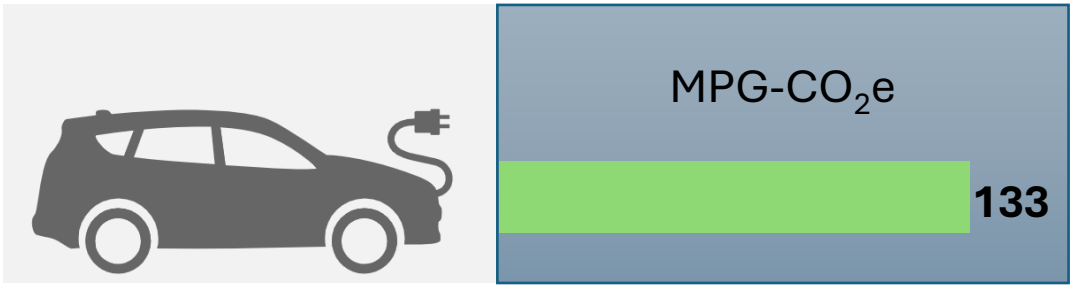
https://www.epa.gov/greenvehicles/electric-vehicle-myths

How Clean is Your EV?

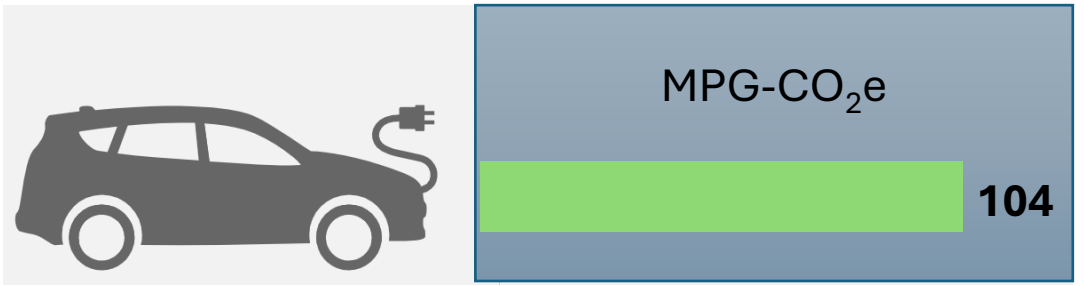
https://evtool.ucsusa.org/

Note: emissions are calculated at a regional level, so zip code selection won't impact results across the state

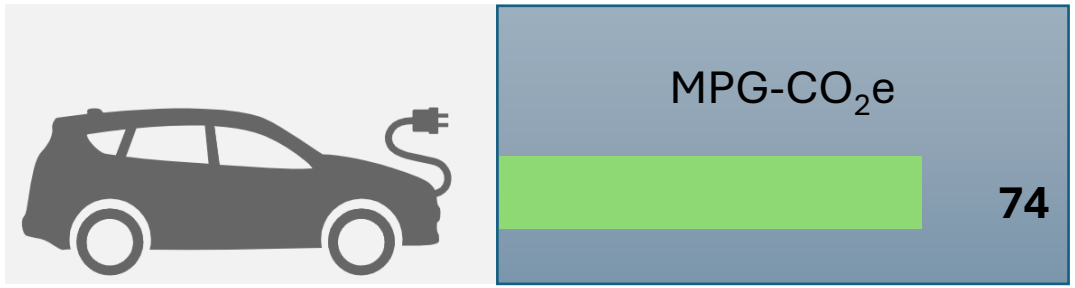




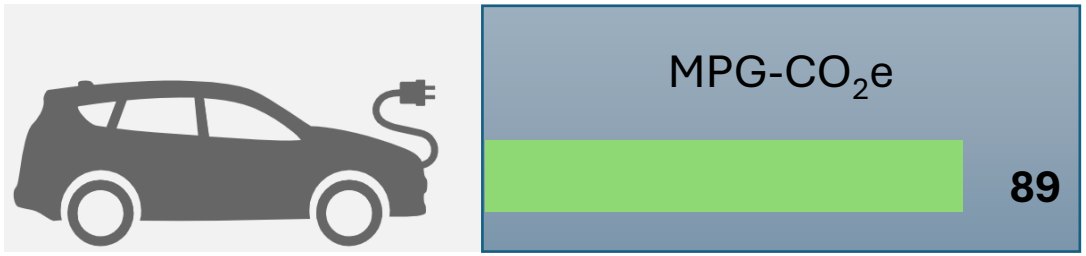
2024 Hyundai Kona Electric charged in MA gets 133MPG-CO2e



