



June 24, 2024

Attn: Christopher Cook Regional Transit Authority 2817 Canal Street New Orleans, LA 70119

Subject: New Flyer BID-22-316-IS; RTA Turnkey Infrastructure and Charging Equipment

Dear Mr. Cook:

New Flyer of America Inc. is pleased to submit this project and costing from New Flyer Infrastructure Solutions[™] (NFIS). This proposal includes a turn-key proposal for electric vehicle charging infrastructure at the RTA facility at 2817 Canal Street in New Orleans, Louisiana to accommodate depot electric bus charging equipment and proposed modifications along Lake Forest Road near the intersection with Read Blvd to accommodate on-route electric bus charging equipment. Please note that recent conversations have illustrated the controversial nature of siting a charger along Read Boulevard. New Flyer is prepared to provide design materials to support that location, but additional site investigations may require additional services, which would be quoted at a later date.

Pricing

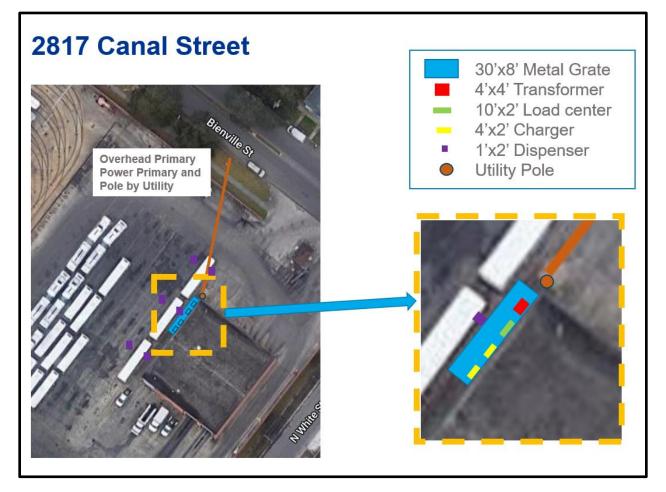
See Pricing Schedule for all pricing, with the following conditions:

- Prices are valid for 90 days for equipment to be delivered and installed no later than Q1 2024. 5% APR cost adjustment per year shall apply for later deliveries.
- Listed prices are before sales taxes. Sales tax exemption certificate to be provided with the PO.
- Payment due date is based on standard 30 days from date of invoicing.
- Payment Terms:
 - For Project Management, Engineering, Construction, Installation work: Payments will be based on monthly progress payments.
 - For charger equipment: 85% upon charger delivery, 10% upon commissioning, and 5% upon acceptance of the charger equipment.
- Alternative Charging and Switchgear Equipment Credit:
 - If NORTA can accept the following payment term for equipment (20% upon PO, 65% upon delivery of equipment, 10% upon commissioning, and 5% upon acceptance), a credit of \$6,310 will be applied to the total price.



Description	Price
2817 Canal Street Turnkey Project for 2 - 180kW Heliox	\$ 1,198,480
Chargers and 6 Dispensers	
Read and Lake Forest Blvds Turnkey Project for 1 - 360kW	\$ 1,364,186
Heliox Overhead Charger and Pole-Mounted Pantograph	
Extended Survey Services - Read and Lake Forest Blvds	\$ 117,300
Library Site	

Conceptual Plan – 2817 Canal Street Plug-in Chargers





Project Scope – Plug-in Chargers

The detailed project scope includes the following elements. Scope is based on assumed distances between equipment and standard site conditions. If distances or site conditions differ from assumptions, a change order or credit will be necessary.

Project Management:

- New Flyer utilizes ProCore PM software platform
- Management and documentation of engineering coordination meetings
- Management and documentation of construction coordination meetings
- Project Controls: Schedule and change order cost control
- Utility Coordination

Depot Chargers

- New Flyer Infrastructure Solutions Consulting and Commissioning 2 Heliox 180kW Plug-in Chargers and 6 Dispensers (1 charger to 3 dispenser arrangement)
- 2 years Standard Heliox Warranty on chargers
- Freight to site
- Dispensers include a 7m CCS-1 Cable
- BABA Compliant
- Parallel charging capabilities

Charge Management System, Hardware, Software

• 1 year Charge Management System ChargePilot by Mobility House for 6 dispensers.

Engineering: Plans signed by a Professional Engineer certified in the State of Lousiana

- Electrical: 30%, 90%, construction/permit and as-built drawings
- Civil: 30%, 90%, construction/permit and as-built drawings
- Structural: 30%, 90%, construction/permit and as-built drawings

Electrical

- Coordinate with local utility on service equipment and distribution. New electrical service from the overhead utility infrastructure along Bienville Street to pole at corner of building by Utility.
- Installation of (2) 180-kW Heliox chargers with (6) dispensers at the depot. Chargers will be elevated and located outdoors on the west side of the existing building on site.
- Power and control conduit and wiring for distribution associated with the new chargers and dispensers at the depot. Power and control wiring to dispensers shall allow for dynamic charging capabilities from the Heliox chargers with individual runs to each dispenser.
- Provide coordination study and circuit breaker settings for electrical service equipment at both new electrical services.



