

TURNKEY FLEET ELECTRIFICATION

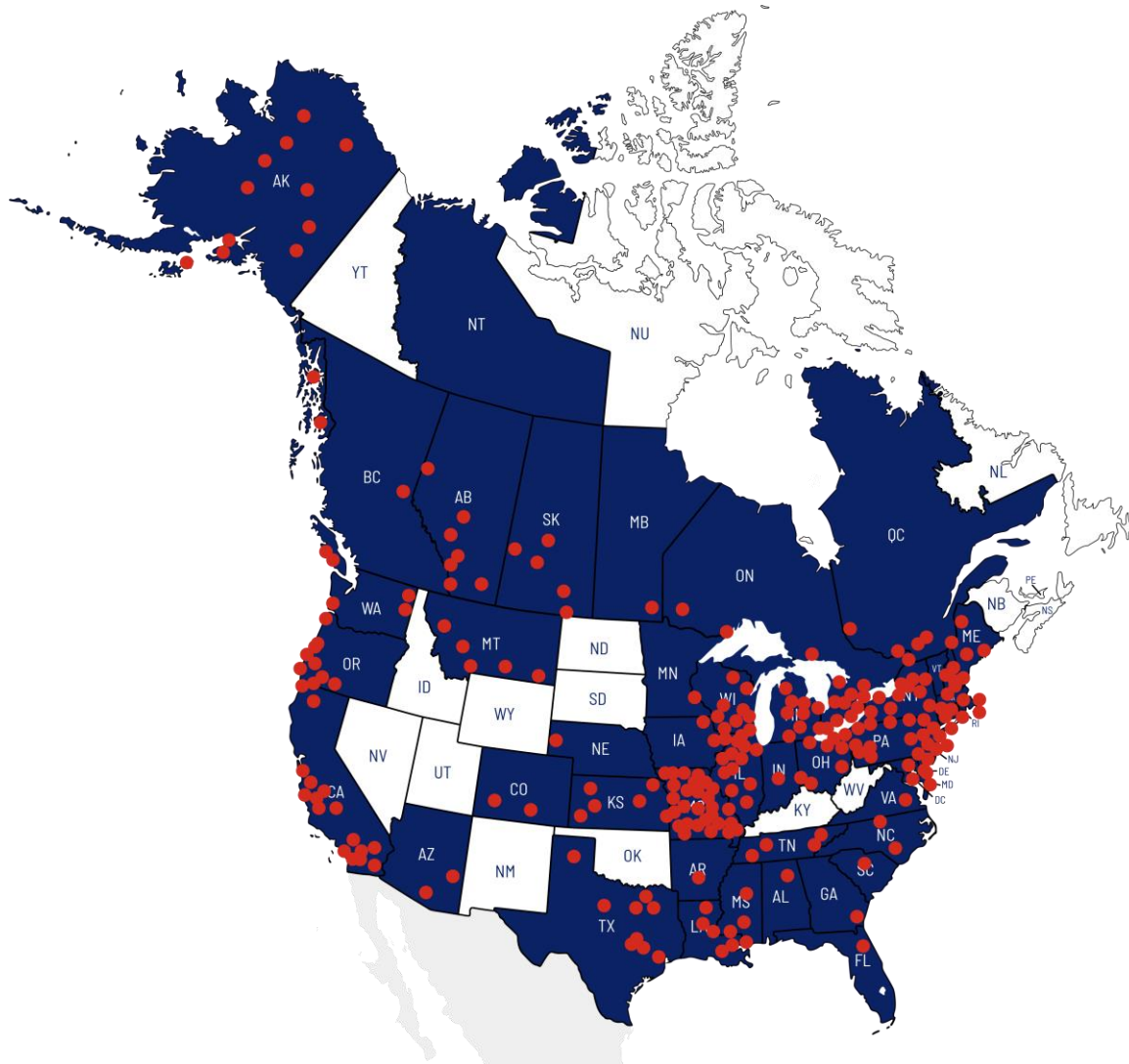
How First Student Can Help
Electrify Your Fleet



AGENDA

- Why First Student
- Benefits of Electrification
- Where First Student is Today with Electrification
- First Student's Turnkey Solution to Electrification
- Funding for Electrification
- Additional Considerations