2024 Chevy Equinox EV AWD charged in MA gets 104MPG-CO2e



2024 Ford F150 Lightning 4WD charged in MA gets 74MPG-CO2e



2024 Kia EV9 Long Range AWD charged in MA gets 89MPG-CO2e

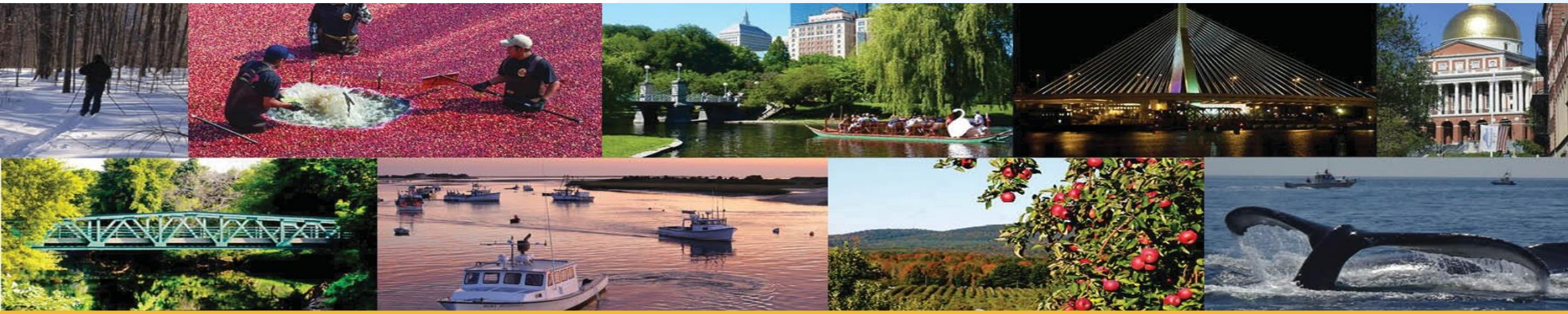
Fleet Electrification Planning

OPERATIONAL SERVICES DIVISION

Fleet Electrification Planning

The Office of Vehicle Management

Vincent Micozzi - Director of Fleet Policy



EO 594 and EV Planning Policy

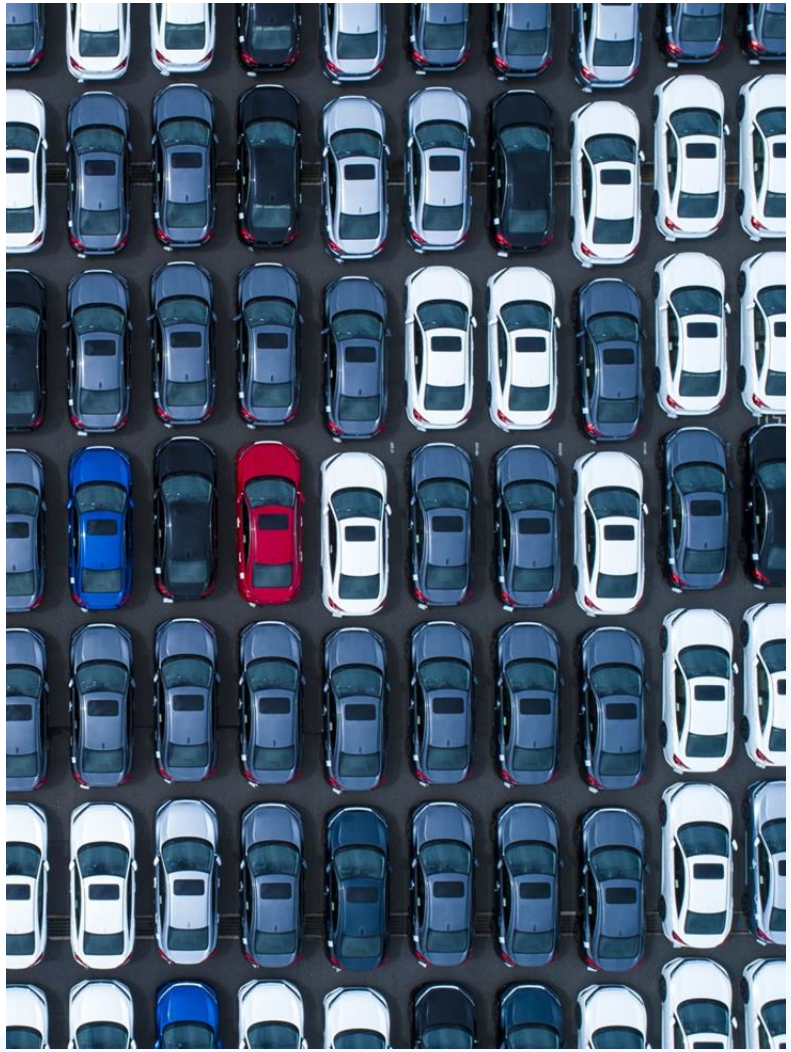
OPERATIONAL SERVICES DIVISION

- Initial 5% ZEV goal has been met for overall OVM-Managed Fleet
- In May, OSD issued a revised Electric Vehicle Planning and Acquisition Policy to help meet the 2030 goals for fleet electrification (20% ZEVs)
  - Policy commits executive agencies to develop electric vehicle (EV) plans by January 31, 2025

Guidehouse

Fleet Electrification Planning: OVM Fleets

OPERATIONAL SERVICES DIVISION



- OSD/OVM has hired a consultant to conduct a **comprehensive assessment** of its fleet and provide **strategic recommendations** for electrification
  - Scope includes 2,646 light- and medium-duty cars, trucks, vans, and SUVs for 34 state agencies, plus six Commonwealth agencies that opted to follow OVM policies and guidelines
- Agency recommendations will be **customized to the individual agency**, including change management, optimizing fleet utilization, and transitioning to EVs
  - Agency-level plans will roll up to create a comprehensive master plan for optimizing the OVM state vehicle fleet and achieving the EO594 targets as a portfolio by the end of FY25 and FY30

Project Team: Top-Down Buy-In

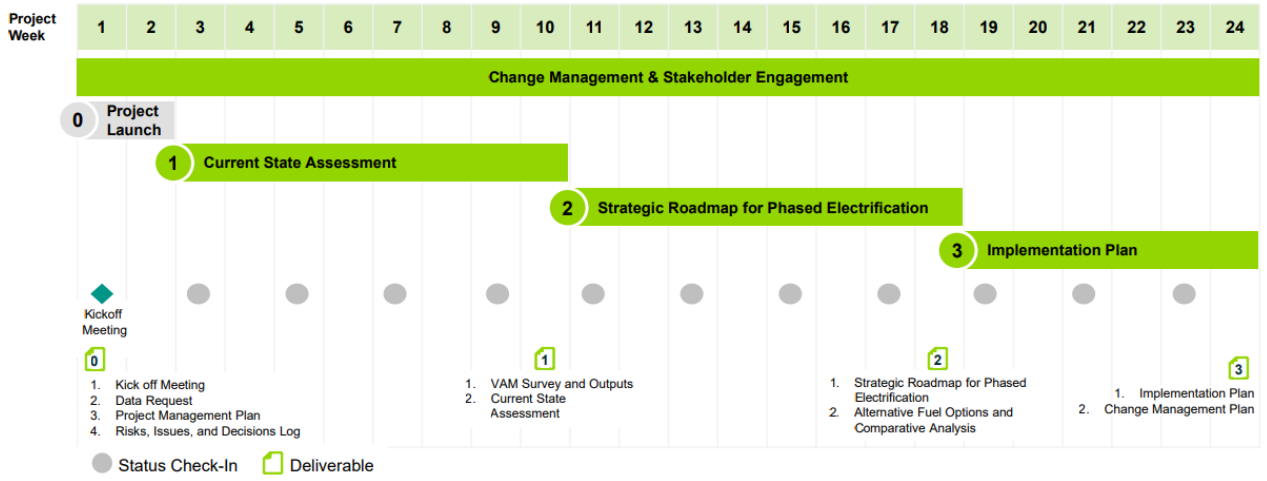
OPERATIONAL SERVICES DIVISION

- Executive Steering Committee:
  - Members include the project sponsor and high-level stakeholders
- Steering Committee:
  - Members include leadership from OVM and carefully selected inter-agency partners who together will be accountable for the ongoing success of the program
- Core Project Team:
  - Members include Subject Matter Experts (SMEs) with strong institutional knowledge
- Advisory Committee:
  - Members include key stakeholders such as fleet managers, technical experts, and other vital personnel who bring representative perspectives and significant institutional knowledge
- Other Stakeholders, as needed

- The composition was designed to build a cross-collaborative group of experts capable of completing this project on time with the highest quality outcome

Targeted Timeline

OPERATIONAL SERVICES DIVISION



Execution

Guidehouse will work with OSD and agency stakeholders to develop detailed **fleet optimization and electrification plans** that OSD and agencies will execute beginning in 2025.

The Guidehouse team will support agencies in developing their fleet optimization and electrification plans, consistent with EO 594.

VAM (Vehicle Allocation Methodology) Survey

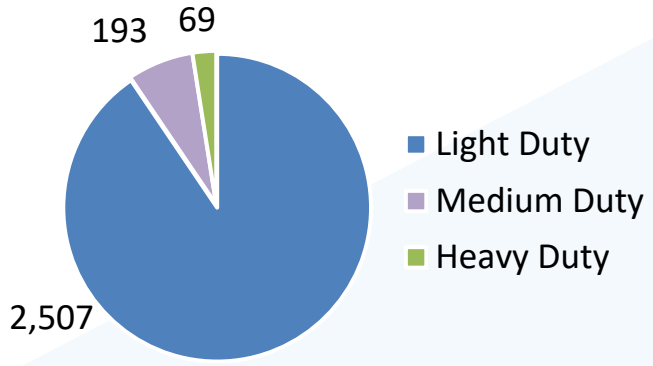
OPERATIONAL SERVICES DIVISION

- Nearly 100% VAM Survey completion allowed OSD to get a detailed understanding of the current fleet composition:
  - Over 2,600 vehicles across 40 agencies and more than 900 garage locations
  - More than 90% of the assets are light duty (LD) vehicles, classes 1 & 2, with a Gross Vehicle Weight Rating (GVWR) of less than 10,000 pounds
  - Currently deployed ZEVs account for almost 5% of the total fleet, including Heavy Duty (HD)

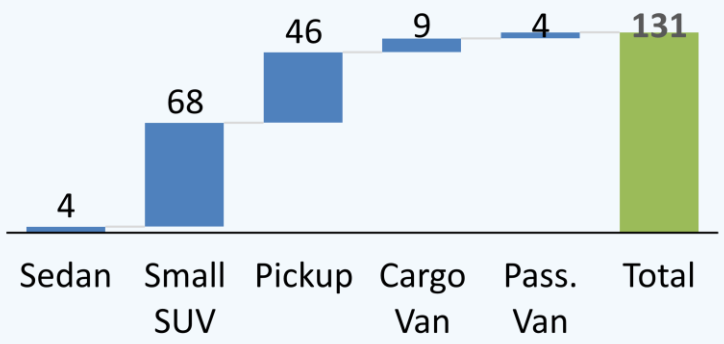
99.7%
Survey Completion

5%
Zero Emission Vehicles (ZEVs)

