

April 24, 2024 EV Working Group Meeting: Medium- and Heavy-Duty Electric Vehicles

MEETING NOTES

Welcome and Introduction

- Alison Felix, MAPC provided an overview of the Federal Highway Administration's (FHA) classification system for light, medium, and heavy-duty vehicles.
- She shared that the FHA considers Medium-Duty Vehicles to be Class 3-Class 6 and weigh between 10,001-26,000 lbs and Heavy-Duty Vehicles to be Class 7 and 8 and weigh more than 26,000 lbs.

Overview of Massachusetts Climate Pollution Reduction Grant Application to Plan for and Adopt Medium- and Heavy-Duty Vehicles

- Eric Friedman from the MA Department of Energy Resources provided an overview of the state's recent application to the Environmental Protection Agency's Climate Pollution Reduction Grant Program.
- He provided an overview of engagement to shape the application, including outreach to Regional Planning Associations, municipalities with EJ populations, community-based organizations, the MA Trucking Association, and fleet operators in the state.
- He outlined the elements of the state's \$95 million application, including 1) fleet advisory services 2) vehicle rebates 3) charging infrastructure 4) outreach and engagement and 5) workforce development.
- He explained that the application specifically seeks to prioritize emissions and criteria pollutant impacts for low-income and disadvantaged communities (LIDAC: federal definition) and to result in initial electrification of 200+ fleets with at least 40% of rebate funding going to LIDAC communities.

Relevant MAPC Contracts for Medium- and Heavy-Duty Electric Vehicles

- Kelsi Champley, MAPC provided an overview of the relevant MAPC contracts for medium- and heavy-duty vehicles. She explained that MAPC's contracts include smaller-scale medium- and heavy-duty vehicles, such as electric sweepers and Mack Trucks.
- Key purchasing programs:
 - [Greater Boston Police Council](#) (GBPC)
 - [Fire Chiefs Association of Massachusetts](#) (FCAM)
- She walked through the relevant pages on the MAPC website in the following order:
 - The "Purchasing Resources: Vehicles and Infrastructure" section of MAPC's Clean Energy page: <https://www.mapc.org/our-work/expertise/clean-energy/clean-vehicle-projects/#purchasing>
 - The database of alternative fuel vehicles available through MAPC's Collective Purchasing Program: https://www.mapc.org/wp-content/uploads/2024/04/Alternative-Fuels_MAPC_2024.pdf

- Once you identify the vehicle(s) you want to purchase from the list, you then go to MAPC's collective purchasing program page (<https://www.mapc.org/public-works-collective-purchasing-program/>)

Relevant OSD Contracts for Medium- and Heavy-Duty Electric Vehicles

- Kelly Clark Thompson, MA Operational Services Division provided an overview of relevant statewide contracts, which are open to both cities, towns, districts, counties, and other political subdivisions, as well as local public school districts.
- She provided an overview of the VEH110 (light- to medium-duty vehicles) and VEH111 (heavy duty vehicles) contracts and the process of getting a quote.

Municipal Experiences – Melrose, Medford, and Brookline

- Elena Proakis Ellis from the City of Melrose provided an overview of the process for procuring the city's electric refuse truck (used for municipal barrels, school dumpsters, and small residential streets where vendor has access issues) and related charging infrastructure (3 ABB Level 3 chargers).
- She highlighted the related costs (Truck: \$452,300; Charging: \$298,370; and remediation of soils for electrical conduit installation: \$15,000) and funding sources (DERA grant, National Grid incentives, tax incentive, and City of Melrose free cash/capital stabilization funds).
- She provided an overview of the process to approve the vehicle, including an extended process to get City Council approval for City share of costs.
- Brenda Pike from the City of Medford provided an overview of the electric street sweeper the city officially received in January 2024. She shared that the vehicle and related charging cost was \$661,369.
- She shared that the vehicle has 9-11 hours of operational time.
- She shared that the process took longer than expected: there was a 7-month extension due to supply chain issues.
- Sam Downes from the Town of Brookline shared background on the Town's EV program, including existing public and fleet charging, and a recent grant (from the VW Settlement) to purchase an all-electric trash truck (which will be in use starting in May 2024).
- He shared that the town selected the Mack LR Electric, which has a maximum 24-mile route capacity and takes level 3 charging.
- He outlined that the town has experienced several challenges with the related charging infrastructure.

Q&A

- How is the operation of the new truck in Melrose going?
 - Elena: We just got it last week, but so far everyone is really excited about the new truck. We are looking to put more graphics on it to highlight that it is an EV before we start using it.
- Who is the distributor for the very delayed electrical cabinet?