WHY FIRST STUDENT



 **42,500**
Vehicles

 **1,100**
School district contracts

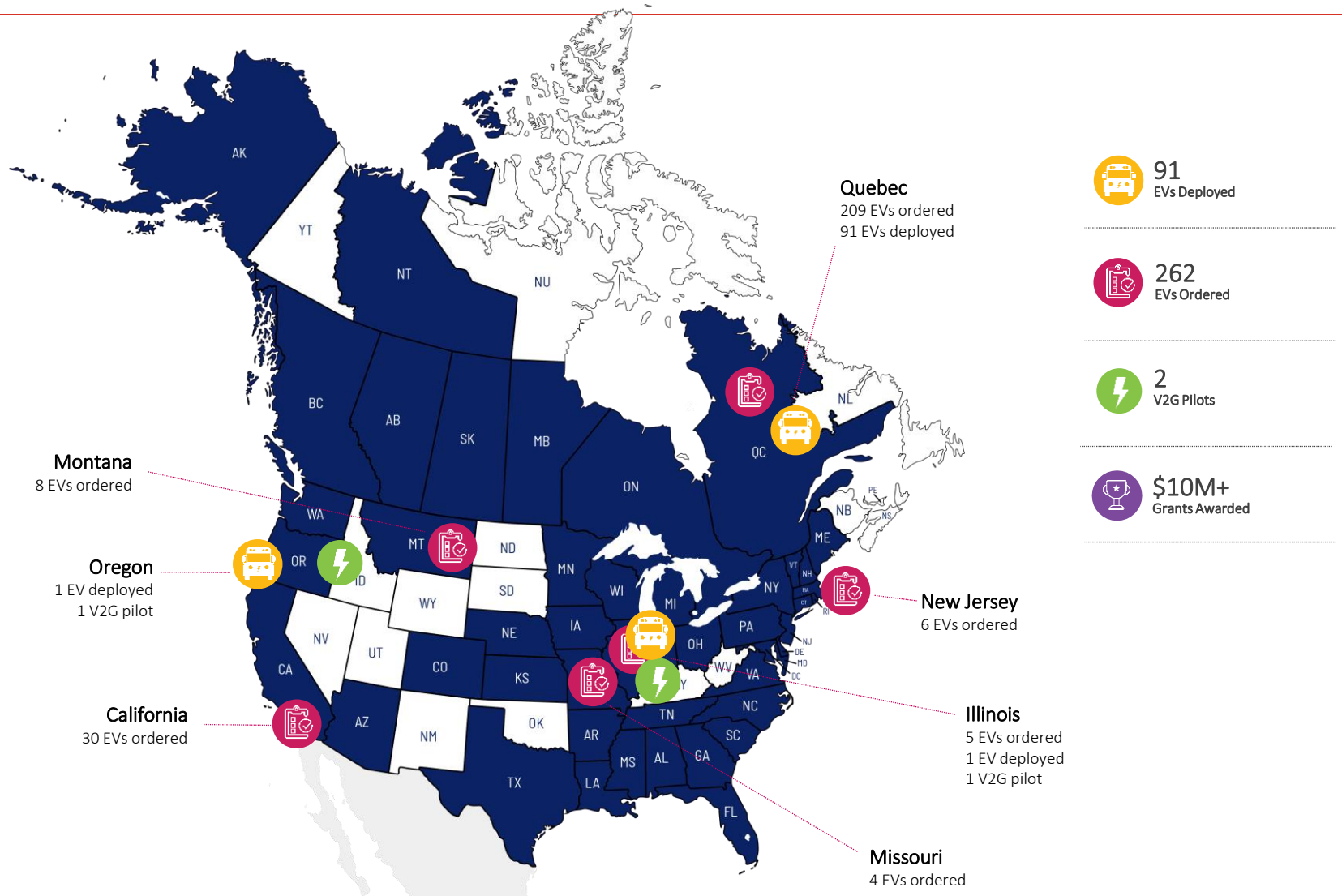
 **460**
Operating locations

 **37 States, 7 Canadian**
provinces/territories

 **48,000**
Employees

 **5 MILLION**
Student journeys daily

FIRST STUDENT ELECTRIFICATION TODAY



WHERE WE ARE ELECTRIFYING AND WHY

Montana

Learn how long is needed for the mid day charge determined by weather and terrain

- 8 EVs ordered and rolling out in 2023

Oregon

V2G pilot program

- 1 EV part of the V2G pilot

California

Better understand V2X and hillier areas

- 20 EVs in Richmond and designing infrastructure for 44
- 10 EVs in Riverside

Quebec

Cold weather takes a larger charger and battery pack needs to be heated to accept the charge

- 91 EVs deployed and running
- 300 EVs total by 2023

Illinois

Rural and consists of longer commutes

- 5 EVs; 1 EV part of the V2G pilot

OPERATIONAL EXCELLENCE

- World's Largest School Transportation Provider
- Vast Transportation Management Expertise
- Award-Winning Safety Program
- Cutting-Edge On-Board Bus Technologies
- Industry-Best Fleet Maintenance
- Professional Routing Expertise
- World-Class Training
- Unmatched Scale/Purchasing Power
- Strong Relationships With:
 - OEM's
 - Parts Vendors
 - Industry Advocacy Associations
 - Funding/Grant Writers

BENEFITS OF ELECTRIC SCHOOL BUSES



Savings

Savings on fuel and maintenance



Community Support

Electric buses create excitement and pride in the school district



Quiet

Reduces Noise Pollution



Future Revenue

Incremental revenue via grid services like V2G¹ and peak shavings²



Clean

Zero NO_x⁴ & CO₂⁵ emissions at the vehicle level



Efficient

Regenerative Energy from Braking



Compliance

Allows for compliance with state laws like CARB³



Stability

Electricity prices are more stable than diesel prices



1 – Vehicle-to-Grid or 'V2G' is a configuration of bus charging where the vehicles can dispatch surplus energy into the grid and earn extra revenue from the utility or energy market