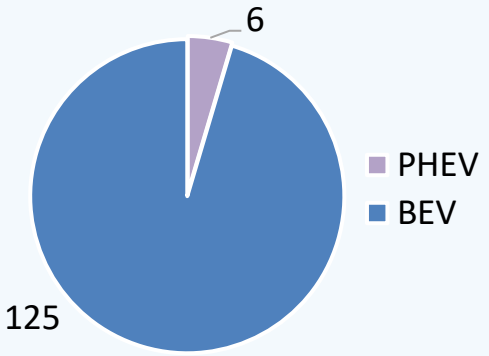
Fleet Composition by Vehicle Duty Class



ZEV Population by Model Type



ZEV Breakdown



VAM Survey and Agency Interviews: Concerns

Project team is addressing these throughout the project

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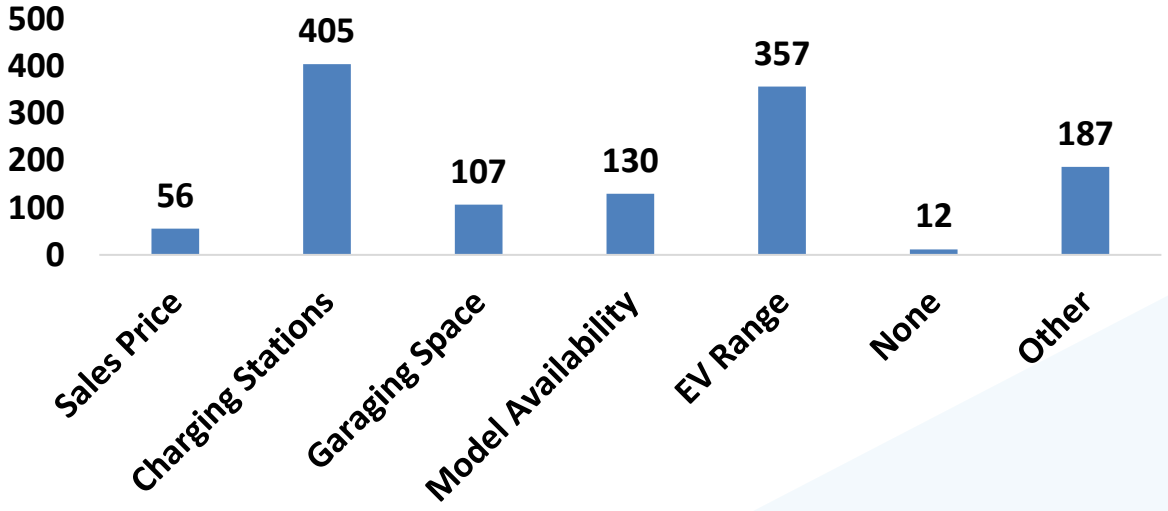
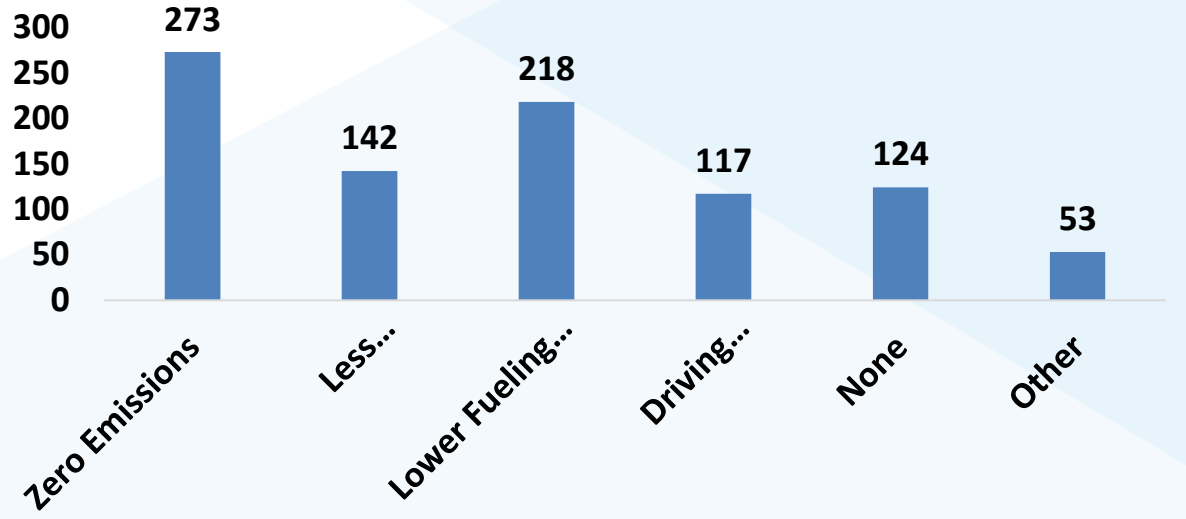
EV Adoption Concerns



Appealing Aspects of EVs



EVSE Charging
Concern around lack of EVSE at garaged locations, public facilities, and domiciles

EV Range
Concern around lack of sufficient range impacting job function

Model Availability
Concern around current ZEV market replacing existing ICE vehicles

Garaging
Concern around reliable EVSE, domicile reimbursement

Budget
Cost of ZEVs, EVSE, and reimbursement for drivers

Next Steps & Additional Engagement Opportunities

OPERATIONAL SERVICES DIVISION

Focus Groups

Discussion with **Change Champions** to **gather input for** individualized agency plans

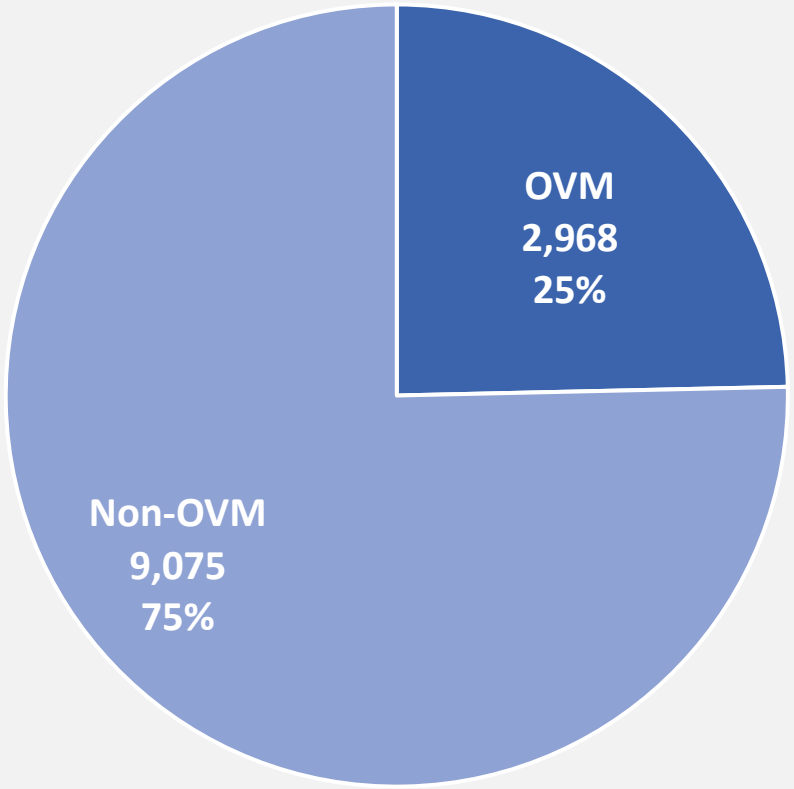
Next Week (9/16 to 9/20)

Offline Feedback Opportunities and Focus Group Sessions

Agencies are given the opportunity to review their **individualized agency optimization/electrification plans** and provide feedback offline and in drop in sessions

