



# Zero-Emissions School Buses

**NYSERDA Clean Transportation**  
**December 11, 2023**



**NYSERDA**

# Agenda

## Quick Overview:

- Fast Facts
- Roadmap
- Guidebook – updates!

## Introduction to NYSBIP:

- NYSBIP Overview
- Who can apply
- School Bus Voucher vs. Charger Voucher
- School Bus Vouchers
  - Voucher Amounts & Bonuses
  - Roles
  - Process
  - Required Documents
- Charging Vouchers
  - Voucher Amounts
  - Fleet Electrification Studies
  - Eligible Costs
  - Process
  - Required Documents
- Difference between NYSBIP & NYTVIP\*
- Next Steps/Resources
- Q&A

\*NY School Bus Incentive Program & NY Truck Voucher Incentive Program

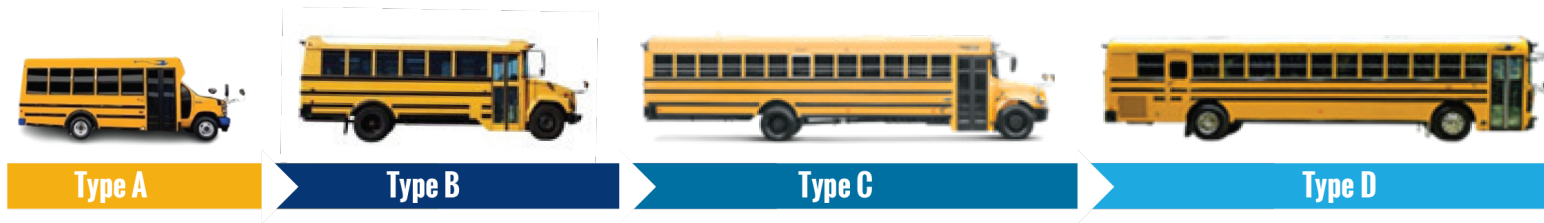


Credit: Highland Electric

# Fast Facts

## High-level info to frame the discussion.

- There are 45,000 school buses in New York State.
- **By 2027:** all school bus purchases must be zero-emission vehicles.
- **By 2035:** all school buses in operation must be zero-emission.
- All major manufacturers make electric models and new companies are entering the market