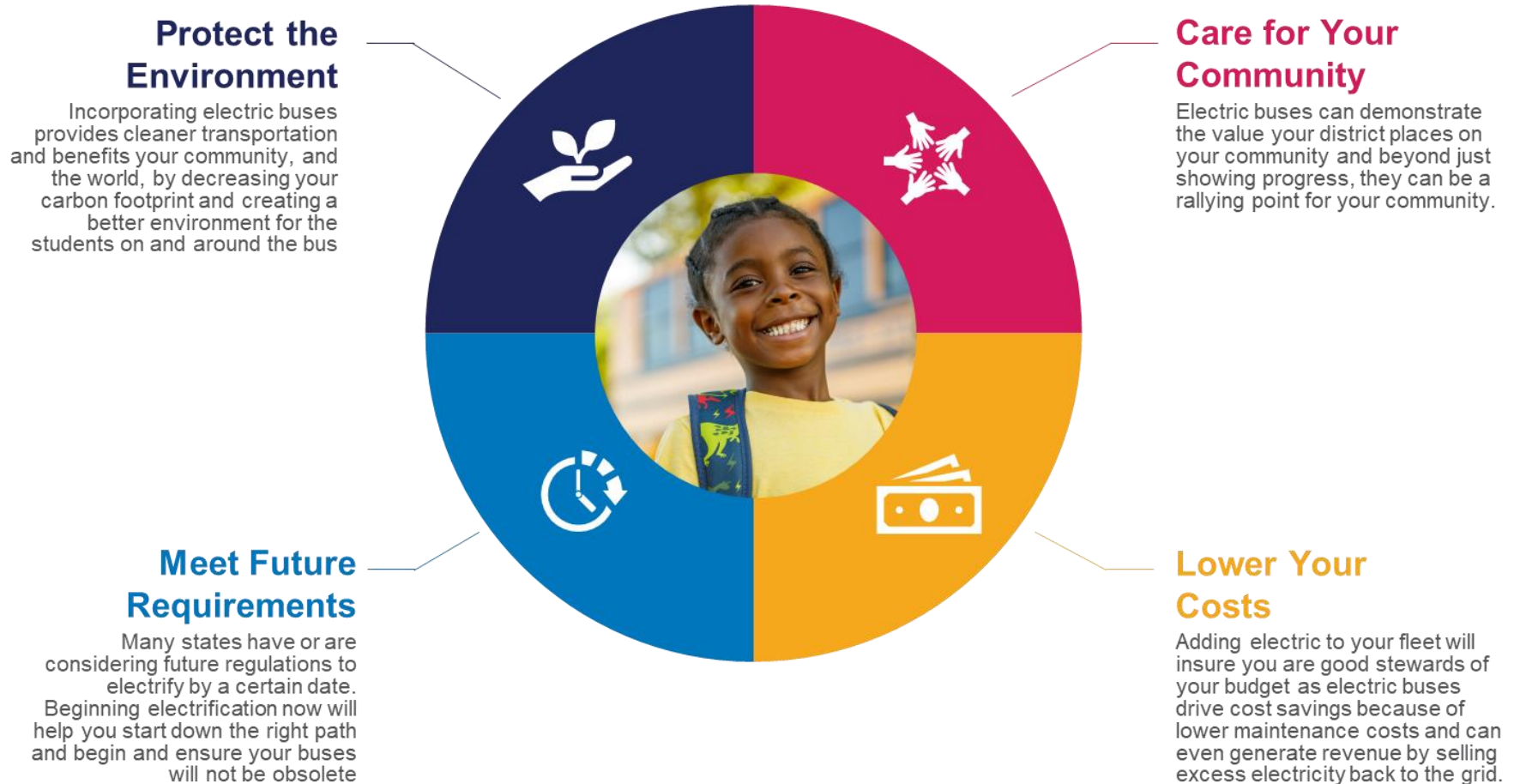
2 – Peak shavings is the process for reducing the amount of energy purchased from the utility company during peak demand hours

3 – The California Air Resource Board

4 – NO_x can cause breathing problems, headaches, chronically reduced lung function, eye irritation, loss of appetite and corroded teeth.

5 – Each bus conversion saves about 10-15 MT CO₂/year

ADDING ELECTRIC SCHOOL BUSES WILL DEMONSTRATE YOUR COMMITMENT TO STUDENTS, COMMUNITY, AND EFFICIENCY



ADDING ELECTRIC SCHOOL BUSES WILL HELP YOUR STUDENTS BY:

- **Decreasing exposure to pollutants that cause asthma**
Reduce exposure, and lessens repeated exposure, to air pollution from school buses which can increase the risk of developing asthma and pneumonia, and other health concerns – *Source: Chicago Policy Review and U.S. PIRG Education Fund*
- **Protecting student at critical time in their development**
Children who are still developing inhale more air per pound of body weight than adults, which makes them more vulnerable to the negative health effects caused by air pollution – *Source: U.S. PIRG Education Fund*
- **Increasing cardiovascular health**
By reducing school bus diesel emissions, researchers in the US found that it can increase cardiovascular health of students by 4% and increases in their year and exams by 10% – *Source: airqualitynews.com*
- **Improving test scores**
Researchers from Georgia State University compared standardized test scores from 2007 – 2015 of kids who rode diesel buses to those who rode buses that filtered out up to 95% of harmful pollutants and they found a significant increase in English scores – *Source: Nation Swell*



FIRST STUDENT ELECTRIFICATION VISION

First Student Electrification Vision:

To transport students in a zero-emissions environment providing cleaner, healthier air for students and the communities they operate

First Student Electrification Goal:

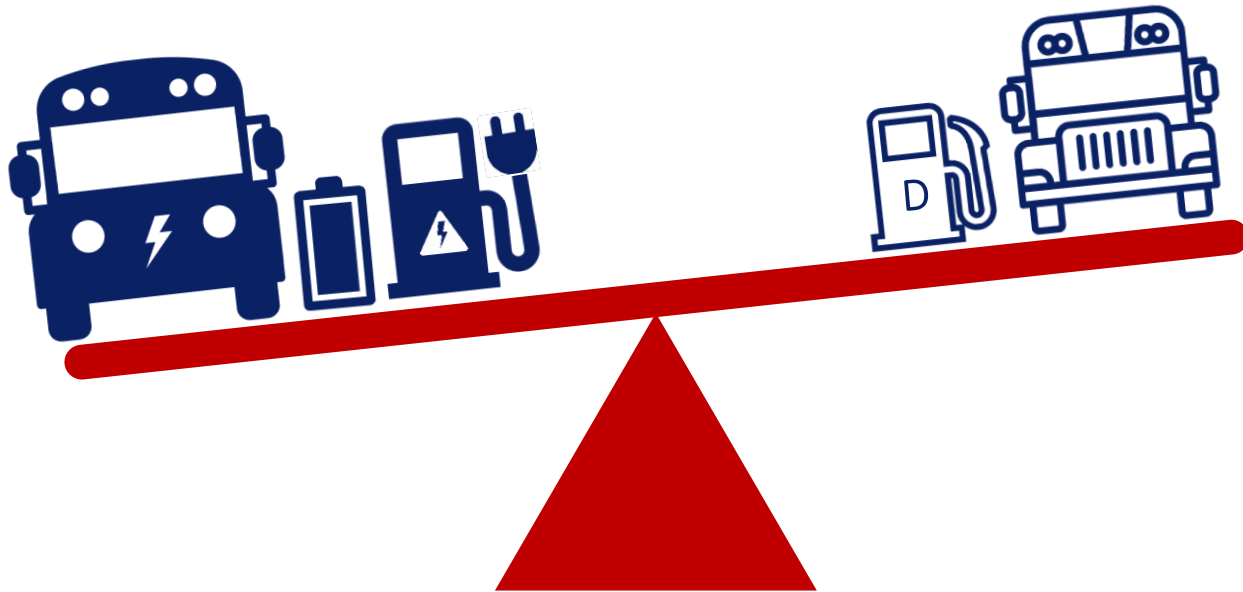
Electrify 30,000 school buses by 2040

By way of this goal, First Student will:

- Own and operate the largest fleet of EV school buses in North America
- Reduce greenhouse gas emissions by 460,000 tons
- One (1) electric bus reduces health costs by \$150,000 per year; 20,000 electric buses will reduce health costs by \$3,000,000,000

THE END RESULT

Electric buses to cost the same as or less than diesel



FIRST STUDENT: YOUR ELECTRIC SCHOOL BUS PARTNER



FIRST STUDENT IS READY TO ELECTRIFY YOUR FLEET



- First Student has experience with multiple bus manufacturers at locations across North America allowing us to understand how local factors like geography, terrain and climate affect total cost of ownership
- Our scale gives us leverage over electric vehicle manufacturers its related equipment and installation to drive the price of electrification down and have a real impact, environmentally
- No one in the world can buy a bus, electric or diesel, cheaper than First Student and our scale can help make electrifying your fleet a reality

YOUR ELECTRIC SCHOOL BUS INTEGRATION PARTNER

- School bus fleet electrification can be complex, involving a multitude of steps and stakeholders
- First Student provides a turnkey solution for school boards large and small to add electric school buses, or to electrify large portions of their fleet
- To ensure your school board realizes the benefits of electrification we partner with you at every step of the process

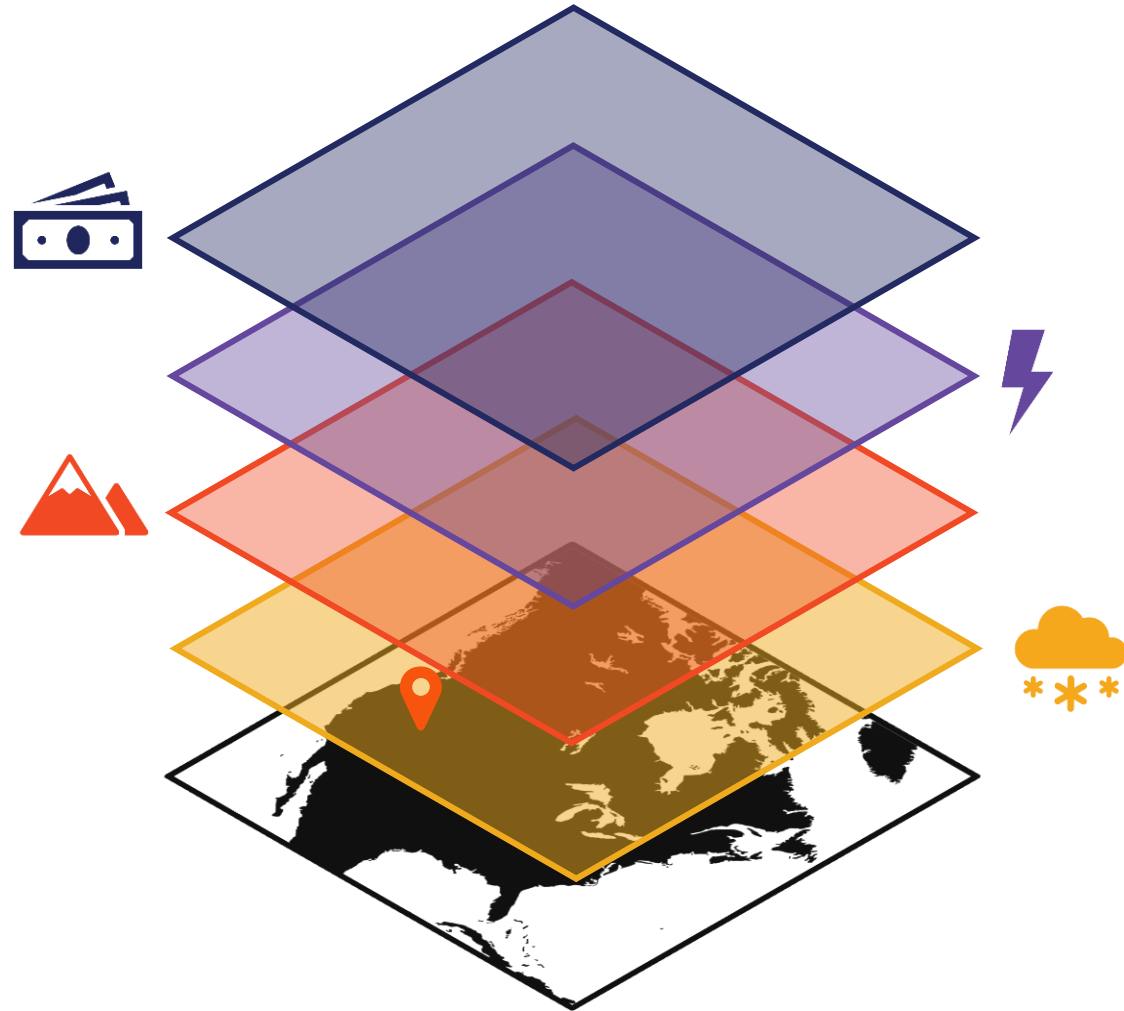


EV FEASIBILITY AND GEOGRAPHIC ANALYSIS

EV technology is evolving at a rapid pace, and all the factors that affect EV feasibility are constantly fluctuating

You must perform an analysis of your:

- Geography
- Climate
- Weather
- Local Terrain
- Power Grid
- Energy Costs
- Routes/Duty Cycles



FINANCING ELECTRIFICATION

Utility Companies
School districts can partner with utilities for beneficial rate programs and/or infrastructure investments