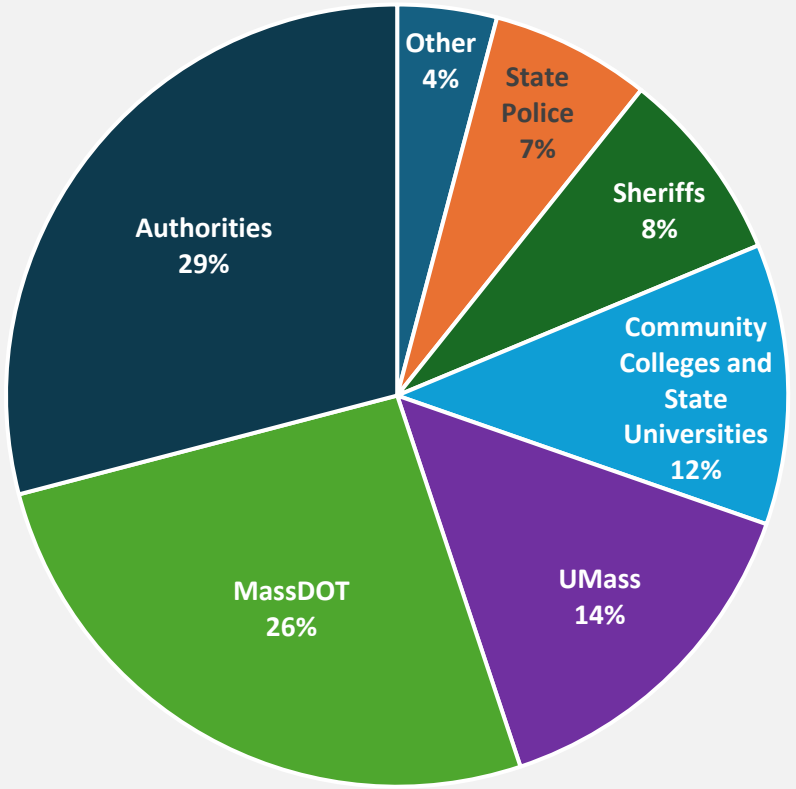
State Fleet Oversight Overview

State Fleet Breakdown by Oversight: OVM vs. Non-OVM



Total fleet

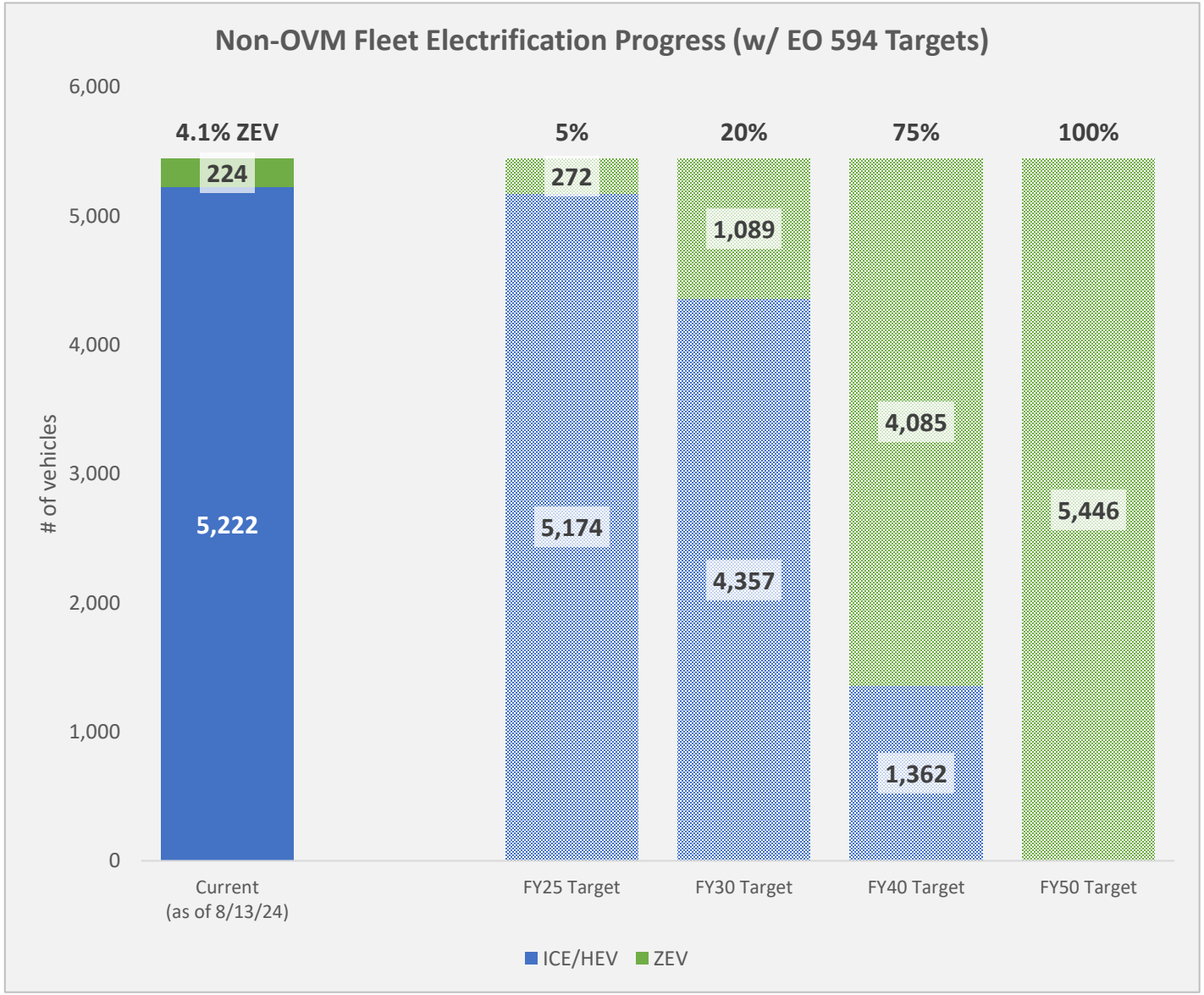
Non-OVM Fleet Breakdown by Entity Type (51 entities)



Excludes known exemptions for marked/unmarked police vehicles

EO 594 Non-OVM State Fleet Progress

- As of August 2024, **4.1%** of non-OVM fleet has been **electrified**
  - Combined with OVM fleet, overall fleet at 4.9% electric
- Focus on planning to reach near-term FY2030 target
  - To reach this target, non-OVM fleets will need to attain 865 BEVs or PHEVs, an average of 144 per year
- Still finalizing list of exempt emergency vehicles



