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# ACT School Bus Advisory Services Program

WEBINAR

OCTOBER 23, 2023



# Agenda

- Advisory Services Program overview
- Program by the numbers
- Incentives
  - State incentives
  - Federal incentives
  - Utility incentives
  - Combining incentives
- Procurement and ownership models
  - Vehicle procurement and ownership models
  - Charger procurement, installation, and ownership models
- Wrap up and next steps



# Advisory Services Program Overview

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- No cost, comprehensive fleet electrification planning.
- MassCEC is offering this free program to **up to 25 public school bus fleets** in Massachusetts including **public school districts and third-party fleet operators**.
- Fleets will be considered for enrollment on a **rolling basis**.
- The Program will prioritize fleets based upon the following criteria:
  - Designation as an **EPA Prioritized School District**<sup>1</sup>
  - Proximity to **Environmental Justice (EJ)**<sup>2</sup> neighborhoods
  - Designation as a **Gateway City**<sup>3</sup>, and
  - Establishing a pool of participants which is **representative of the state**.

1 – <https://www.epa.gov/system/files/documents/2023-04/fy23-csb-prioritization-list-2023-04.pdf>

2 – <https://www.mass.gov/info-details/environmental-justice-populations-in-Massachusetts>

3 – <https://www.mass.gov/doc/gatewaycitiesdocx/download>



# Program by the Numbers

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Schools Applied

15



Buses Enrolled

1000+



Spaces Remaining

18



# Electrification Approach

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- ▶ **Plan before seeking funding**
  - Engage with stakeholders: fleet management, utility, and school board
  - School Bus Advisory Services Program
- ▶ **What costs will you need to consider for your project?**
  - Bus procurement
  - Charging equipment (EVSE) procurement
  - Installation of charging equipment
  - Utility upgrades
  - Consulting or project management
- ▶ **How to approach funding**
  - Vehicle, equipment, and installation cost
  - Multiple funding sources
    - Local match: engage with stakeholders
    - Combine funding
  - Remember operational savings over time

# Funding

# Federal funding

Program	What's covered?	How much?	Can it be combined?	Timing?
Federal Diesel Emissions Reduction Act ( <a href="#">DERA</a> )	Vehicle costs	Up to 35% of cost	State, tribal and local funds can be used as a cost share. Other federal funds, including VW funds, generally cannot	<a href="#">Applications</a> due Dec 31, 2023
<a href="#">EPA Clean School Bus Rebate Program</a>	Vehicle, charger and behind the meter infrastructure costs	Up to \$345,000 for vehicle and charging infrastructure for zero-emission Class 7+ buses (\$265,000 for Class 3-6) which meet one or more <a href="#">prioritization criteria</a> – up to 25 buses	Yes, with EV Tax Credits. Not with other federal funding	<a href="#">Applications</a> due Jan 31, 2024
<a href="#">Commercial Clean Vehicle Tax Credit</a>	Vehicle costs	Up to \$40,000 per vehicle (or 30% of incremental costs compared to gasoline or diesel, whichever is lower) for vehicles with a gross vehicle weight rating (GVWR) above 14,000 pounds	Yes	For purchases prior to Dec 31, 2032
<a href="#">Alternative Fuel Infrastructure Tax Credit</a>	Charger costs	30% of eligible project costs, up to \$100,000, for installations located in qualified areas	Yes	For purchases prior to Dec 31, 2032

# Massachusetts funding

Program	What's covered?	How much?	Can it be combined?	Timing?
<a href="#">MOR-EV Trucks</a>	Vehicle costs	Up to \$90,000, per vehicle	Yes, with federally funded and administrated programs (not with MA funded/administered)	Open enrollment until funding exhausted
<a href="#">MassCEC ACTBus Deployment</a>	Vehicle, charger and infrastructure costs	TBD	TBD	Re-opening Fall, 2023



# Combining Incentives

**Scenario:** ABC School District purchases a zero-emission Class 7 electric school bus, and one (1) Level 2 EV charger. The District is prioritized under the EPA CSB program and located in a qualified area (per Alternative Fuel Infrastructure Tax Credit program guidance).