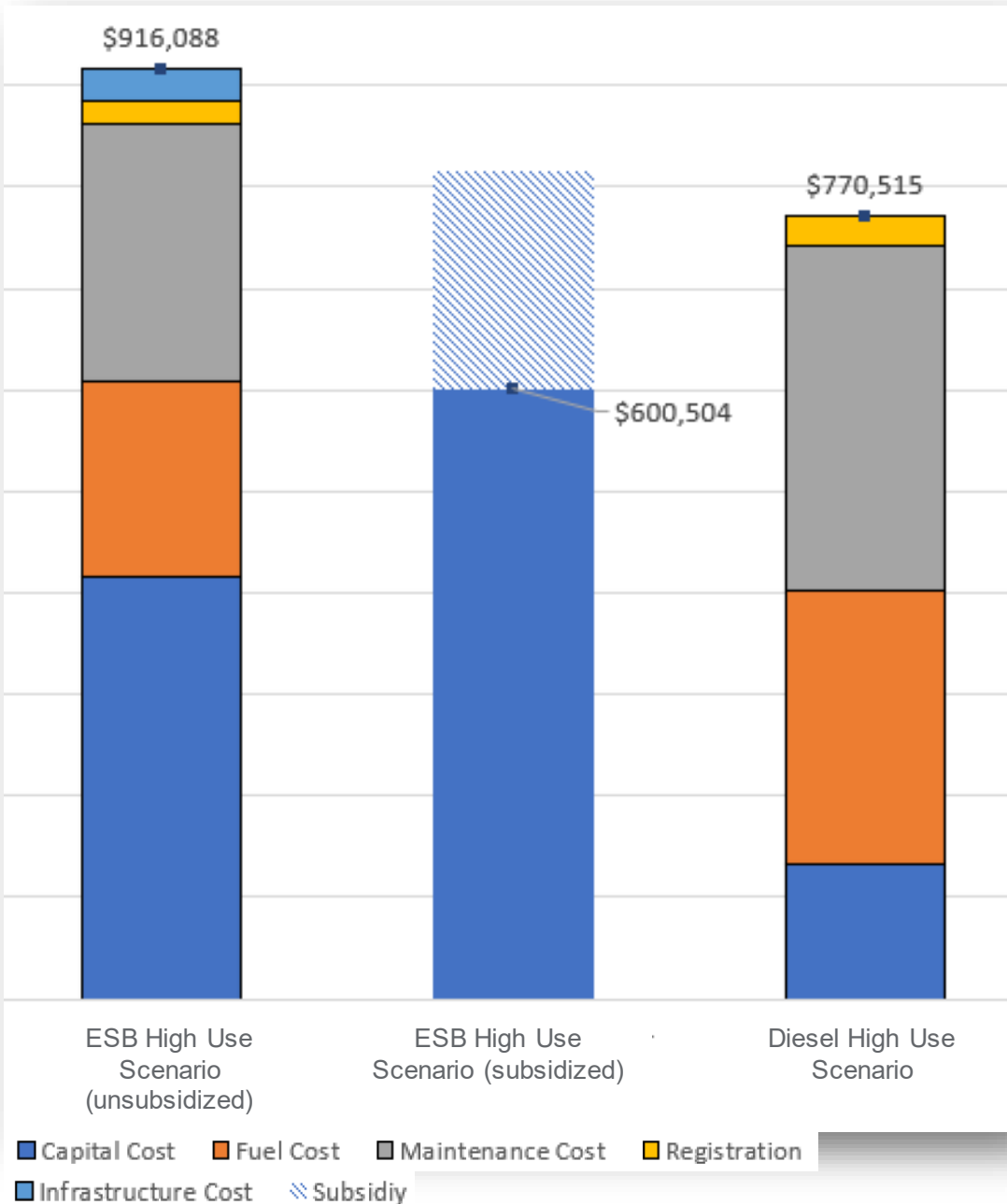
- Time to charge varies – from 1-13 hours but can usually be accommodated overnight.
- Ranges vary from 75-210 miles (and are increasing!).
- If a district receives bus-related transportation aid from the State, electric buses and charging infrastructure are eligible.

# Electric School Bus Roadmap

**Policy document** developed with extensive stakeholder input describing the state of the market for ESBs, what NYS needs to do to meet the requirements, and transition costs.

Key findings include:

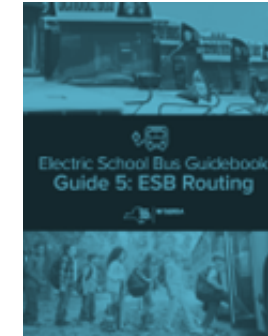
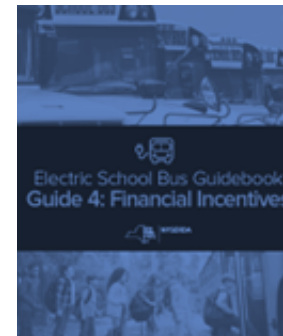
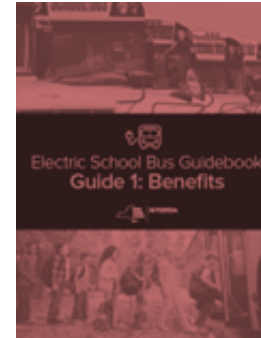
- When factoring in current incentives, the cost of owning an electric bus can already be cheaper than owning a diesel bus
- Existing incentives and other state and local sources can cover majority of costs for school bus fleets between now and 2027
- Continuing work needed with electric utilities on analysis of grid capacity and expected demand; exploring expanding and extending the MD/HD Make-Ready Pilot Program



# Guiding the Transition

**The ESB Guidebook provides living resources to help fleet owners and key partners** get familiar with key terms, concepts, and near-term actions to take.