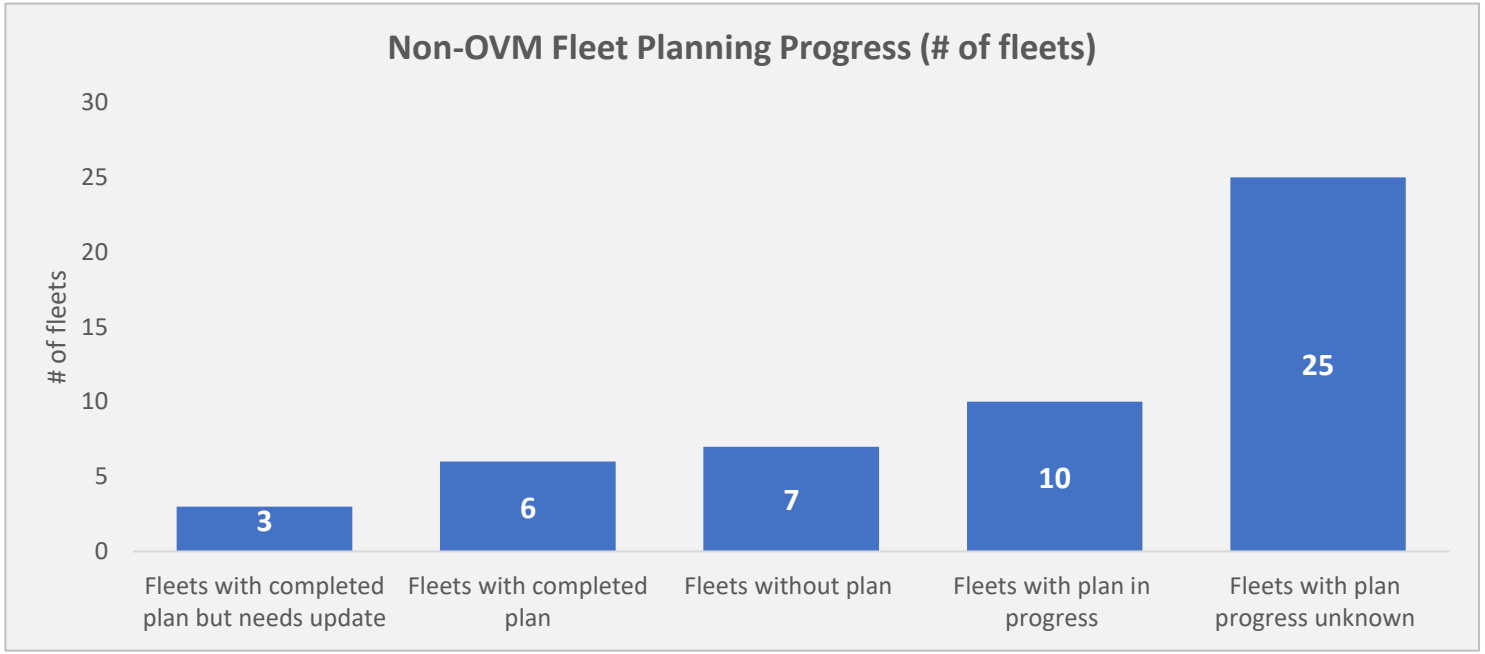
Non-OVM Fleet Planning Progress

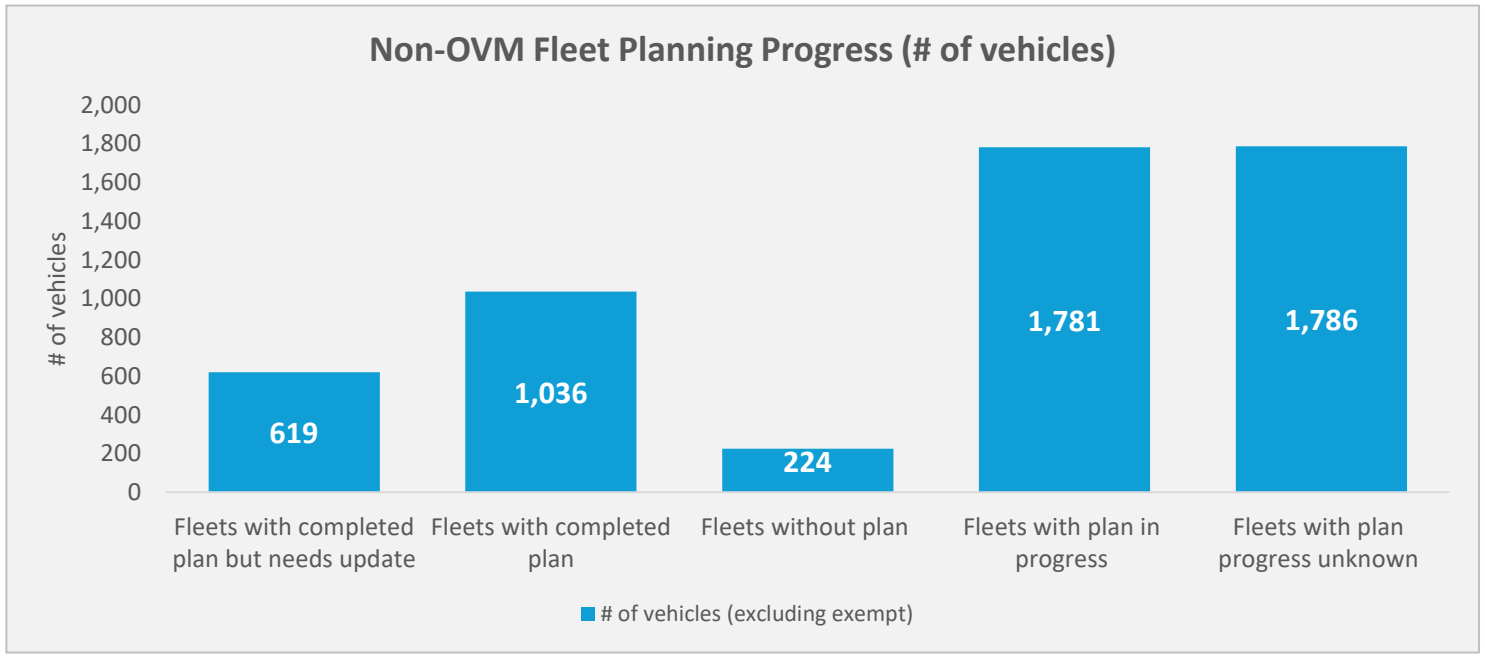
Fleet Planning Process

- LBE working to identify status of each fleet's planning process
- Begin planning process by January 31, 2025
- Develop completed plan by end of FY25
- LBE to use plans to assess projected progress toward EO 594 FY30 fleet electrification goal (20%)

Fleet Planning Resources

- National Grid & Eversource fleet advisory services
- MassCEC Fleet Advisor
- LBE support/DRVE tool





Fleet Electrification Planning Next Steps

No plan yet

- Work with LBE to determine best fleet planning resources to utilize

Plan in progress

- Update LBE on progress of plan completion

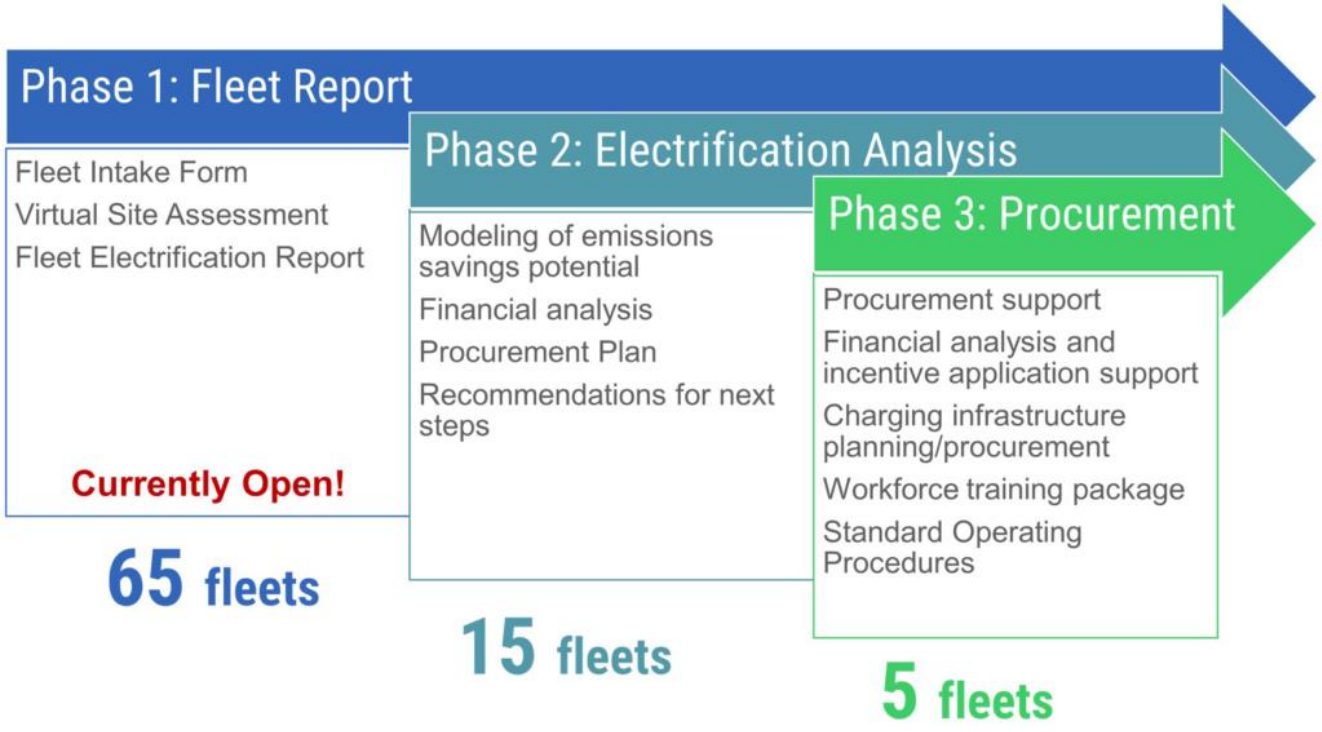
Plan completed

- If possible, share plan with LBE (for internal fleet progress tracking)
- Determine if plan needs update
- Implement plan (working with LBE as needed for technical and other support)

Fleet Electrification Planning:

MASS FLEET ADVISOR

YOUR FLEET ELECTRIFICATION ASSISTANT.



https://www.massfleetadvisor.org/

Public entity sites in municipal light plant territories are eligible for Mass Fleet Advisor (MFA) through MassCEC

MFA provides detailed and personalized fleet electrification plans

Fleets can be moved through later program phases based on interest and other factors

Fleet Electrification Planning: IOUs

nationalgrid

- No-cost fleet advisory services available for public fleets including state agencies and higher education campuses
- Includes creation of a plan that includes total cost of ownership savings

➢Online enrollment

EVERSOURCE

- Offers public entity fleet advisory services to help develop full fleet conversion strategies
- Includes cost and emissions estimates, acquisition plan based on vehicle replacement schedule, and EVSE recommendations

➢Online enrollment

UMass Lowell Fleet Electrification Plan

Craig Thomas, Director of Urban & Community Development

Charging Outside Your Facility

MassDOT EVSE Update

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Agenda

- NEVI Update
- MassDOT's CFI Grant Application
- Service Plazas

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What is NEVI?

