



Highland

Improving Student and Community Health

Student Health

- A child riding inside a diesel school bus may be exposed to as much as 4 times the level of diesel exhaust as someone riding in a car ahead of it.
- Exposure of children to diesel exhaust while riding in a school bus for 1–2 hours a day, 180 days a year for 10 years might result in 23–46 additional cancer deaths per 1 million children.
- More exposure to air pollution is linked to a higher rate of serious illness and death from respiratory illnesses including COVID-19.

Community Health

On average, African Americans and Latinos breathe in about 40 percent more particulate matter than white Californians. Asians Americans are exposed to about 20 percent more pollution.
– [Union of Concerned Scientists](#)

Climate Health

“Charged on the California grid, an electric school bus will see 286 short tons lifetime GHG reductions over diesel bus.” This is the equivalent of over 4 passenger vehicles
– [Argonne National Laboratory AFLEET tool](#)

Enhancing Student and School Performance

- Pollution leads to lower academic performance - Reducing bus pollution is more cost-effective at raising test scores than smaller class sizes.
- The effect of lowering school bus emissions district-wide on English test scores is larger than the effect of going from a rookie teacher to one with five years of experience
- Retrofitting an entire district's fleet is at least as effective as moving all students from a district with average air pollution levels to one with air pollution levels in the 10th percentile



Why Hasn't Electrification Happened Yet?

Affordability

- Electric buses have a high upfront cost
- Additional price of charging infrastructure

Complexity

- Grant processes and scrappage requirements complicate processes for school districts
- Charging infrastructure installation and utility coordination
- Charge management
- Driver and Driver Training