Federal Grant Programs
The School Bus Rebate Program is administered by the U.S. EPA and is designed to help districts reduce diesel emissions by offering rebates to districts who retrofit or update their buses to reduce the diesel exhaust emissions

Municipal Bonds
School districts may be able to use traditional funding and financing mechanisms to pay for electric buses, such as municipal bonds and transportation taxes. Municipal bonds can be used by school districts to pay for large school projects



Regional, State, & Local, Grant and Incentive Programs

School districts can take advantage of existing federal, regional, state, and local grant & incentive programs to lower the initial purchase price of electric buses

Volkswagen Emissions Settlement Fund

\$2 billion on infrastructure and programs aimed at increasing public awareness of zero emission vehicles. The amount will be divided between California (\$800 million) and the rest of the U.S. (\$1.2 billion)

Fleet as a Service

After maximizing available grants and incentive, First Student will finance electrification of vehicles, chargers and other renewables or resiliency infrastructure via a Fleet as a Service contract.

EPA CLEAN SCHOOL BUS FUNDING DEADLINES

- First rebate program opened May 20, 2022 and will remain open until August 19, 2022
- EPA will review applications September 2022
- Applicants will be notified in October 2022 – **Awardees to be selected by lottery**
- Selectees must submit PO for rebates by April 2023



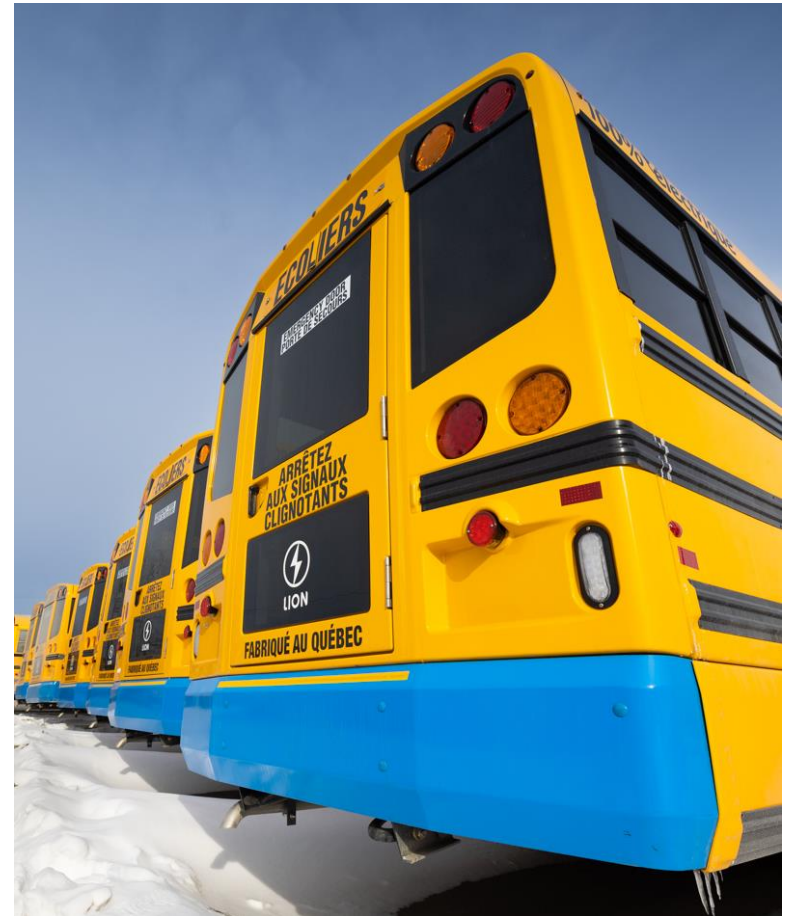
EPA CLEAN SCHOOL BUS FUNDING PROGRAM

- \$5 billion dedicated to zero-emission and clean school buses through 2026
- \$500 million available in 2022 for CSB rebates
- School districts applying directly can only submit 1 application to replace 25 buses
- Prioritization Criteria:
 - High-need school districts in low-income areas (20% or more students living in poverty)
 - Rural school districts
 - Tribal school districts



EPA SCHOOL BUS REPLACEMENT GUIDELINES

- 2010 or older, must be scrapped or 2011 or newer, can be scrapped, donated or sold
- CVWR of 10,001 lbs. or more (Types A, C & D)
- Owned by fleet receiving the replacement bus(s)
- Provided bus service to a school district for at least 3 days a week on average in the 2021/2022 school year
- New buses must have a battery-electric, CNG, or propane drivetrain
- EPA certified and model year of 2021 or older
- Not ordered until receiving official notification and must be purchased
- Must serve awarded school district for at least 5 years from date of delivery



EPA REBATE AMOUNTS

- The max rebate amount per bus is dependent on the following:
 - Fuel type
 - Bus size
 - School District served by the buses meets 1 or more of the prioritization criteria
- The max funding level for infrastructure:
 - Up to \$20,000 per bus (Type A, C, D)
 - Limited to fleet side of the meter
 - Must be EPA ENERGY STAR certified chargers

Replacement Bus Fuel Type and Size		
School District Prioritization Status	Type C & D	Type A
Buses serving school districts that meet one or more prioritization criteria	\$375,000	\$285,000
Buses serving other eligible school districts	\$250,000	\$190,000

STRATEGIES FOR APPLYING

- Many factors to consider when applying for funding
- Must talk to your utility now – First Student can help with those conversations
- First Student can help your district apply and sequence buses into the application process