- **NEVI is short for the National Electric Vehicle Infrastructure Formula Program**
- **It was established by the Bipartisan Infrastructure Law (BIL) which was signed by President Biden on November 14, 2021**
- **NEVI provides funding to states to build electric vehicle (EV) charging infrastructure**
  - Stations every 50 miles (or less) on AFCs
  - Capable of charging at least 4 EVs at 150kW simultaneously
  - Reliable: 97% uptime

NEVI – Where Are We In The Process?

1

NEVI Plan Developed, Submitted, Approved

2

Secure EV Charging Station Developers and Enter Agreements

3

Identify Sites, Design, and Permitting

4

Construction

5

Operations and Maintenance

WE ARE HERE

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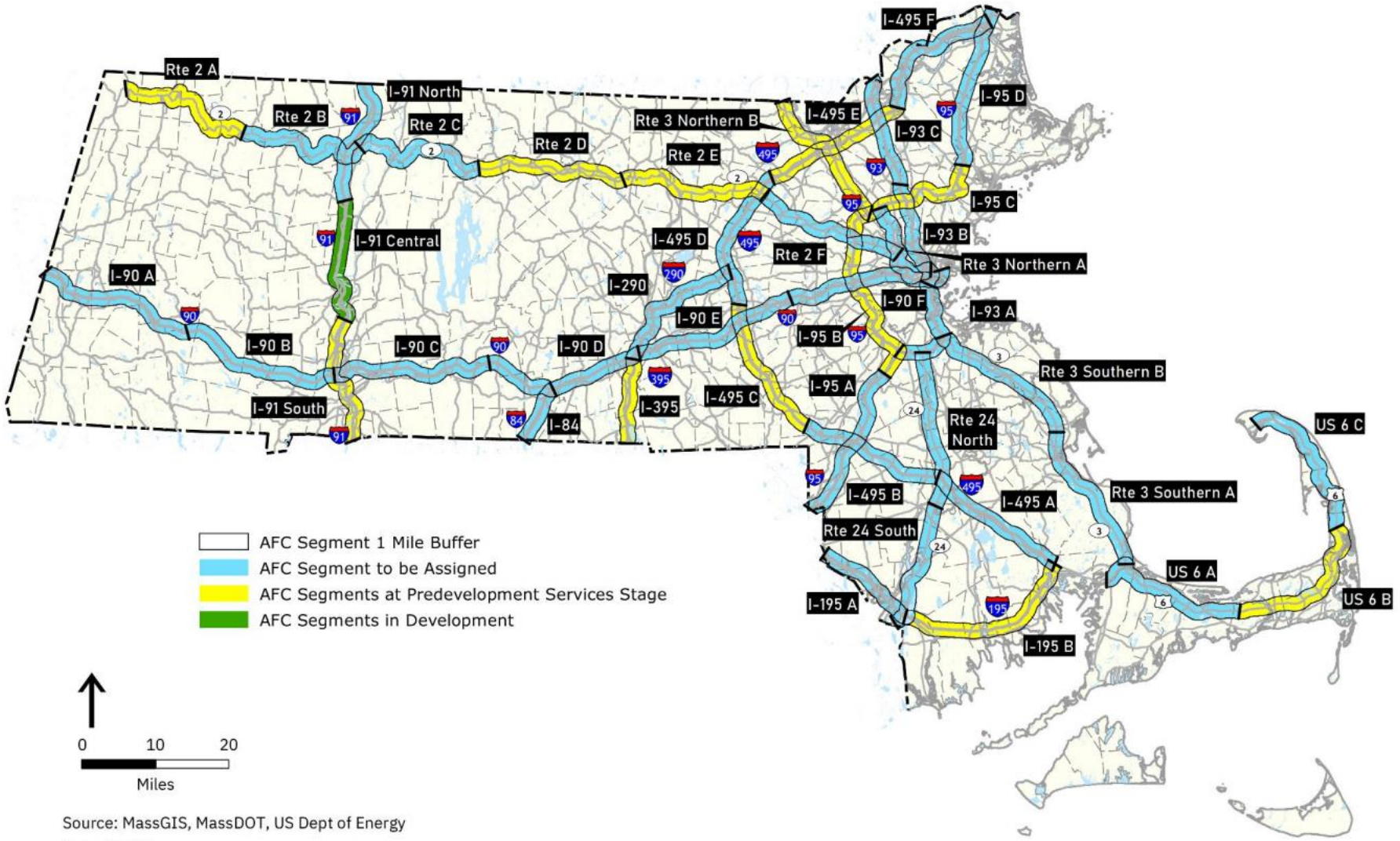
NEVI Implementation Approach

- **Segment-Based Approach:**
  - AFCs without EV charging stations have been divided into 25-mile segments.
  - Stations built anywhere within these segments will be at most 50 miles from one another.
  - Sites must be within 1 mile of an AFC.
  - There also must a station be within 25 miles of a state border.

- **Efficient Implementation:**
  - EVI funds will first be prioritized towards projects that can be started quickly and carried out efficiently.

- **Meeting Demand:**
  - Remaining NEVI funds will then be used to focus on areas where there is the most unserved demand.
  - Higher priority will be given to areas with high percentages of Environmental Justice communities

Where Will NEVI Stations Be Located?



Source: MassGIS, MassDOT, US Dept of Energy

August 2024

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CFI Grant


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CFI Grant: Background

- **FHWA has put out CFI Grant Round 2**
  - Dispersing funding through IIJA (also known as Bipartisan Infrastructure Law)
  - $800 million in total funding available
  - Projects up to $15 million in funding eligible for 80%-20% Federal-State match
  - Applications due September 11

- **Two types of grants: Corridor and Community**
  - Corridor grants for projects directly related to vehicle fueling and only along dedicated Alternative Fuel Corridors
  - MassDOT pursuing community grant meant for projects reducing emissions and filling gaps in fueling infrastructure

MassDOT's CFI Grant Approach

- **MassDOT has prepared MATRICES joint application with MBTA**
  - Short for "**MA**ssachusetts **T**ransit **R**egional **I**nnovative **C**harging **E**xpansion **S**trategy"
  - Requesting $14.4 Million in Funding over 5 years out of a total of $18 million
  - MassDOT CFI Program Vision: Promote EV adoption, both passenger and fleet
- **Emphasis on Multimodal Hubs**

	Number of Locations	Level 2 Ports	Level 3 Ports
MBTA Rapid Transit Station	8	127	0
MBTA Commuter Ferry Station	2	15	0
MBTA Commuter Rail	14	205	0
MassDOT Park and Ride Facilities	6	111	14
Total	**30**	**458**	**14**