- Sam: The contractor works with the distributor. Everything for L3 cabinets are very back-ordered.
- Does heavy-duty include dump trucks that also plow?
 - Kelly: They can, but it is usually part of an upfitting. Kelly can provide more information about providers that can do this (kelly.thompsonclark@mass.gov, 617-720-3184)
- Is anyone “pre-conditioning” to warm the battery on cold mornings? Using software without adding new staff time and tasks?
 - Elena: We haven’t done that yet, but we do have the ability through our software if we chose to.
 - Cian: we are working on this with BPS school buses and happy to chat with others about this.
- What is Brookline’s truck used for? Automatic or manual?
 - Sam/Kevin: It will be used for curbside collection. It will be using a total lift. It will be mostly trash but sometimes yard waste.
- How was the delta between the grant and total purchase of the Medford street sweeper funded?
 - Brenda: I believe the city used ARPA funding, but this predated my time with the City.
- I am surprised that refuse trucks only accept L3 charging, given that I’ve always understood that fast charging degrades battery life.
 - Elena: Melrose had the option between L2 and L3, but L3 is faster and the incentive payments were better for L3 chargers.
 - Eric: Battery degradation is less of an issue now than it had been in the past.
- Sam: Vehicles that can receive L2 charging don’t have to be charged as frequently as they thought. Brookline has an abundance of L2 ports at the moment. Contractors often push software/cloud technology, but if you are installing L2 within a fence, we suggest using Home Flex from Chargepoint as it costs \$400 vs \$1,800 (and Eversource was fine with it).
 - Did you have issues with warranty/insurance?
 - Sam: They don’t come with maintenance contracts/plans (which costs ~\$2000/port/year), but the models only cost \$400 so we can replace if they fail.
- Have you run into situations where your medium-heavy duty EVs have run out of a charge and you have had to tow them back to be charged?
 - Kelly: I have heard it happening with school buses in remote areas (not with students).
 - No one else has had issues with this yet, but expect it may happen someday.
- Chris Davis from Newburyport asked if any cities have developed a more comprehensive plan, strategy, and tactics for EV that they can share
 - Kelly: OSD has a guide that I can share

NEWS AND RESOURCES

Note: There was not enough time to share the resources below during the meeting. They include events and funding opportunities relevant to the group.

No-Cost Fleet Assessment Resources

- [National Grid Fleet Advisory Services Program](#)
- [Eversource Fleet Assessment and Guidance for Public Fleets](#)
- [MassCEC Fleet Advisor](#)

MOR-EV Trucks

- MA offers \$7,500 rebates for Class 2 pickup trucks with a Gross Vehicle Weight Rating between 6-10k lbs or other vehicles between 8,501-10k lbs.
- For vehicles over 10k lbs (3-8 class), incentive values are determined by class
- Learn more: <https://mor-ev.org/>
- Eligible Vehicles: <https://mor-ev.org/eligible-vehicles-trucks>

New EPA Heavy Duty Vehicles Program

- Funding can be used for Class 6 and 7 zero-emission vehicles, charging infrastructure, and related workforce development
- Municipalities (including school districts) are eligible
- Deadline to apply is July 25
- Sub-program competitions including the school bus sub-program
- Learn more: <https://www.epa.gov/clean-heavy-duty-vehicles-program/clean-heavy-duty-vehicles-grant-program>
- Notice of Funding Opportunity: <https://www.epa.gov/system/files/documents/2024-04/2024-chdv-grants-nofo-2024-04.pdf>

Webinar: Navigating the IRA's EV Tax Credits

- Webinar on how private and public organizations can benefit from IRA incentives for EV procurement and charging equipment
- May 2 at 2 pm
- More information: <https://events.teams.microsoft.com/event/b1e5e096-d059-4113-ab9f-c6ea0b4d8921@d59bd993-4eb2-4fe7-991f-853317c1ed19>

Updated EPA Emissions Standards for Light-, Medium-, and Heavy-Duty Vehicles

- Heavy Duty Vehicles: will apply to model years 2027-2032
 - Will result in 1 billion tons of GHG emissions avoided & \$13 billion in annualized net public health, climate, and operations benefits
 - Manufacturers can choose several technologies to comply
 - Learn more: <https://www.epa.gov/newsreleases/biden-harris-administration-finalizes-strongest-ever-greenhouse-gas-standards-heavy>
- Light- and Medium-Duty Vehicles: will apply to model years 2027-2032
 - Will result in 7 billion tons of GHG emissions avoided and \$100 billion in annualized net benefits

- Learn more: <https://www.epa.gov/newsreleases/biden-harris-administration-finalizes-strongest-ever-pollution-standards-cars-position>