- [Now Available:](#)
  - [Guide 1 – Benefits](#)
  - [Guide 2 – ESB Purchasing](#)
  - [Guide 3 – EVSE Purchasing](#)
  - [Guide 4 – Financial Incentives](#)
  - [Guide 5 – Route Planning & Analysis](#)
  - Guide 6 – Site Planning & Installation
- Coming Soon:
  - Guide 7 – ESB Operations & Maintenance
  - Guide 8 – EVSE Operations & Maintenance
- Final Release:
  - Guide 9 – ESB Safety
  - Guide 10 – Training & Workforce Development



# NY School Bus Incentive Program

**\$500 million in Environmental Bond Act funds are allocated for electrifying school buses in NYS**

On September 28, 2023, Gov. Hochul announced an initial \$100 million for the NY School Bus Incentive Program (NYSBIP)

- NYSBIP is a **voucher incentive program** for Type A, C, and D school buses and associated charging infrastructure for public school districts.
- School Bus Voucher Applications opened on November 29, 2023 and are **available on a first-come, first-served basis.**
- Incentives **of up to 100% of the difference in cost** between an electric school bus and a gasoline/diesel equivalent
- Charger Applications will open in early 2024 and will be **available on a first-come, first-served basis.**

# School Bus vs. Charging Vouchers

- NYSBIP provides two vouchers. One for ESBs and one for charging infrastructure costs.
- Approval for one voucher does **not** automatically guarantee funds for the other.
- Documentation for voucher applications and redemption differ

Question	School Bus Voucher	Charging Voucher
What does the voucher fund?	Eligible ESBs	Eligible charging costs
Who submits the application?	Dealer	Purchaser
How are the funds distributed to the Purchaser?	Point-of-sale discount	Reimbursement
How to increase voucher funds?	Bonuses <ul style="list-style-type: none"><li>• Priority District Status</li><li>• Scrappage</li></ul> Add-ons	Priority District status Fleet Electrification plan
Is the application open?	Yes	No – coming early 2024



# School Bus Vouchers



# Who Can Apply to NYSBIP?

- NYS public school districts or other public entities that provide pupil transportation services
- Third-party Operators under contract with a New York State public school district



# School Bus Voucher Amounts

Base funding per bus is based on bus size.

[Eligible ESB List](#)

School Bus Type	Percentage of Incremental Cost Covered	Base Voucher Dollar Amount
New Type A (NTA)	60%	\$114,000
New Type C (NTC)	60%	\$147,000
New Type D (NTD)	60%	\$156,000
Repowered Type A (RTA)	75%	\$105,000
Repowered Type C (RTC)	75%	\$135,000

# School Bus Voucher Bonuses and Add-Ons

School Bus Type	Priority District Bonus Amount	Scrappage Bonus Amount	V2G Complementary Add-On Amount	Wheelchair Complementary Add-On Amount
NTA	\$28,500	\$47,500	\$9,500	\$8,000
NTC	\$36,750	\$61,250	\$12,250	\$8,000
NTD	\$39,000	\$65,000	\$13,000	\$8,000
RTA	\$21,000	N/A	\$7,000	N/A
RTC	\$27,000	N/A	\$9,000	N/A

# School Bus Voucher Bonus Eligibility

## What Are Priority Districts?

- Priority Districts include:
  - SED-designated High Need/Resource Capacity districts
  - Districts with 40% or more of the population residing in NYS-designated Disadvantaged Communities (DACs)
  - The bonus also applies to school buses that are stored in an existing depot located in a DAC

## What Is Required for Scrappage?

- Remove an older internal combustion engine (ICE) vehicle from service
- Vehicle must have an engine dated **7 years** or older than the year of application
- Must cut a three-inch hole in the engine block and disable the chassis by cutting the vehicle's frame rails completely in two

# School Bus Voucher Roles

- **Manufacturers** - the company that builds or assembles, at a minimum, the completed drivetrain and chassis for an Eligible Vehicle.
- **Dealers** - the vehicle dealership, Original Equipment Manufacturer (OEM), or Upfit/Retrofit Manufacturer (URM) that sells Eligible Vehicles or charging infrastructure directly to a Purchaser or end-user. In the case of repowers, the Dealer is the entity that sells the repower equipment to the Fleet and performs the repower on the vehicle.
- **Purchasers/Fleet Owners** - the entity that will directly purchase, own, and operate the vehicle. The Purchaser may or may not be the same entity as the Vehicle Operator.

