Electric Buses: Exploring Funding and Technology

Thursday, September 23, 2021, 10:00-11:30 a.m.

Virtual via Zoom
Agenda

10:00-10:05 a.m. – Welcome

Jerrod Bley – ANCA Clean Energy Program

10:05-11:10 a.m. – Presentations

Karlan Jessen - 2023 World University Games
Richard Lee – Lion Electric
Mark Hanrahan/Scott Goble - Matthews Buses/Thomas Built Buses
Adam Ruder – NYSERDA Clean Transportation Group
Mike Domin - Sourcewell
Joe Murphy – Bethlehem Tomorrow
Sergio Alfonso – White Plains City School District

11:10-11:30 a.m. – Q/A & Wrap-up
Karlan Jessen
Head of Sustainability and Legacy
2023 World University Games in Lake Placid
karlan.jessen@lakeplacid2023.com
LAKE PLACID 2023 WORLD UNIVERSITY GAMES

Sustainability Strategy & EV Transportation
Sustainability Pillars

• DESIGN FOR EDUCATION & LEGACY
  • MINIMIZE OUR CARBON FOOTPRINT
  • MINIMIZE WASTE TO LANDFILL
  • PRACTICE RESPONSIBLE SOURCING
  • PRACTICE DIVERSITY & INCLUSION
  • LEAVE A LEGACY OF CLIMATE ACTION AND MORE ECONOMICALLY VIABLE NORTH COUNTRY COMMUNITIES
Initiatives

ISO 20121 Standard for Sustainable Event Management
“According to the Green Sports Alliance, 17% the world’s population follows science but 80% follow sports one way or the other. So, sport has the opportunity and responsibility to lead the way.” Mike Kensler-Auburn University
## Transportation Overview

### Vehicle Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Est. # Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach</td>
<td>50</td>
</tr>
<tr>
<td>Transit</td>
<td>12</td>
</tr>
<tr>
<td>Van</td>
<td>55</td>
</tr>
<tr>
<td>Sedan</td>
<td>278</td>
</tr>
<tr>
<td>Truck</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>377</strong></td>
</tr>
</tbody>
</table>

## TRAVEL TIME MATRIX

### LAKE PLACID 2023

#### DISTANCE (KM)

<table>
<thead>
<tr>
<th>Venue</th>
<th>Gore Mountain (FRS, SBD)</th>
<th>International Broadcast Center (IBC)</th>
<th>Olympic Jumping Complex (FRS, NCB, SJP)</th>
<th>Olympic Sports Complex (BTH, CGS)</th>
<th>Saranac Lake Civic Center (CUR)</th>
<th>Whiteface Mountain (ALP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gore Mountain (FRS, SBD)</td>
<td>115</td>
<td>115</td>
<td>112</td>
<td>108</td>
<td>131</td>
<td>112</td>
</tr>
<tr>
<td>International Broadcast Center (IBC)</td>
<td>89</td>
<td>89</td>
<td>83</td>
<td>82</td>
<td>103</td>
<td>86</td>
</tr>
<tr>
<td>Olympic Center (FSK, IHO, SSK, STK)</td>
<td>89</td>
<td>89</td>
<td>0</td>
<td>5</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Olympic Jumping Complex (FRS, NCB, SJP)</td>
<td>115</td>
<td>0</td>
<td>3.4</td>
<td>13</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>Olympic Sports Complex (BTH, CGS)</td>
<td>83</td>
<td>5</td>
<td>3.4</td>
<td>13</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>Saranac Lake Civic Center (CUR)</td>
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<td>3.4</td>
<td>3.4</td>
<td>9</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Whiteface Mountain (ALP)</td>
<td>86</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>19</td>
<td>17</td>
</tr>
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#### TRAVEL TIME (MIN)

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Our EV Transportation Goals
• Utilize as many E vehicles as possible
• Catalyze development of charging infrastructure
• Catalyze partnerships
• Invite participation, process inclusion
• Support case studies
• Move the people
Richard Lee
Director of US Bus Sales
Lion Electric Company
Richard.lee@thelionelectric.com
DISCOVER THE ELECTRIC SCHOOL BUS

A look into the benefits of electric buses in contracted school bus operations

Presented by:

THE LION ELECTRIC CO
LION HISTORY

11 years of dedication to electric transportation

2008 - LION FOUNDATION

2011 - 3-YEAR DEVELOPMENT

2016 - ALL-ELECTRIC TYPE C SCHOOL BUS LAUNCH

2018 - ALL-ELECTRIC PARATRANSIT AND TYPE A SCHOOL BUS LAUNCH

2019 - ALL-ELECTRIC COMMERCIAL TRUCK LAUNCH

LION-USA TODAY

Strategic US sales and service team growth with industry experts
Lessons in Electromobility

▪ Find the best fit for you.
▪ Cooperate with your utility to understand power needs and growth potential.
▪ Adopting and adapting EV
▪ There will be learning opportunities.
▪ Technology is abundant and changing.
▪ Check with your state regarding school bus specifications.
▪ Understand the product you are wanting to purchase. Not all electric school buses can go 155 miles.
▪ Be the leader in the market!
Mechanical and Environmental Advantages

- The electric powertrain is very robust and requires very little maintenance. The drive train is simpler as vehicle components like the transmission, clutch, mufflers, particulate filters, fuel tank, starter, alternator and spark plugs are not required.

- The electric school bus requires fewer fluids. Electric school buses only require coolant, lubricating oil, hydraulic fluid and wind shield washer fluid.

- When braking is applied, the motor can also be used as an alternator that produces electricity and charges the battery (regenerative braking).

- Electric drive motors have a high degree of efficiency of up to 96% compared with internal combustion engines that have an efficiency of 35–40%.

- Electric drive motors have excellent torque and output characteristics. They develop maximum torque from standstill.

- The energy is only supplied when the user needs it. Compared with conventional vehicles, the electric drive motor never runs when the vehicle is stopped – Zero Idling!

What does this mean for Contractors?

- Lower Maintenance Cost
- Lower Parts Inventory and Cost
- Reduced Workers Comp Claims
- Fewer EPA Requirements for on-site storage
- Fuel savings
Health Considerations

- Electric school buses reduce noise. People seldom think of the impact engine noise has on the school bus environment.

- They reduce the amount of NOx and CHGs in the air. Every electric school bus put into service for an average school year is the equivalent of removing 5 passenger cars off of the road. In addition, electric school buses eliminate harmful build up of exhaust fumes in maintenance areas.

- Electric school buses are simpler machines. A typical electric school bus powertrain has 30 moving parts. This drastically reduces maintenance therefore improving physical and mental strain on maintenance staff.

- Electric school buses don’t require a “cold start” in poor weather conditions. This eliminates the need of added stress on mechanics to ensure vehicles are ready.

What does this mean for Contractors?

- Quieter Facilities
- Fewer Parent Complaints
- Reduced Workers Comp Claims
- Healthier Work Environment
Financial Considerations

- Through managed charging, electric buses can lower fuel costs by up to 80%.
- Studies done by federal transit authorities has shown 60% savings on maintenance costs with electric buses.
- Lion Electric Buses offer longer warranties than are typically available in the School Bus industry with 8 year battery warranties and 5 year component warranties.
- No need to purchase expensive diagnostic software – our solution is included with built in telematic capability at no additional charge.
- Wide availability of funding to offset initial purchase price.
- DERA, CEC, Air Quality Initiatives, CMAQ.
- VW Environmental Mitigation Trust.
- Future V2G Capability.
- Lion buses, specifically, are designed to last longer. 15 year battery life, unique body construction.

What does this mean for Contractors?

Lower TCO
- No annual fees or expensive software upgrades.
- Up to 100% of the bus can be paid for through grants!
- Electric school buses are a way to "box out" the competition.
Customer Benefits

- Customers are looking to be more environmentally friendly. This offers a solution which can be leveraged in contract negotiations.

- The American Lung Association states that infants, children, teens, people over 65 years of age, and people in low income areas are at greatest risk from particulate pollution exposure. School districts are aware of the benefits electric school buses have on their community.

- Electric school buses are a powerful media draw. Existing Lion customers have been published in local, state and national news outlets.

- Future V2G Capability – Where the district provides utilities, they will have the opportunity to benefit from the sale of electricity back to the grid.

- Districts who pay for fuel will realize cost savings.

What does this mean for Contractors?