Source	Program	Eligible		Potential Funding
		Vehicle	Charger and/or Infrastructure	
Federal	EPA CSB Rebate	✓	✓	\$345,000
Federal	Alternative Fuel Infrastructure Tax Credit		✓	\$6,000 <sup>1</sup>
Federal	Clean Commercial Vehicle Tax Credit	✓		\$40,000
MA	MOR-EV Trucks	✓		\$90,000
<b>Total Potential Funding</b>				<b>\$481,000</b>

<sup>1</sup> – Assumes 30% of total charger and infrastructure cost of \$20,000

# Procurement and Ownership Models

# Vehicle Procurement and Ownership Models

Model	Description	Benefits to the School District
Direct Purchase Model	The school district directly purchases electric school buses from manufacturers or authorized dealers and owns and operates the electric school buses.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Cost-Efficient Operation</li> <li><input type="checkbox"/> Customization and Control</li> <li><input type="checkbox"/> Technology Management</li> </ul>
Leasing Model	The school district leases electric school buses from a leasing company, often with a fixed-term lease agreement. The leasing company retains ownership of the electric school buses, while the school district is responsible for maintenance and operation.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Financial Offloading</li> <li><input type="checkbox"/> Lease to Own Option</li> <li><input type="checkbox"/> In House Maintenance</li> </ul>
Public-Private Partnership (PPP) Model (e.g. electrification-as-a-service model option)	The school district partners with a private entity, such as an energy company or a transportation service provider, to procure and operate electric school buses. The private entity may own and operate the buses, providing services through a contractual agreement.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Financial Offloading</li> <li><input type="checkbox"/> Expertise and Support</li> <li><input type="checkbox"/> Outsourced Implementation, Operation, and Maintenance</li> </ul>
Shared Ownership Model	Multiple school districts or educational consortia collaborate to jointly purchase electric school buses. Ownership and operation responsibilities are shared among the participating districts, promoting resource sharing and cost-efficiency.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Shared Ownership and operation</li> <li><input type="checkbox"/> Resource sharing</li> <li><input type="checkbox"/> Cost-efficiency</li> </ul>

# Charger Procurement and Ownership Models

Model	Description	Benefits to the School District
School District-Owned Charger Model	The school district owns and maintains the chargers, providing a charging benefit to staff, teachers, and potentially students' families. Chargers are installed in school parking lots or designated areas with the help of certified electricians.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Customization and control</li> <li><input type="checkbox"/> Technology management</li> </ul>
Third-Party Owned and Operated Model	The entity (private or public) owns and maintains the charging stations and charges the school district a fee for their services. Chargers are installed on land leased or owned by third party.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Financial offloading</li> <li><input type="checkbox"/> No in house maintenance</li> </ul>
Subscription-based Charging Model (e.g. electrification-as-a-service model option)	School Districts subscribe to a charging service provider and pay a monthly fee for access to a network of charging stations. The charging infrastructure is owned and managed by the service provider, and users have access to the network based on their subscription.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Pay for what you need</li> <li><input type="checkbox"/> Expertise and support</li> </ul>
Collaborative Partnership Model	The school district partners with local businesses, government agencies, or community organizations to jointly fund and acquire EV chargers. Chargers are installed in school parking lots through a collaborative effort, with contributions from all partners.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Shared ownership and maintenance</li> <li><input type="checkbox"/> Community access</li> </ul>

# Wrap Up and Next Steps

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- Questions? Raise your hand to be unmuted or type them in the chat / Q&A!
- The next Webinar will be Q1 2024
- Interested in applying?
  - Fill out an [interest form](#) and we will be in touch!
  - Visit our program [website](#) to learn more