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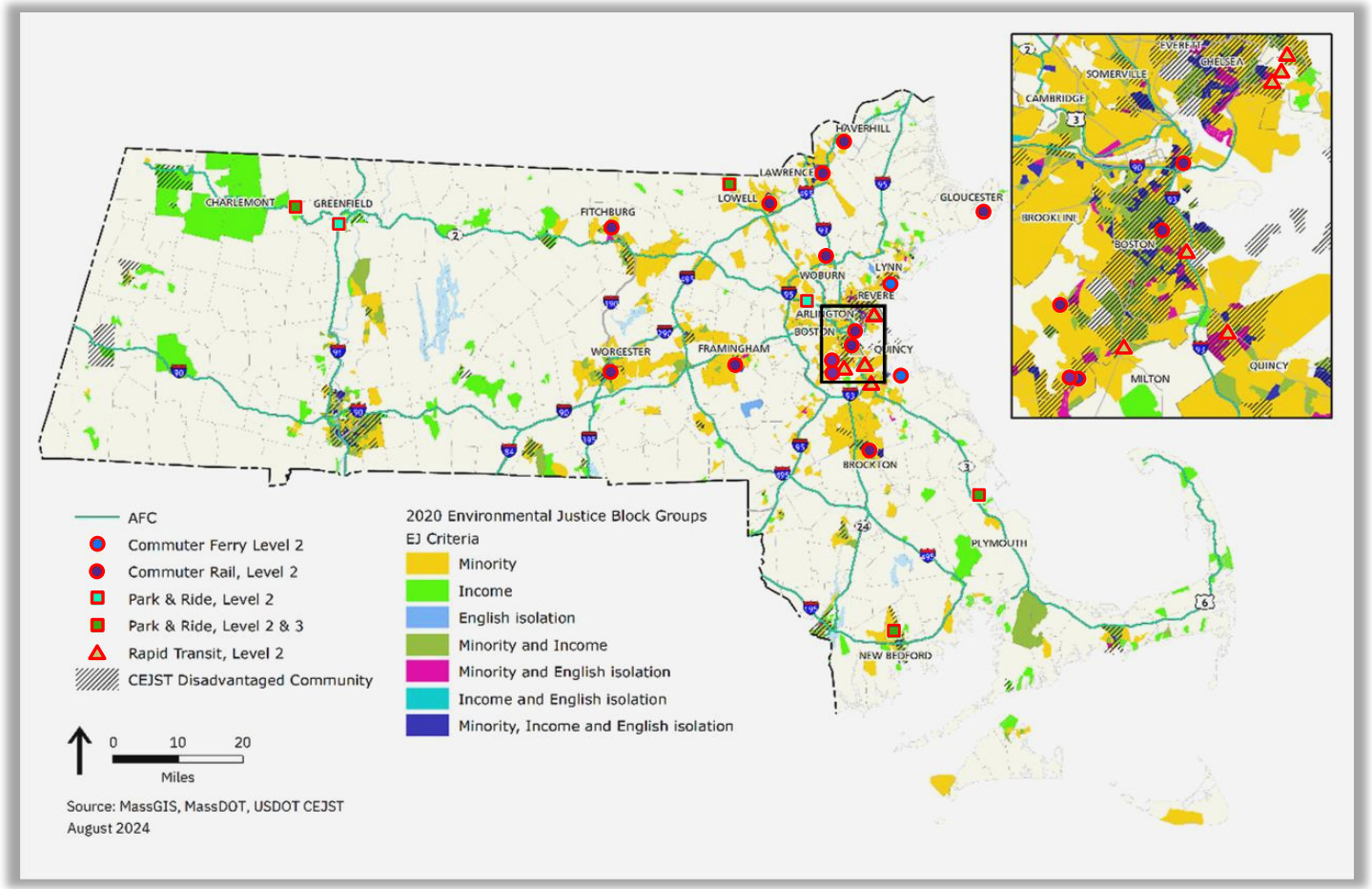
MassDOT's CFI Grant Approach (cont.)

- **Massachusetts Environmental Justice (EJ) and Climate Equity and Justice Screening Tool (CEJST) communities**
  - 77% of new ports to be located within EJ communities
  - Public engagement with EJ communities online and through local community organizations
- **Presence of multi-unit housing near project locations**



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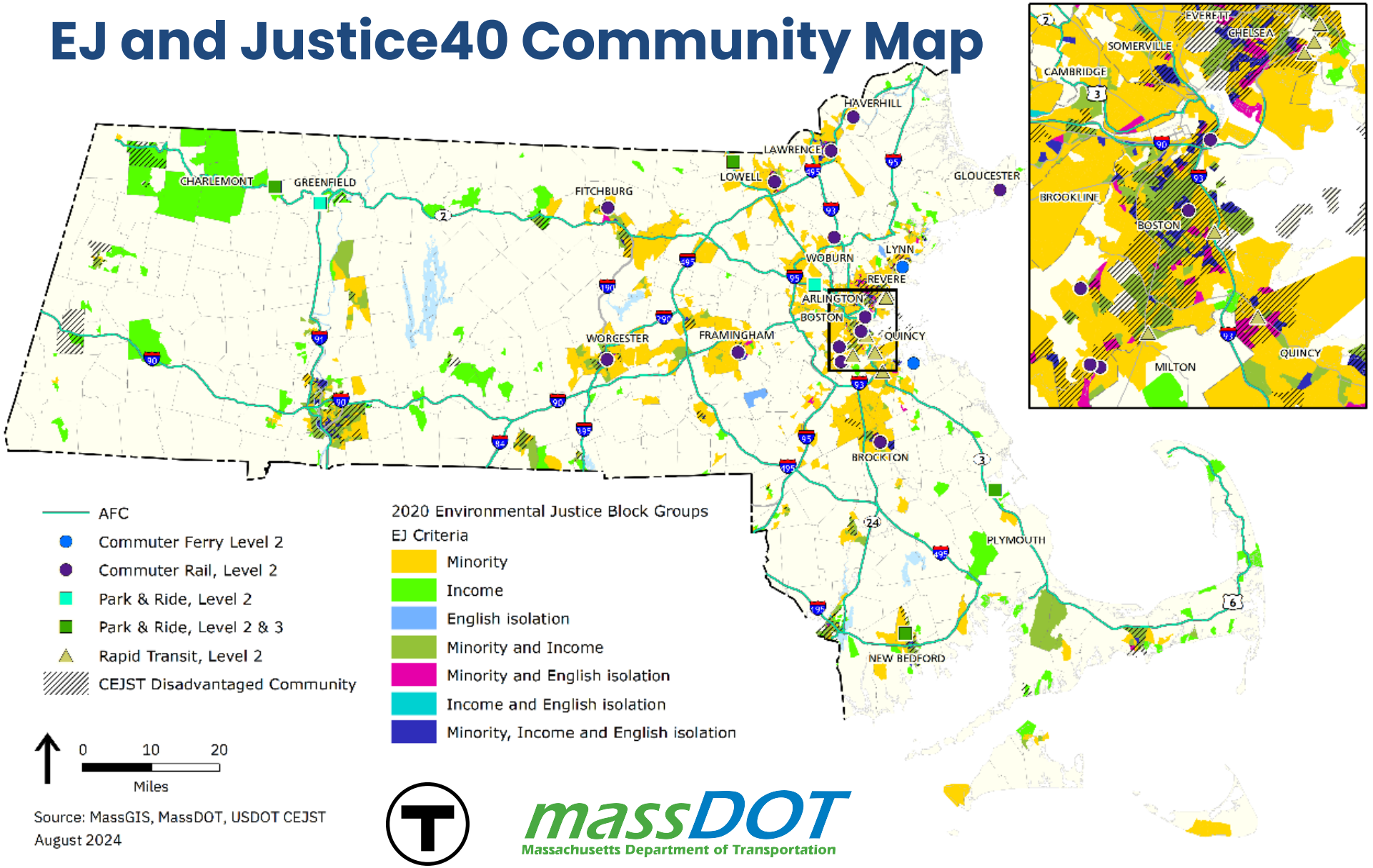
EJ and Justice40 Community Map



Service Plazas

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MassDOT Service Plaza Procurement

- MassDOT Service Plazas are operated by tenants
- Current Leases begin to expire on 12/31/2025
- MassDOT is working diligently to release a procurement to obtain new tenant(s)
- Expect to see EVSE upgrades by future tenant(s)

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Thank You

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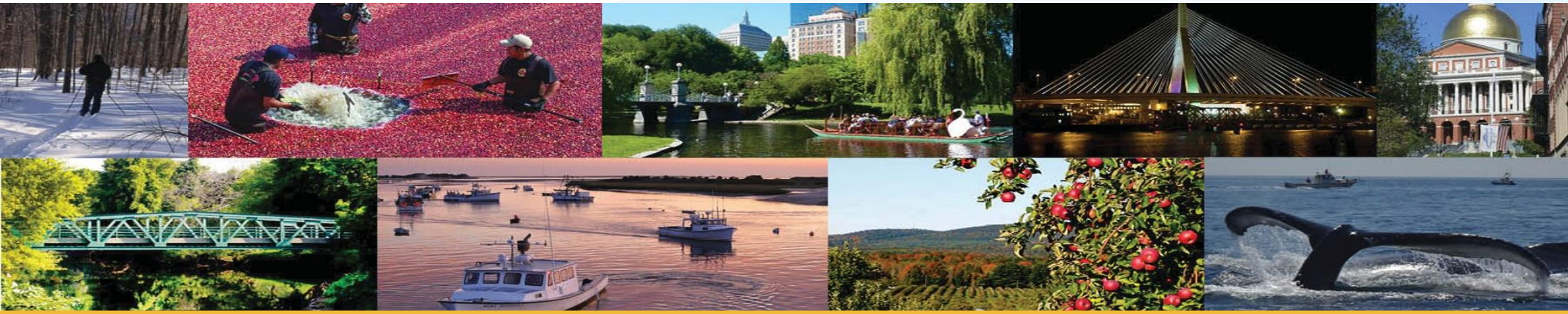
VEH117: Fuel & EV Charging Cards