Happy customer, happy operations

Ability to improve margin

Potential for longer term contracts
Any Questions?
Mark Hanrahan
Sales Manager, Matthews Buses
mhanrahan@matthewsgroupinc.com

Scott Goble
Sales Representative, Thomas Built Buses
Consultant Pupil Transportation Safety Institute
sgoble@matthewsgroupinc.com
Day in the Life of a BEV School Bus

JOOLEY
Day Operation with Overnight Charging and Mid-day Re-charge

Example: School bus operates morning route with a return to bus yard for charging. After period of charging, school bus operates afternoon route with return to bus yard. After afternoon route, school bus is charged overnight.
Ecosystem Support for School Buses

- Electric Bus Development
- End-of-Life Services
- Electric Route Assessment
- Fleet Management
- Economic Feasibility
- Maintenance & Operations
- Financial Services
- Charging Infrastructure Deployment
Thank you!

sgoble@matthewsbuses.com

mhanrahan@matthewsbuses.com
Adam Ruder
Assistant Director
NYSERDA’s Clean Transportation group
adam.ruder@nyserda.ny.gov
NY Truck Voucher Incentive Program

Adam Ruder
September 23, 2021
New York Truck Voucher Incentive Program

• $57.4M incentive pool supporting medium and heavy duty trucks, transit buses, school buses, and repowers

• Vouchers reduce the upfront purchase cost and accelerate or eliminate the payback period associated with cleaner vehicles

• Brings together vehicle manufacturers, dealers, and fleets to get cleaner trucks and buses on the road

• Scrappage ensures removal of the oldest, dirtiest diesel engines from New York State roads
Eligible Vehicle Technologies

> Weight classes 3-8 (>10,000 lbs)

> Fuel types:
  • Battery electric (BEV)
  • Hydrogen fuel cell electric (FCEV)
  • Compressed natural gas (CNG)*
  • Propane (LPG)*

> BEV conversions (repowers) are eligible
  • Must be certified with an operational lifespan of 10 years

> School buses must operate in or be domiciled in a disadvantaged community or one of the 30 counties in NYS that has poor air quality

*CNG and LPG engines must comply with 0.02 g/bhp-hr “Low-NOx” standard
# Voucher Incentive Levels

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Fuel Type</th>
<th>Incremental Cost %</th>
<th>Voucher Amount: Vehicle Weight Class (GVWR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>School Buses</td>
<td>BEV</td>
<td>100%</td>
<td>$-$</td>
</tr>
<tr>
<td></td>
<td>CNG</td>
<td>90%</td>
<td>$-$</td>
</tr>
<tr>
<td></td>
<td>Propane</td>
<td>90%</td>
<td>$-$</td>
</tr>
<tr>
<td>Other Buses and Trucks</td>
<td>BEV</td>
<td>80%</td>
<td>$60,000</td>
</tr>
</tbody>
</table>
Vehicle Scrappage Requirements

- Goal: Reduce diesel exhaust emissions by replacing older, dirtier diesel buses with new electric buses
- Eligibility: School buses with 1992-2009 model year diesel engines
  - GVWR must be similar to new vehicle
  - Must have been operated at least 2,500 miles in each of prior 2 years

> Note: scrappage must occur after Voucher Application is approved
Thank you!

For more information, visit the NYTVIP website:

https://nyserda.ny.gov/truck-voucher-program/

Contact the Voucher Help Center: NYTVIP@energycenter.org
Additional Slides
Disadvantaged Communities in the North Country
Air Quality Non-Attainment Counties

New York Truck Voucher Incentive Program
Transit, School and Shuttle Bus Eligible Counties
Mike Domin
Supplier Development Administrator
Sourcewell
Mike.Domin@sourcewell-mn.gov
Sourcewell
Your government source for cooperative contracts

September 16, 2021
Who is Sourcewell?

Sourcewell is a government agency...

- Legislative authority to competitively solicit and award; we are the lead agency

- Acceptance and comfort always comes down to local policy and interpretation
How it works?