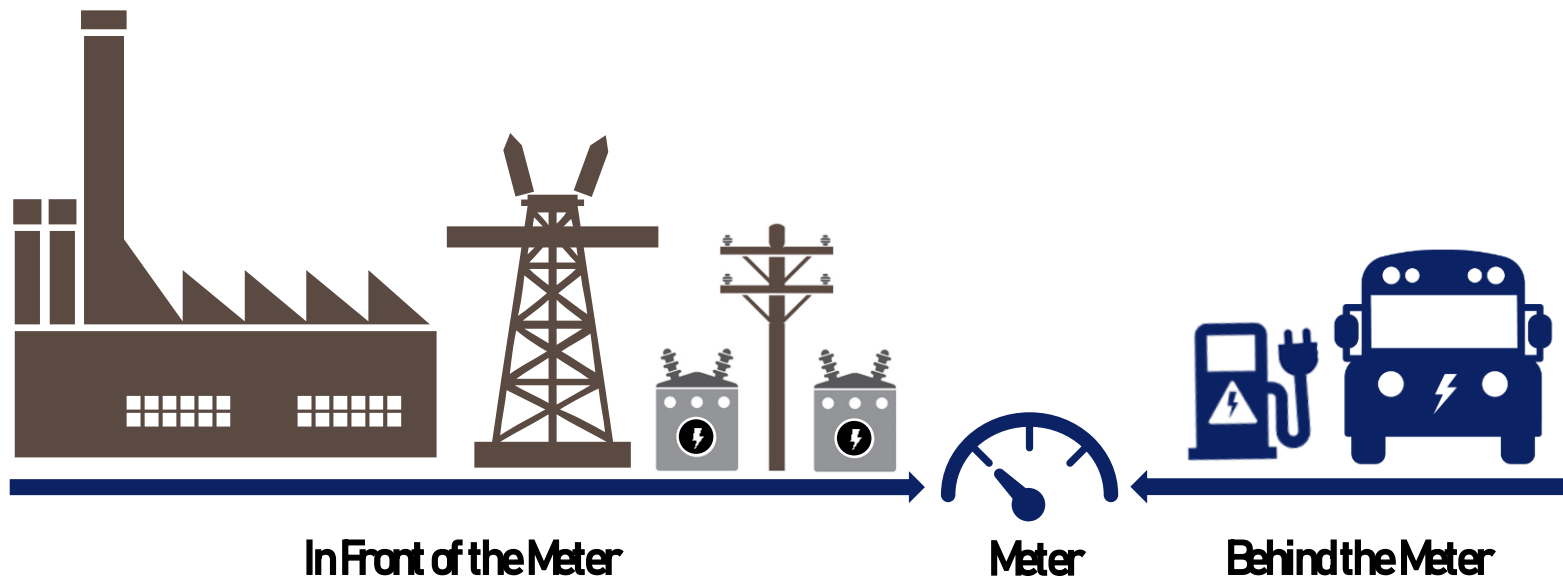
UTILITY PROGRAMS

Utilities may offer additional funds beside state and federal support:

- Make Ready Programs
 - Reduces the cost of the EV-charging infrastructure
 - Covers some or all of the electric charging infrastructure.
 - Not a one-size-fits-all solution
 - Public or private?
 - Is the equipment covered in front of the meter and/or behind the meter
- Business Case
 - Factors such as power requirements, identifying the right vehicles, infrastructure support to reduce capital needs, etc.

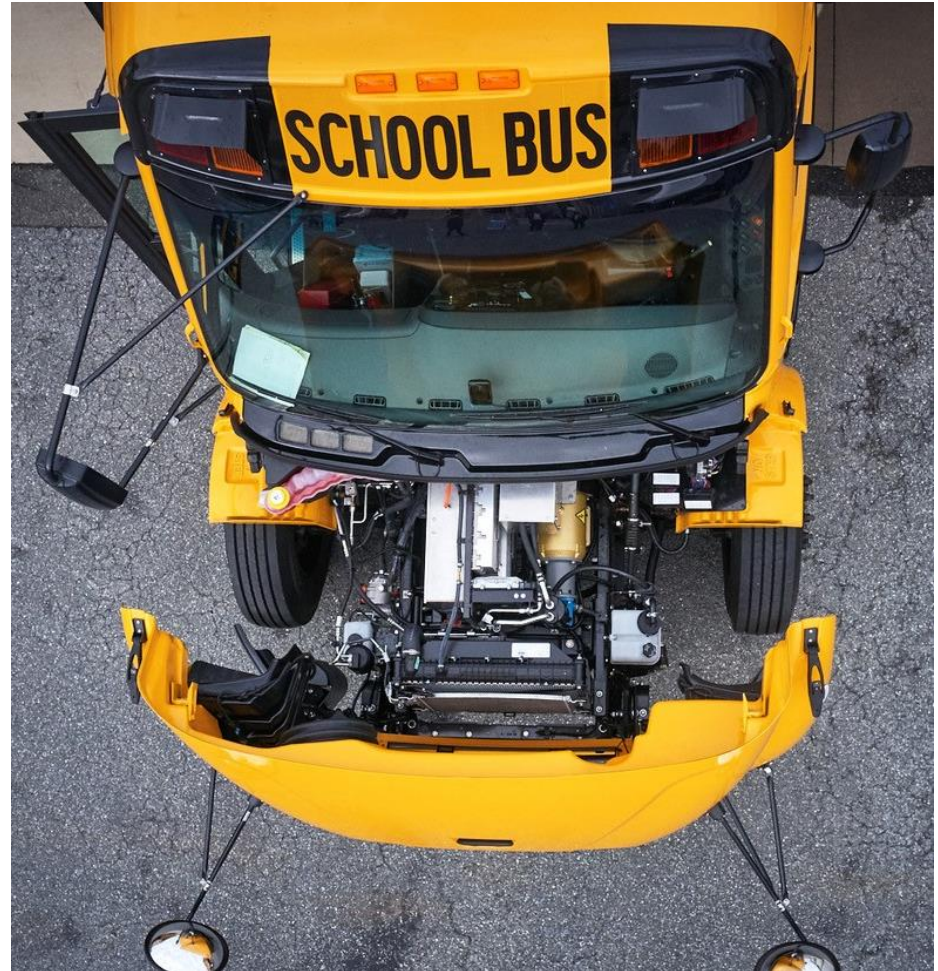
FTM VS BTM

- In Front of the Meter (FTM)
 - Utility assets
- Behind the Meter (BTM)
 - Customer ownership