The Office of Vehicle Management

Vincent Micozzi - Director of Fleet Policy



WEX & ChargePoint

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- In July, OSD amended statewide contract VEH117 with WEX to now include EV charging capabilities through a partnership with ChargePoint
  - MA is one of the first states to roll out this program with WEX for EV charging
  - Any eligible entity is welcome to utilize the contract
- WEX is building secure solutions to ease the integration of electric vehicles into mixed-energy fleets, helping their customers reduce their carbon footprint while still meeting complex reporting and cost measurement needs
- Charges are billed to your WEX fuel card account, and you receive one invoice and set of integrated reports

Charging in the Wild:

Stations & Resources

OPERATIONAL SERVICES DIVISION

Where to Charge

- Drivers can charge at any public locations operated by ChargePoint, their roaming partners EVgo, EV Connect, and Flo, AmpUp, Blink, and more

chargepoint+ EVgo evconnect ampUp flo blink

- WEX's network includes access to 2,700 public EV charging stations with more than 6,000 charging ports located across the Commonwealth of Massachusetts

Find Charging Stations

- Drivers can find available locations for charging via the WEX Connect app or online search tools.

- Drivers can also:
  - ✓ Filter by connector type (All Connectors, AC – J1772, DC Fast – CHAdeMO, DC Fast – Combo)
  - ✓ See locations and connector types that are available in real time
  - ✓ View locations in a list or on a map
  - ✓ Get directions with one click
  - ✓ See ChargePoint roaming partner locations

Domicile EV Charging Policy Development

DOER's LBE Team, A&F, and OSD are working to develop a draft policy for domicile EVs to be charged at a user's residence

Why do we need a domicile EV Charging Policy?

EO594 requires 20% of the entire state fleet to be electric by 2030

Domicile vehicles are great candidates for electrification

Generally used just to transport 1-2 people with minimal equipment

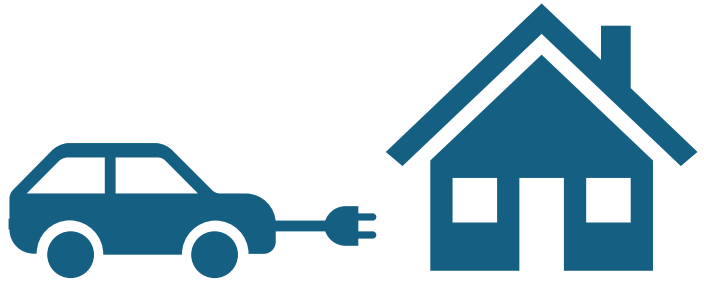
Consistently parked in same location providing access to charging

Need for charging at the garaging location to maximize vehicle and employee efficiency

Policy needed to address procurement, liability, insurance, ownership, reimbursement issues, etc.

Massachusetts' Draft Domicile EV Charging Policy

This is a ***voluntary pilot program*** that would provide state funded equipment to domicile EV users at their private residence



The policy will include:

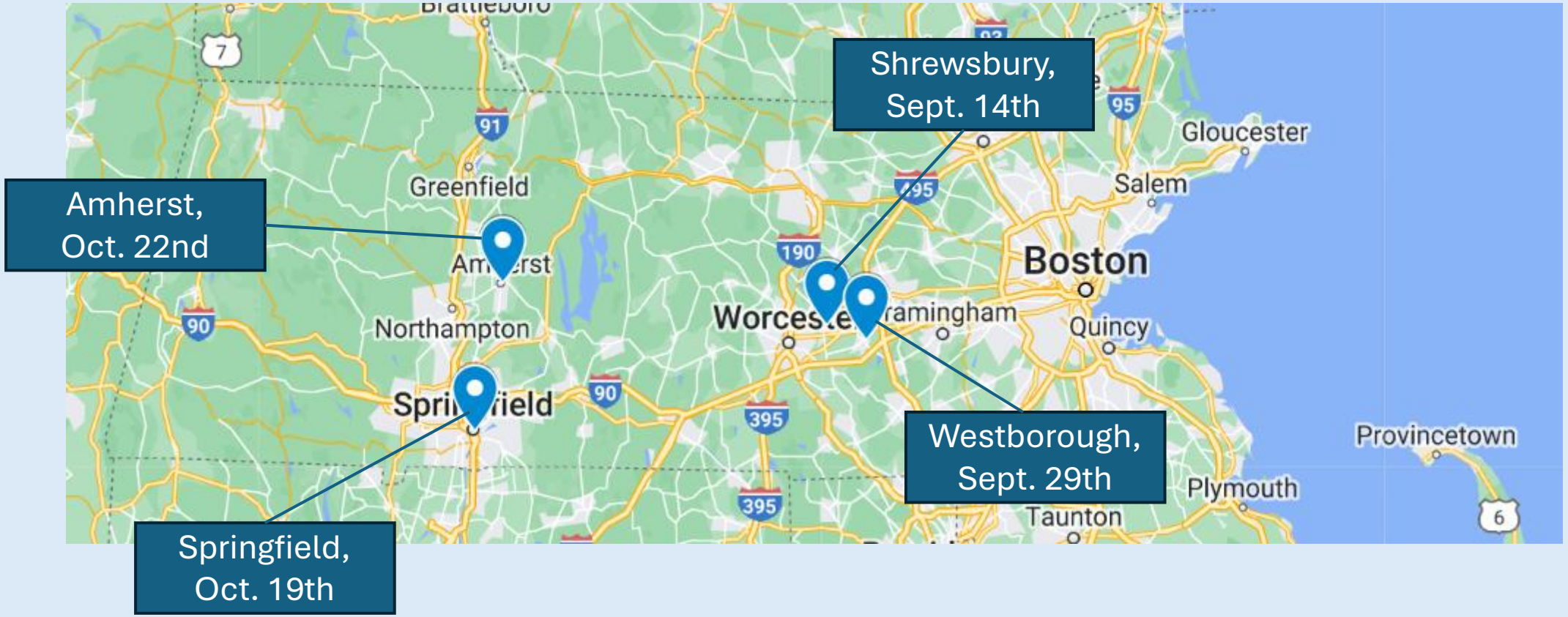
- Which domicile EV users are eligible
- How state funded equipment will be procured and funded
- Technical specifications for the state funded installations
- How domicile vehicle users will be reimbursed for the electricity used to charge the domicile vehicle

POLL

Have you driven an EV yet?

Ways to Engage

Upcoming Fall Ride-and-Drive EVents



Ride-and-Drive EVent Info

State co-sponsored:

Recharge Massachusetts

- Springfield, Sat. 10/19

Recharging Careers and a Clean Future for Western Massachusetts | Recharge America (recharge-america.org)

- Amherst, Tues. 10/22

Recharge UMass Amherst | Recharge America (recharge-america.org)

Other public EVents:

- Hebert Cybertruck/EV Show, Shrewsbury, Sat. 9/14

Hebert Candy Mansion

- Get Charged Up Regional EV Expo

Westborough, Sun. 9/29

EV Expo | Westborough, MA

- National Drive Electric Week - 9/27–10/6 (various locations)

https://driveelectricweek.org

Show-and-Mow on September 25th

Are you interested in battery powered landscaping equipment and electric utility vehicles?

Do you want the chance to test some out?

Join us at our Show-and-Mow in West Boylston!

Get the opportunity to test out electric equipment:

- Ride-on / stand-on mowers
- Handheld leaf blowers
- Chainsaws
- Utility vehicles
- And more!

Learn more about available incentives, funding, and procurement

Register here!

Save the Date

Next LBE Council Meeting:
November 12, 2024
10:00 AM – 12:00 PM