A legal contracting pathway between buyers and suppliers.
Purchasing using Sourcewell

Identify prospect and sell your value

Traditional Bid
- Spec out equipment
- Advertise tender/bid
- Respond to tender/bid
- Tender/bid opening
- Bid evaluation
- Award lowest bidder
- Protest period
- P.O. issued
- Deliver equipment
- Receive payment

Sourcewell Contract
- Done by Sourcewell
  - P.O. issued
  - Deliver equipment
  - Receive payment

VS.
## Value of Cooperative Purchasing

### FLEET BENEFITS

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase uptime, reduce labor hours, standardization, lower cost of ownership.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access full line of products &amp; services you want and need.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work with suppliers/reps you want.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choose value and quality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage established not-to-exceed pricing.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PRODUCTION BENEFITS

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Save Time &amp; Money</td>
<td></td>
<td>No need to duplicate the competitive RFP process. Reduces the impact of: agency staff, budget cuts, &amp; protests.</td>
</tr>
<tr>
<td>Full-line of Contracted Solutions</td>
<td></td>
<td>No need to write up complicated specs.</td>
</tr>
<tr>
<td>Trust and Relationships</td>
<td></td>
<td>Use a legal pathway to satisfy procurement requirements.</td>
</tr>
<tr>
<td>Low-bid, Low-quality Responses</td>
<td></td>
<td>Avoid non-compliant vendors.</td>
</tr>
<tr>
<td>U.S. and Canada Volume Pricing</td>
<td></td>
<td>Keep tax payer dollars local.</td>
</tr>
</tbody>
</table>
The Collaborative is a partnership designed to help accelerate the electrification of municipal fleets across the country.

Check out: driveevfleets.org
Summary

▪ Look at the Sourcewell contract as the pathway to get to your solutions
▪ BEFORE you start the bid process, consider Sourcewell cooperative purchasing
▪ You have a choice to satisfy the competitive processes: Bid it or buy it off contract
▪ Register and view contracts at sourcewell-mn.gov
Don’t Hesitate to Reach Out

Mike Domin
Supplier Development Administrator
mike.domin@sourcewell-mn.gov

Thank you!
Joe Murphy
Civic Sustainability Group
Bethlehem Tomorrow
JoeMurphy.law@gmail.com
Bethlehem Tomorrow is a citizens action group in Bethlehem, New York. Our mission is to encourage the Town of Bethlehem to protect and preserve farmland, forests, parks and other open spaces for the public benefit, for now and future generations, and to promote activities that encourage an environmentally sustainable community.

Joe Murphy, Co-Chair, Bethlehem Tomorrow EV Subcommittee
The Bethlehem Tomorrow EV working group researches and promotes best practices and accelerated adoption of EVs throughout Bethlehem, including school buses, municipal fleets, and residential vehicles.

Check out our ESB Fact Sheet at https://drive.google.com/file/d/1OLWcQbHhkz1g6kGsAHZdozF3bWLJt2Eb/view
Fact Sheet: New York Electric School Buses
Prepared by Bethlehem Tomorrow
https://www.bethlehemtomorrow.org/

Electric School Buses are:

**Affordable** Life cycle costs for electric and diesel buses are comparable. The higher purchase prices is offset by grants, lower operating costs, and, potentially, V2G payments. Electric buses have fewer moving parts — no oil changing or replacing brake fluids and pads, spark plugs or belts — and therefore have lower operation, maintenance and repair cost. Cost comparison available upon request. Sources:
- https://www.energystorage.org/pastevents.html

**Cleaner** Electric buses emit no greenhouse gases (GHGs) during their operation. Their GHG emissions from electric "fueling" are much lower than burning diesel, and decreasing as New York’s power grid transitions to renewable sources such as wind, solar and hydro. For example, in 2016, NYC electric transit buses emitted 84% less GHGs than their diesel counterparts, and upstate power sources are even cleaner. Electric buses will also help us reach emission reduction goals required by the 2018 Climate Leadership and Community Protection Act.

- Source: Electric Bus Analysis for New York City (2016) at 13, Figure 5, http://www.columbia.edu/~yao44/Electric%20bus%20analysis%202016%20Trans%20Day%2012016.pdf

**Healthier** Electric buses eliminate emissions of fine particulate matter, nitrogen oxides (which cause smog and ground-level ozone), hydrocarbons, carbon monoxide, and many carcinogens such as benzene, arsenic and formaldehyde. These pollutants are a problem not just for local communities near bus routes, but for kids especially. Diesel pollution inside school buses has been measured up to four times higher than in cars driving in front of the buses!


**Ready for the heat and cold** Electric heating, ventilation and air conditioning (HVAC) systems provide optimal comfort during all seasons, keeping buses at calibrated temperatures even in severe weather. Electric systems are also more efficient than traditional belt-driven systems, as they only operate when needed; and when in use, they operate at a constant, optimum speed.