BUS/BATTERY SELECTION AND UNDERSTANDING TOTAL COST OF OWNERSHIP

- Electrification costs are a key consideration, and it is critical to understand the total cost of ownership
- Some of the costs that comprise total cost of ownership include:
 - Cost of Bus
 - Cost of Fuel/Electricity
 - Battery Requirements & Selection
 - Grid Savings & Revenue Potential
 - Infrastructure Requirements
 - Maintenance & Safety
- Some of the above costs vary by location, so it's critical to understand the impact of local factors like geography, climate and terrain
- First Student has comprehensive experience in all these areas



DETERMINE BATTERY STRATEGY & REQUIREMENTS

Special consideration needs to be given to the battery you chose because it makes up 30-50% of the cost of the bus and has a major impact on operations and revenues

Battery Capacity & Range

How long does the bus need to be in operation and how many miles does the bus need to travel? When not in use how long does the bus have to charge?

Battery Replacement

Currently, estimated battery is currently 6 years. However, technology is constantly evolving and improving, and NextEra's Battery Lab is leading the charge.



Battery Warranty

Unlike Car Warranties that are determined by the year and mileage, battery warranties are based on the number of years and charge cycles. It is critical to understand the details of the warranty.

Battery Degradation

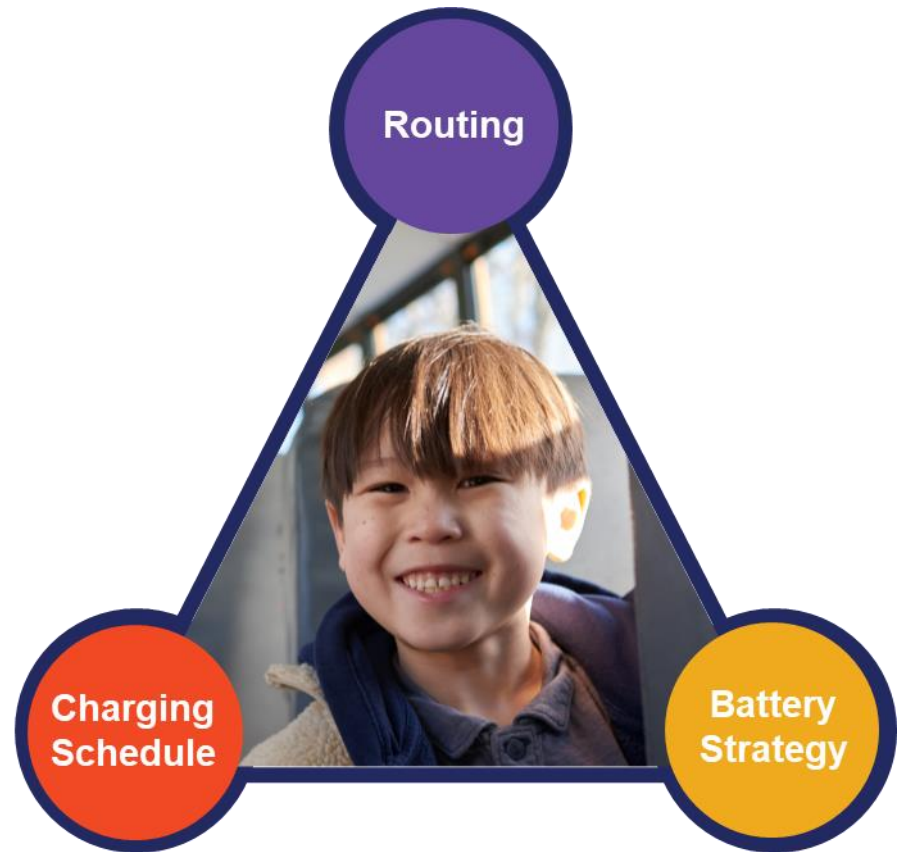
Battery capacity and usable range will degrade over time. Usage, climate, charger type and charger speed all contribute to the batteries state of health (SOH)

Battery Leasing

Batteries can be leased independent of the bus, so you have the option to buy the bus and lease the batteries per month separately.

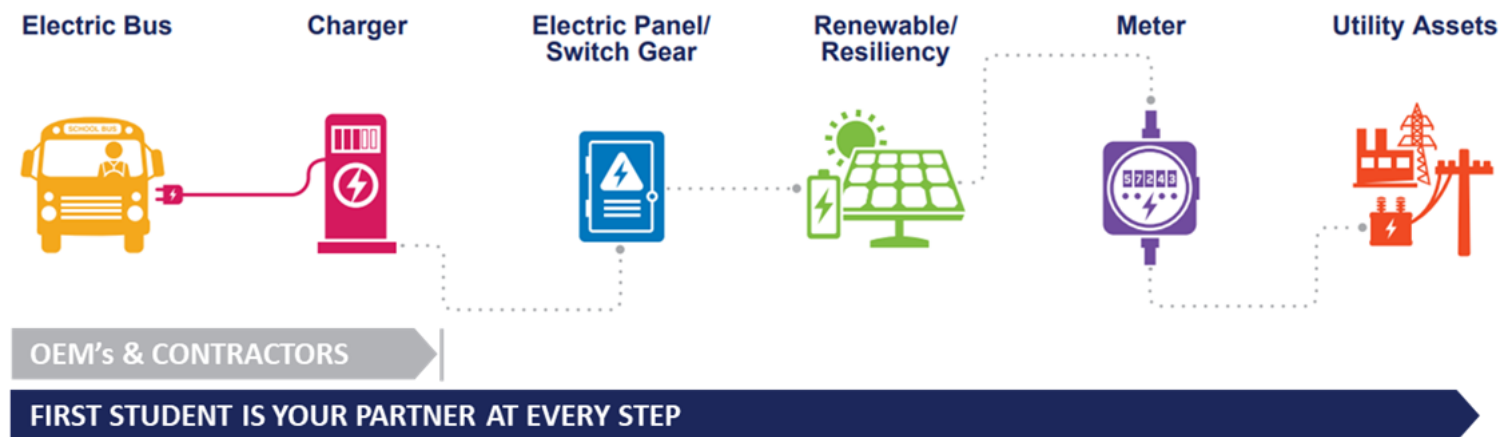
OPTIMIZE ROUTING TO ACCOMMODATE EV'S

- Electric school buses changes the dynamics of your entire fleet
- Identify ideal routes or create new routes if needed
- Routes need to be optimized for:
 - Geography
 - Terrain
 - Weather
 - Hourly & Seasonal Electric Price Fluctuations
- Routing is critical to your overall electric strategy and lowering total cost of ownership