# School Bus Voucher Process

## Manufacturer



## Dealer



## Purchaser



# School Bus Voucher Required Documents

## Manufacturers:

- [Vehicle Eligibility Application](#)

**New York School Bus Incentive Program**  
NEW YORK STATE | NYSERDA

### Vehicle Eligibility Form

**Section 1: Vehicle Manufacturer Information**  
Enter company information and contact information.

Company Name  
Staff Contact Name  
Staff Contact Title  
Street Address  
City  
State  
Zip Code  
Phone Number  
Email Address

**Section 2: Vehicle Model Information**  
Please provide requested information for each ESB.

New alternative fuel vehicle(s)	Vehicle to be Added
School Bus Type	
Pre-Tax Price	
Vehicle Make	
Vehicle Model	
Vehicle Model Year	
Chassis Make	
Chassis Model	
Chassis Year	
Engine/Motor Make	
Engine/Motor Model	
Engine/Motor Model Year	
Fuel Type	
GVWR (lbs)	
Length in feet	
Rated Power (e.g., hp, kW)	
Fuel Storage Capacity	kWh (BEV) kg (FCEV)
(choose applicable units)	
Fuel Mileage	kWh/mile (BEV) miles/kg (FCEV)
(choose applicable units)	
Manufacturer Estimated All-Electric Range (mi, BEV only)	

< > Instructions Eligibility **Vehicle Eligibility Form** Checklist & Certificate

## Dealers:

- [Dealer Participation Agreement](#)
- [OEM Letter of Consent](#)

## Applicants:

- [Purchaser Participation Agreement](#)
- [Scrappage Attestation\\*](#)
- [Third-party operator agreement\\*\\*](#)

\* Only if applying for Scrappage Bonus

\*\* Only if Fleet Owner is a Third-party Operator



# Charging Vouchers



# Charging Voucher Amounts

	<b>Base Voucher Amount</b>	<b>With Fleet Electrification Plan</b>
<b>Non-priority District</b>	\$25,000	\$55,000
<b>Priority District</b>	\$35,000	\$65,000

# Charging Voucher Fleet Electrification Plans

## What is a Fleet Electrification Plan?

- A comprehensive evaluation existing fleet operations, analysis of current site capabilities, and a plan for electrifying the Purchaser's entire fleet by 2035.

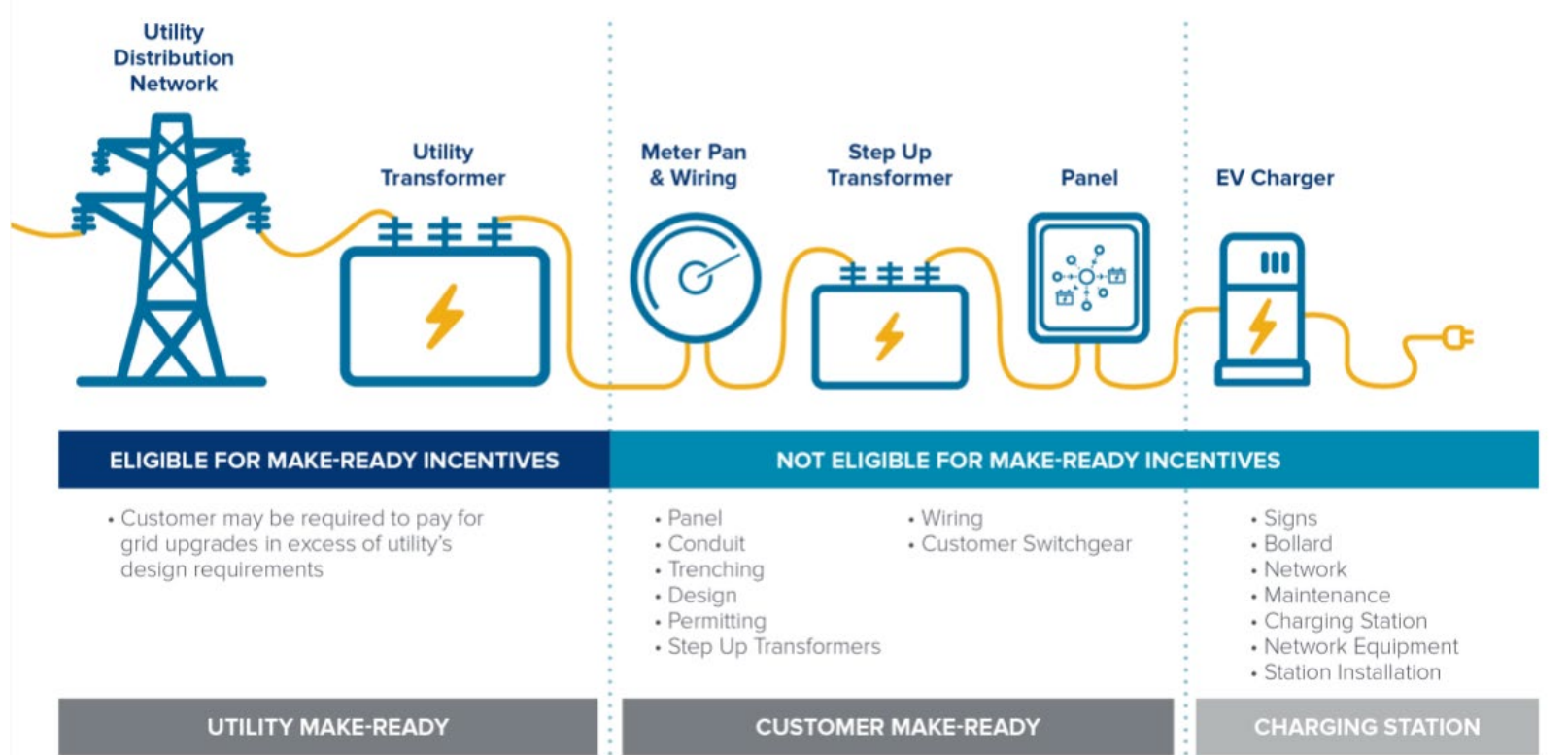
## What does a Fleet Electrification Plan include?