**Quieter** The noise produced by electric buses is the equivalent to a human conversation.

- Source: Chicago Transit Authority.

**Reliable** Bus manufacturers and distributors typically offer generous warranties plus optional extended warranties for batteries and other parts.

- Sources: https://www.green-technology.org/gcsummit18/images/ZEV-School-Buses.pdf (5-year warranty on batteries plus optional extended warranty by Blue Bird); https://theiolenet.com/enrparts (5-year limited chassis & body warranty, 5-year, 160,000-mile electric powertrain warranty, 8-year battery warranty by Lion Bus)

**Built to go far** The range on a Type-C electric bus typically runs between 100 and 150 miles. Longer trips are not a problem because fleets typically will be transitioned over five to ten years, leaving some diesel buses available for long trips. Moreover, states and the U.S. are rapidly building out networks of EV charging stations, including fast-charging stations, at public places. Source: New York Expands Electric Vehicle Charging Efforts with $250M Investment, https://ids.prc.ucf.scatalyst.org/pdfs/Attachment/M16156-13-4bbcf55f-5e6e-769a4f9f

**Valuable for Battery Re-Sale** Utilities are interested in purchasing batteries at the end of the school bus life to use for additional storage.


**Available from Multiple Vendors** Electric school bus manufacturers include Thomas, Lion, Bluebird, Trans Tech, Collins and others.


**Easy to Charge** New York will be requiring utilities to “make ready” for electric chargers, so installing your own charging station will be easier and less expensive.


**A Source of Emergency Power** With necessary hardware and software, EV batteries can discharge power back to a building (V2B), so if power is lost, the school bus can serve as a back-up power supply. A single bus battery could provide 20 to 60 kW for up to five hours — enough to power critical energy needs, such as communication equipment, lights, refrigeration, or building ventilation.

It's electric: BC secures $1m for clean energy buses

Big news for BC Electric buses are on the way thanks to approval of $1m in state-allocated NYTVIP vouchers to help pay for five electric buses in 2021-22. 10-year goal is at least 50% electric to replace diesel.

#wellness #community

BC leads the way on clean energy buses
With $1m in state-allocated vouchers, BC is the first district in NYS to begin a transition of its bus fleet from diesel to electric.

bethlehmschools.org

9:40 PM · Aug 11, 2021 · Twitter Web App
How’d That Happen?

What Bethlehem Tomorrow did:
- Researched ESBs
- Educated the community & school administration
- Advocated for ESBs
- Helped with the legwork (research; webinars; funding & industry contacts)
Timeline

Fall 2019: Contacted school board, identified key administrators
Early 2020: Sent initial research results to BCSD administrators
March 2020: COVID!
April 2020: Letter to Editor in Times Union
April 2020: Presented webinar on ESBs & Muni EVs
June 2020: BT proposal to BCSD for 2021+ ESBs
2020: BCSD did feasibility analysis ($ & Operations)

Key Admins:
● Judi Kehoe, Chief Business and Financial Officer
● Karim Johnson, Director of Student Transportation
● John Biszick, Asst. Director of Transportation
We are all familiar with the ubiquitous yellow school bus. Recently a new type of school bus has become available. It is still yellow, but it is electric instead of diesel. Our school districts should start working them into their fleets.

Electric school buses have several advantages. They are healthier for schoolchildren as well as for those who live near the bus routes. They emit zero emissions, making the air cleaner. They save fuel costs, and they have lower maintenance costs. The bottom line is that electric school buses are clean, reliable, and affordable.

Joe Murphy and David Burtis
April 22, 2020 | Updated: April 22, 2020 9:17 p.m.
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June 17, 2020

Bethlehem Central School District
700 Delaware Avenue
Delmar, NY 12054

Attn: Board of Education
Superintendent Jody Monroe
Chief Business and Financial Officer Judith Kehoe
Asst. Director of Transportation John Biszick

Dear BCSD Officials:

Thank you for receiving and considering the information we as Bethlehem residents have been submitting to you over the past year concerning electric school buses (ESBs). We are writing today with a proposal that the District move forward with the initial steps of transitioning to ESBs.