DESIGN AND INSTALL INFRASTRUCTURE

- Infrastructure requirements are substantial and extend beyond the bus and the charger, in some cases all the way to the utility asset or generator
- Many bus manufacturers and transportation providers are well qualified to help pick out a bus and charger, but they do not have the expertise and experience necessary to set up your entire operation.
- First Students has expertise in every phase of the electrification process



YOUR ELECTRIC SCHOOL BUS INTEGRATION PARTNER

- Electric buses can be a great way to care of your students, their communities and our environment, but it is far more complicated than purchasing a bus and charging it
- Essential planning must occur to ensure your electric fleet has the least impact on the environment, while providing the largest cost savings for your district
- First Student provides a turnkey solution for your district to simplify the electrification process

To ensure your district realizes the maximum benefits of electrification, First Student partners with you every step of the process, including:

1. Determining Feasibility & Perform Geographic Analysis
2. Work with Local Utility to Assess Power Supply and Feasibility
3. Identify Incentives and Subsidies
4. Select Bus and Charger
5. Determine Battery Requirements
6. Design and Install Infrastructure
7. Optimizing Fleet and Routing
8. Management of Total Operation

ADDITIONAL CONSIDERATIONS



MEMORANDUM OF UNDERSTANDING

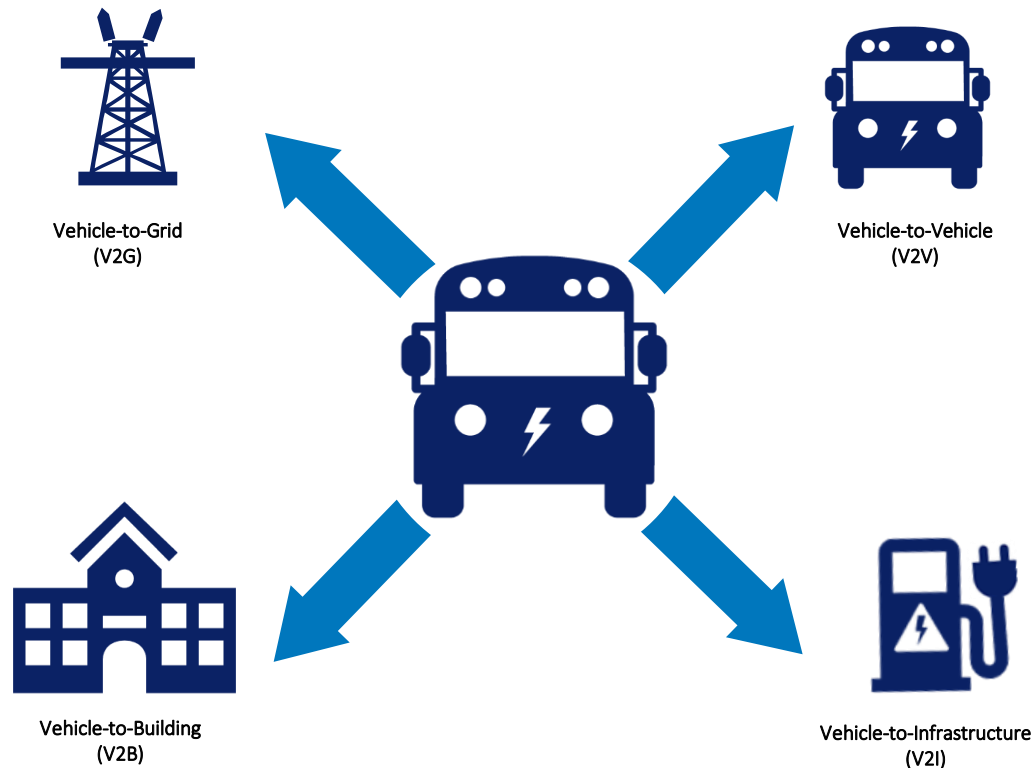
- What?** First Student was invited by the U.S. Department of Energy to sign a Memorandum of Understanding to help create a focused V2X (Vehicle to Everything) Collaboration for the state of California
- First Student is the ONLY school bus fleet operator
 - The DOE will create other MOUs like this in other states
- Who?** Automakers, charging equipment providers, industry associations, labor unions, utilities, national labs, public agencies have also signed the MOU
- Why?** V2X technologies are essential to accelerating the adoption of EVs and to scaling renewable energy on the grid
- Technical challenges and barriers to integration of EVs with electric grid



V2X (VEHICLE TO EVERYTHING) SERVICES

V2X is communication between a vehicle and any entity that may affect, or be affected by, the vehicle

- V2X technology will improve road safety, energy savings, and traffic efficiency
- V2X exists in bits and pieces, but the full force of the tech has yet to be seen



V2G (VEHICLE TO GRID) SERVICES

- V2G (Vehicle to Grid) is the ability to sell excess electricity stored in batteries back to the grid
- V2G is most lucrative when you can buy energy during non-peak hours at lower prices and sell it back during peak hours at higher prices
- V2G is very involved and requires not only the right hardware, but also the right software, along with V2G and electric market expertise
- Many over promise when it comes to V2G and the revenue you can expect, that's why it is important to partner with the industry leaders