- Electrification goals
- Route analysis
- Utility assessment
- Charging strategy
- Phasing plan

## How do I get one?

- Reach out to NYSERDA for [technical assistance](#).
- Fleet Transition Plans do not need at the time of application, rather it must be submitted before voucher redemption.

# Charging Voucher Eligible Costs



## Eligible Charging Costs

- Charger hardware costs
- Charger Installation costs associated with Charger hardware costs
- Customer-Side “Make-Ready” Infrastructure costs, which covers electrical site upgrades on the customer’s side of the electrical meter
- Battery Storage Equipment that is connected to Charger

## Ineligible Charging Costs

- Networking fees
- Extended warranties
- Permitting fees
- Project management costs
- Utility-Side “Make-Ready” costs
- Solar PV

# Charging Voucher Roles and Process

- **Purchasers/Fleet Owners** - the entity that will directly purchase, own, and operate the chargers. The Purchaser may or may not be the same entity as the Vehicle Operator.

## *Purchaser*



# Charging Voucher Required Documents

- [Charging Infrastructure Purchaser Agreement](#)
- [Charging Infrastructure Installer Certification](#)



# Key Differences Between NYSBIP and NYTVIP

- Different voucher amounts
- Documentation for voucher application and redemption differ
- For more information on NYTVIP, visit the [website](#)

Criteria	NYTVIP	NYSBIP
<b>Type of BEV</b>	Class 4-8 trucks and buses	School buses only
<b>Scrappage</b>	Required	Bonus Available
<b>Scrapped Vehicle Age</b>	2009 or older	7 years old at time of scrappage
<b>Funding Source</b>	Volkswagen Settlement	Enviro. Bond Act 2022
<b>Charging Incentives</b>	Not offered	Yes
<b>DAC Requirement</b>	School buses must serve or have depot in a DAC	School buses serving priority districts or have depot in DAC receive bonus

# Next Steps & Resources

## Get started now!

- **DEVELOP** a collaborative mindset.
- **DOWNLOAD** and read the [ESB Guidebooks](#). Develop a list of questions.
- **CREATE** short, medium, and long-term priorities.
- **APPOINT** an electric school bus transition committee so your staff becomes familiar with bus and charger requirements.
- **DEVELOP** a [fleet electrification plan](#).
- **CONTACT** [your utility](#). Regular and frequent contact is recommended while an electrification plan is developed.
- **LEARN** about financial resources.
- **REACH OUT** to bus manufacturers.
- **TALK** to your fire department & EMS teams.
- **START SMALL** with one bus (or two).





# Zero-Emissions School Buses

## Thank You

For more info:

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**NYSERDA**