Specifically, we ask that the District (1) apply for NYSERDA grant funding this summer in order to purchase one ESB for use beginning in Fall 2021, and (2) meet with one or more ESB consultants to begin planning for a longer-term rollout of additional ESBs and use of the initial ESB.
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Summer-Fall 2020: Assist BCSD w/ research & meetings
Nov. 2020: Site visit w/ BCSD to Lion Bus Experience Center
March 2021: BCSD ESB funding resolution passed
April 2021: BCSD grant application to NYSERDA
May 2021: Voters approve bonding for BCSD ESBs & chargers
June 2021: NYSERDA approves BCSD grant
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[Image of a school bus with people standing in front of it]
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March 2021: BCSD ESB funding resolution passed

2. Approve Resolution for the 2021-2022 Bus Replacement Plan – It is recommended that the Board of Education approve the following resolution:

WHEREAS, the Bethlehem Central School District deems it prudent to plan for future school bus needs;

NOW, BE IT THEREFORE RESOLVED that the Board of Education directs that the following Proposition be placed before the voters at the May 18, 2021 District meeting:

RESOLVED, that the Board of Education of the Bethlehem Central School District is hereby authorized to (1) acquire nine (9) 66-passenger school buses at a cost not to exceed $1,475,000 which is estimated to be the maximum cost thereof, after the potential receipt of grants, (2) expend such sums for such purpose, (3) levy the tax necessary therefor, to be levied and collected in annual installments in such years and in such amounts as may be determined by the Board of Education, taking into account state aid received, and (4) in anticipation of the collection of such tax, to issue bonds and notes of the District at one time or from time to time in the principal amount not to exceed $1,475,000 or enter into a lease-purchase agreement at a principal amount not to exceed $1,475,000 to acquire such buses.

RESOLVED, that, if the Board of Education acquires one or more school buses powered, in whole or in part, by electric power, then the Board of Education of the Bethlehem Central School District is hereby authorized to (1) acquire and install charging infrastructure and appurtenances thereto for such electric powered school buses at a cost not to exceed $200,000 which is estimated to be the maximum cost thereof, after the potential receipt of grants, (2) expend such sums for such purpose, (3) levy the tax necessary therefor, to be levied and collected in annual installments in such years and in such amounts as may be determined by the Board of Education, taking into account state aid received, and (4) in anticipation of the collection of such tax, to issue bonds and notes of the District at one time or from time to time in the principal amount not to exceed $200,000, or enter into a lease-purchase agreement at a principal amount not to exceed $200,000 to acquire and install such infrastructure and appurtenances thereto.

RESOLVED, that the Board of Education of the Bethlehem Central School District is hereby authorized to (1) acquire and install a GPS/Telematics system within the school bus fleet, including, without limitation, software, at a cost not to exceed $210,000 which is estimated to be the maximum cost thereof, (2) expend such sums for such purpose, (3) levy the tax necessary therefor, to be levied and collected in annual installments in such years and in such amounts as may be determined by the Board of Education, taking into account state aid received, and (4) in anticipation of the collection of such tax, to issue bonds and notes of the District at one time or from time to time in the principal amount not to exceed $210,000, or enter into a lease-purchase agreement at a principal amount not to exceed $210,000 to acquire such system.

BE IT FURTHER RESOLVED that the District Clerk is directed to provide notice of this proposition to the voters as is required by the Education Law.
Electric buses could be coming to BC in 2021-22

Filed in Archive, District, District News on March 17, 2021

District is poised to be one of the first school districts in NYS to move toward electric bus fleet

Fully electric school buses could begin rolling (quietly) through neighborhoods in Bethlehem in 2021-22 if residents approve a bus purchase proposition in May that would begin a transition of the district’s bus fleet from diesel-fuel to zero-emission electric school buses.

If approved, BC would be one of the first school districts in New York state to make the move toward an electric bus fleet by introducing up to nine electric buses next year. One downstate district — White Plains Public Schools — has used five electric buses since 2018 as part of a pilot project run by a privately-owned firm. Bethlehem could be one of the first K-12 school districts in New York to ask its residents to decide on a commitment to electric vehicles.

Voters will decide on the bus proposition as part of the annual school district budget vote which will be held this year on Tuesday, May 18. The district serves more than 4,300 students from the towns of Bethlehem and New Scotland in Albany County.

At its March 17 meeting, the Bethlehem Central Board of Education approved a bus plan that includes the purchase of electric buses to be put before voters. The board is still working on budget development, with a proposed budget for 2021-22 expected to be finalized on or around April 14.