**THANK YOU FOR ATTENDING!**

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# Appendix

# Meet the Team



**BRIAN PICARIELLO**

Senior Consultant

**VEIC**



**KATE CAHALANE**

Project Manager

**VEIC**



**ALEX PINE**

Consultant

**VEIC**



**BEN LAKE**

Senior Consultant

**VEIC**



**BRIAN SMIST**

Senior Analyst

**Energetics**



**HOWARD HARRIS**

Senior Consultant

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**ERIN CAMP, PHD**

Energy Sustainability and Analytics  
Program Manager

**PowerOptions**



**ANNA BRACKENHOFER**

Energy Program Analyst

**PowerOptions**



**EWAN PRITCHARD**

Principal Consultant

**Energetics**



**MATT FUNK**

Associate Data Analyst

**Energetics**

# Advisory Services Program Overview

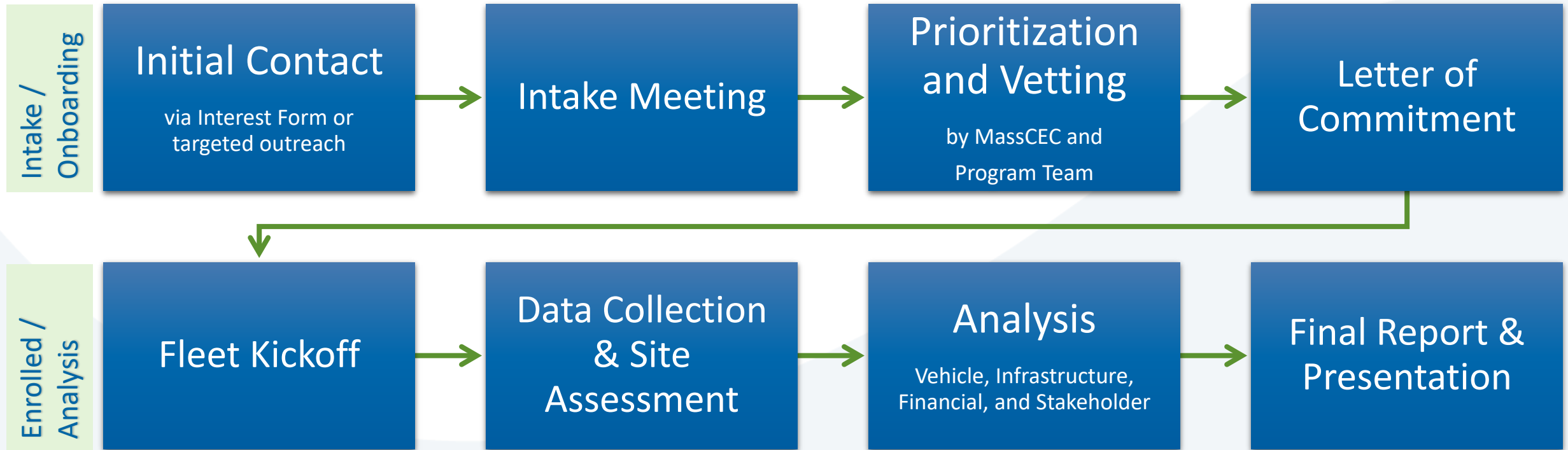
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- **Goal:**
  - Provide school districts with a clear path to school bus electrification
- **Objectives:**
  - Reduce barriers to electrifying school bus fleets
  - Provide public school districts and third-party school bus fleet operators with technical assistance and a comprehensive fleet analysis outlining suitability for electrification
  - Aid fleets in pursuing federal and state funding opportunities to electrify their fleet
- **Team:**
  - Selected districts will work with MassCEC's lead consultant (VEIC) and partners (PowerOptions and Energetics) to compile the necessary information and data to conduct a fleet analysis.





# Timeline



# School Bus Fleet Electrification Plan - What to Expect

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- Each selected fleet will receive a **School Bus Fleet Electrification Plan**, which includes:
  - Estimated total cost and emissions benefits of ESB adoption;
  - Specific charging infrastructure and managed-charging options; and
  - Fleet electrification roadmap with a procurement plan and stakeholder analysis, aligned to milestones for district approvals and funding opportunities.
- Electrification Plan Components
  - Preliminary Needs Assessment
  - Electrification Analysis
  - Financial Analysis
  - Stakeholder Analysis
- Final Fleet Electrification Plan Presentation to each participating Fleet

# Financial Analysis - Funding Opportunities

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## Federal

- ▶ [EPA Clean School Bus Program](#)
- ▶ [IRA Tax Credits](#) & [Clean Heavy Duty Vehicle Program](#)
- ▶ [DERA Program](#)
- ▶ [VW Program](#)

## State

- ▶ [MOR-EV](#)
- ▶ [MassCEC ACT Bus Fleet Deployment](#)
- ▶ Utility Programs ([National Grid](#) and [Eversource](#))
- ▶ [Mass EVIP](#)