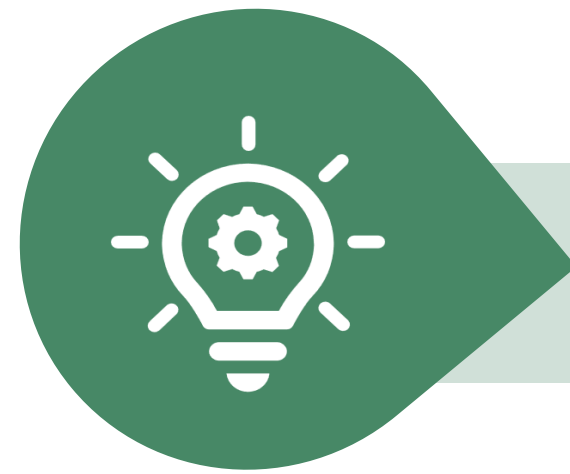
Risk and Reliability

- Concern for reliability of technology
- Financial risk



About Highland

The Story



Founded 2018



Headquarters
Beverly, MA
Denver, CO

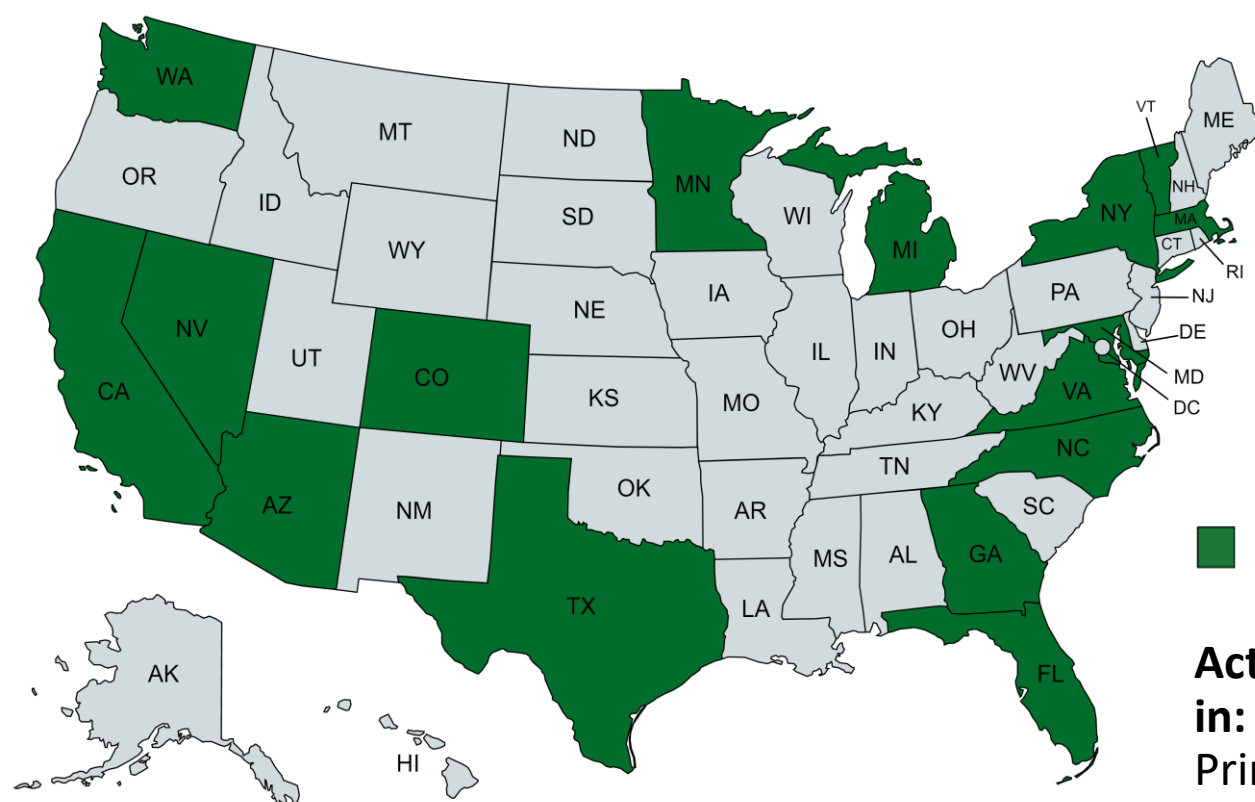


Corporate Funding
\$253 Million



Pioneering P3
300+ Buses
Largest electric bus buyer
Largest U.S. project

Where We Are



Active and Pipeline Projects

Active and Pipeline projects also in: Ontario, Alberta, Nova Scotia, Prince Edward Island & Saskatchewan

What We Do



Your Drivers
& Mechanics



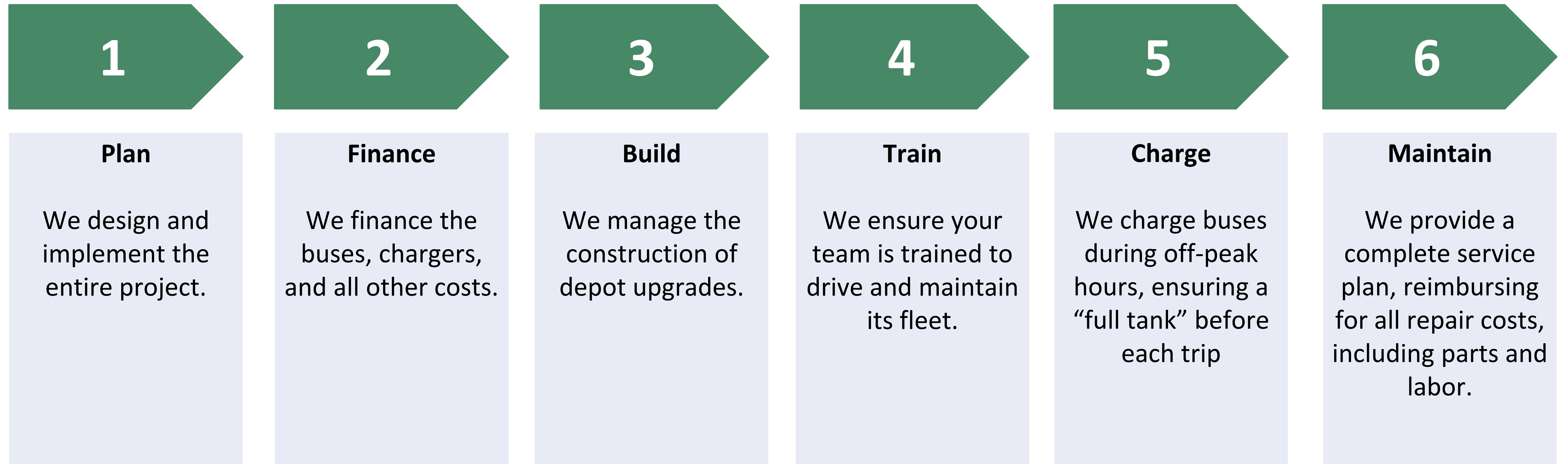
Our Buses
& Chargers



Integrated EV Fleets
on a Fixed Annual Contract



We take on six activities to make electrification simple

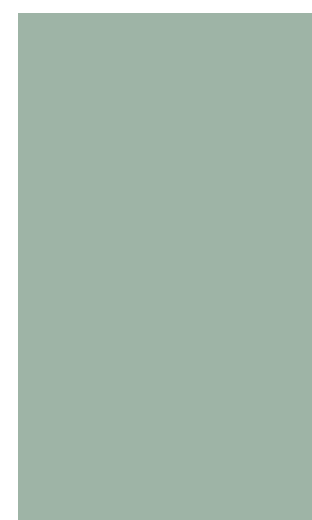


Highland creates affordability by stacking values

Total Project Cost



Without Highland



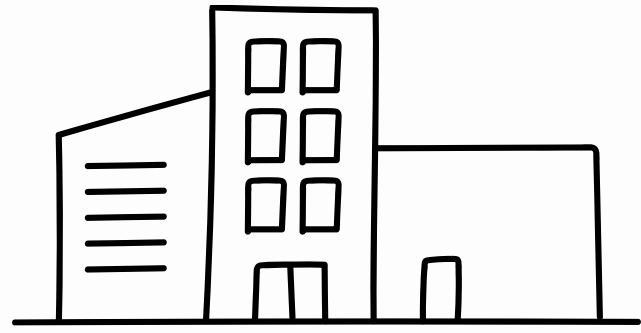
With Highland

Stacked Savings



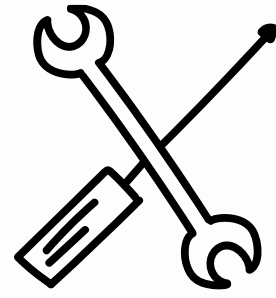
- Multi-Year Contracts
- V2G Revenue
- Grants/Future Incentives
- Volume Pricing
- Tax Depreciation
- Maintenance Savings
- Fueling Savings