“We have determined the time is right to seek approval to begin making this change to our fleet of vehicles,” said Holly Dellenbaugh, president of the Board of Education. “District administrators are working hard to leverage all available incentives to allow the district to evolve its fleet in a cost-neutral way and now voters have the opportunity to weigh in.”

As described at the meeting by BCSD Chief Business and Financial Officer Judith Kehoe, the bus plan for 2021-22 would allocate $1,675,000 for the purchase of up to nine large school buses and charging stations to accommodate the electric buses.
Timeline

Summer-Fall 2020: Assist BCSD w/ research & meetings
Nov. 2020: Site visit w/ BCSD to Lion Bus Experience Center
March 2021: BCSD ESB funding resolution passed
April 2021: BCSD grant application to NYSERDA
May 2021: Voters approve bonding for BCSD ESBs & chargers
June 2021: NYSERDA approves BCSD grant
On the BC ballot: Electric buses

Filed in Archive, District, District News on May 14, 2021

When residents of the Bethlehem Central School District head to the polls on Tuesday, May 18, they will have the opportunity to decide if the district becomes one of the first school districts in New York state to begin the transition to an electric bus fleet.

There are three bus propositions on the ballot this year. One would provide funding to purchase up to five electric buses in the 2021-22 school year. A second proposition would provide funding for electric charging stations and a third proposition would upgrade technology and safety features for all buses, electric or diesel.

Voting will take place on Tuesday, May 18 from 7 a.m. to 9 p.m. at Bethlehem Central High School. Absentee ballots are also available.

The three propositions will appear on the ballot as follows:

**Ballot Proposition #3: Bus Purchase (max. $1,475,000)**

The district maintains a scheduled bus replacement plan every year to replace aging vehicles when they have reached the end of their useful lifespan and are no longer cost-effective to maintain. Residents vote on a bus purchase proposition every year.

This year, the Bethlehem Central School District is asking voters to consider a bus purchase proposition that, with the help of state grant funding, would begin a transition from diesel to zero-emission electric buses in the district.

The proposed bus purchase plan would replace nine 2009 large school buses at a cost not to exceed $1,475,000. At least five of the nine buses are expected to be fully electric buses. The electric bus purchase would be aided by up to $1 million in grants from the New York State Energy Research and Development Authority (NYSERDA). The district would also receive approximately 65% in state aid on the purchase.

If approved, Bethlehem would be one of the first school districts in New York State to begin the transition to clean-energy school buses.

If none of the NYSERDA grants — which would provide $200,000 toward the purchase price of each electric bus — are awarded, the district would purchase diesel buses instead and would delay the transition to electric buses for at least another year. If one or more grants are awarded, the district would purchase the number of diesel buses needed to replace all nine of the 2009 buses (ex. Two grants: two electric buses and seven diesel buses). NYSERDA has indicated that five grants would be the maximum number awarded in 2021-22.

**Ballot Proposition #4: Electric Bus Infrastructure (max. $200,000)**

A second bus proposition would provide the infrastructure for electric bus charging stations at a cost not to exceed $200,000. The district is working with National Grid on a plan for the charging stations. This amount would not be spent unless the bus purchase is approved and grant money for one or more electric buses is secured from NYSERDA. Any money that is spent may also be eligible for state aid reimbursements.
Timeline

Summer-Fall 2020: Assist BCSD w/ research & meetings
Nov. 2020: Site visit w/ BCSD to Lion Bus Experience Center
March 2021: BCSD ESB funding resolution passed
April 2021: BCSD grant application to NYSERDA
May 2021: Voters approve bonding for BCSD ESBs & chargers
June 2021: NYSERDA approves BCSD grant
Challenges

- Do it yourself, or Turn-key model?
- Funding
- Scrappage & Mileage: 2009+, 2,500 miles/2yrs
- Infrastructure: charging, trenching, etc.
Lessons Learned

● Do your research
● Find helpers and allies
● Plan for short term and long term
● Educate the decision makers (Admins, Board, others)
● Explain to the public
Sergio Alfonso
Director of Transportation
White Plains City School District
sergioalfonso@wpcsd.k12.ny.us
Electric Buses: Exploring Funding and Technology

Thank you!

Want to learn more?
Please contact ANCA Clean Energy Program Director Jerrod Bley at energy@adirondack.org or 518.891.6200.