Small District Case Study: Beverly, MA



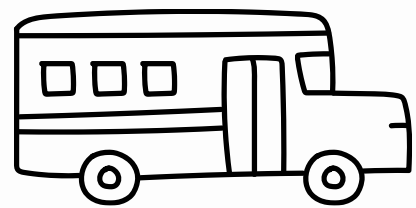
Plan/Finance

We partnered with Beverly's Transportation Director, Dana Cruikshank, and his team to implement a 2-bus pilot that's now expanding to 30 buses.



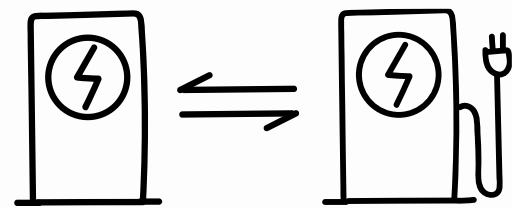
Train

We trained Beverly's drivers and mechanics on how to use and maintain the electric vehicles.



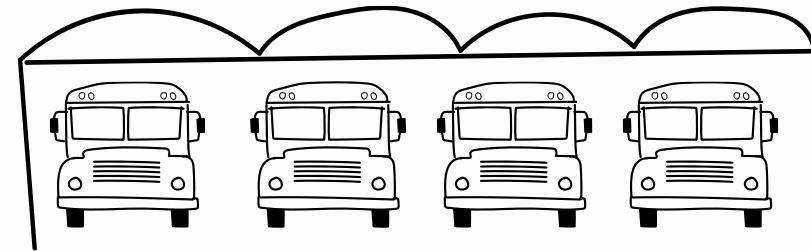
Fleet Build

Beverly selected Thomas-Proterra C2 Jouleys for their fleet, designed to their specifications.



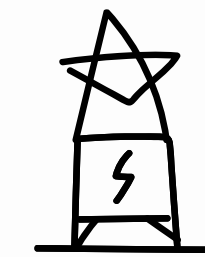
Bus Charging

We installed high power, bi-directional charging stations to fully charge buses 2-3 hours.



Depot Build

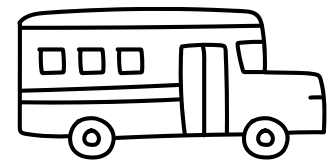
We future-proofed Beverly's depot by installing infrastructure for 24 buses.



Depot Charging

We powered the site in partnership with National Grid, enabling vehicle-to-grid connectivity.

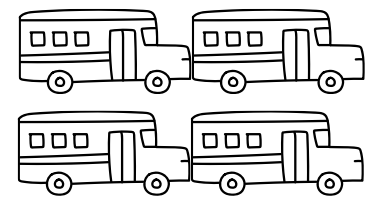
Large District Case Study: Montgomery County, MD



Working with a fleet of 1,422 buses over serving 209 schools



Full fleet electrification over 12 years



Electrifying 326 buses over the first four-year phase of the project.



Highland broke ground in first of five depots to be electrified in April 2021, completed infrastructure installation by the end of August, and started delivering buses in November.



Why Now?

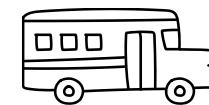
Federal and State Incentives

- Infrastructure package passed in Fall 2021 includes up to \$5 Billion for electric school buses
- First round of funds are expected to become available in April 2022
- Projects with certain elements (e.g., cost-share) will likely receive priority treatment during the second round of funds
- There is competition forming between districts to ensure they are first in line for the incentives and get access to manufacturing slots
- Earlier this year, Governor Kathy Hochul committed to fully electrifying New York's school buses by 2035
- NYSERDA's New York Truck Voucher Incentive Program

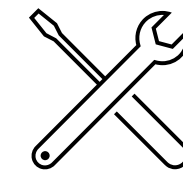
Reliable Products, Major Manufacturers



Major OEMs and new entrants are committed to an electric future



Availability across all major types of school buses: A, C and D



Maintenance is now available from the same shops you use today

Risk Reduction

- Electric buses have been refined through use by school districts over the past 5 years and now 1,700+ are on the road
- Prices are falling and the transition is underway; those that begin to act now will be better positioned to benefit
- Companies such as Highland are available to take on the remaining risks - Financial and Logistical.