<u>Civil</u>

- Site Topo and Utility Survey
- Pavement Marking and Design
- Erosion Control Plans

Structural

- Elevated steel/grated platform with stairs and guardrails for access to depot charging equipment and associated electrical distribution equipment. Structure is assumed to be approximately three feet above grade and provide sufficient electrical clearances for operation and maintenance of equipment.
- Protective bollard layout for (6) dispenser locations

Permitting:

• Obtaining all required permits and inspections

Charging Equipment Installation:

- Unload and place all equipment.
- Terminate all wire connections.

Construction:

- Utility Service
 - Conduit for utility from pole at corner of building to transformer
 - Utility to provide and install primary wiring from street to transformer, including pole and transformer
- Switchgear/Electrical Equipment
 - o Switchgear to accommodate new load
- Install 12 bollards to protect dispensers
- Elevated steel/grated platform with stairs and guardrails for access to depot charging equipment and associated electrical distribution equipment. Structure is assumed to be approximately three feet above grade and provide sufficient electrical clearances for operation and maintenance of equipment.
- Charging Equipment
 - Charger conduit, wiring, installation, and terminations:
 - Primary conduit 20' of 3"
 - AC Conduit and Wiring Transformer to switchgear (assumed 20') and switchgear to charger (assumed 25')
 - DC Conduit and Wiring Approx. 550' for Charger to dispensers
 - Comms Conduit and Wiring Approx. 350' distance from charger to dispensers
 - Installation, testing and commissioning.
 - o 6 Dispensers will be mounted along bus parking lane
- Parking Lot Pavement Construction
 - Cutting and patching for the installation of service conduits.





Conceptual Plan – Read and Lake Forest Blvds On-route Charger

Project Scope – On-Route Charger

The detailed project scope includes the following elements. Scope is based on assumed distances between equipment and standard site conditions. If distances or site conditions differ from assumptions, a change order or credit will be necessary.

Project Management:

- New Flyer utilizes ProCore PM software platform
- New Flyer Infrastructure Solutions Consulting and Commissioning
- Management and documentation of engineering coordination meetings
- Management and documentation of construction coordination meetings
- Project Controls: Schedule and change order cost control
- Utility Coordination

On-Route Charger

- 1 Heliox 360 kW Overhead Opportunity Charger
- 1 Opportunity Charger Mast and Pantograph



- Freight to site
- BAA Compliant

Charge Management System, Hardware, Software

• 1 year Charge Management System ChargePilot by Mobility House

Engineering: Plans signed by a Professional Engineer certified in the State of Louisiana

- Electrical: 30%, 90%, construction/permit and as-built drawings
- Civil: 30%, 90%, construction/permit and as-built drawings
- Structural: 30%, 90%, construction/permit and as-built drawings

Electrical

- Coordinate with local utility and design service equipment and distribution.
- Modifications to roadway lighting to accommodate the cut-away for on-route charging.
- New electrical service from the overhead utility infrastructure along Read Boulevard for on-route charging equipment. Coordinate with local utility and design service equipment and distribution.
- Power and control conduit and wiring for distribution associated with the new charger and overhead pantograph pole for on-route charging.
- Provide coordination study and circuit breaker settings for electrical service equipment.

<u>Civil</u>

Civil plans will design a bus cut-away along the south side of Lake Forest Road just east of Read Blvd to accommodate on-route electric bus charging equipment. The Civil plans include modifications to the roadway, drainage, and sidewalks for the cut-away. The civil plans will include:

- Horizontal Design and Vertical Design, Right of Way Plans, Cross Sections
- Closed System Drainage Design
- Pavement Marking and Design, Signing Plans
- Utility location plans
- Erosion Control Plans
- Construction Quantities
- Site (1 Acre) Utility and Topo Survey

Structural

- Protective bollard layout for (6) locations
- Equipment pad for (1) on-route charger and associated electrical distribution equipment.
- Foundation for on-route overhead pantograph pole structure.

Permitting:

• Obtaining all required permits and inspections

Charging Equipment Installation:

• Unload and place all equipment.



• Terminate all wire connections.

Construction:

- Utility Service
 - Transformer and primary wiring by Utility.
- Switchgear/Electrical Equipment
 - New switchgear to accommodate 360 kW Charger
- Install 6 bollards to protect all new equipment
- Structural footing for 1 overhead pole/mast mounted pantograph.
- Charging Equipment Installation
 - Charger conduit, wiring, installation, and terminations:
 - 100 lineal feet of Landscape trenching, backfill, and restoration
 - AC Conduit and Wiring Transformer to switchgear (assumed 100') and switchgear to charger (assumed 35')
 - DC Conduit and Wiring 30' distance from Charger to dispensers
 - Communications Conduit and Wiring 30' distance from charger to dispensers
 - o Concrete equipment pads, installation, testing and commissioning.
 - o 1 Pole/mast mounted Pantograph will be erected on footing.
- Modifications to the roadway, drainage, and sidewalks for the cut-away

Project Scope – Extended Survey Services

The base scope includes standard topo and underground utility survey for the identified areas of work. If determined that the work at the Library parcel requires a Re-sub, per state law, the following scope is added under this proposal item:

- The entire 54 acre parent tract must be boundary surveyed.
- Permanent structures, fields, and parking areas must be identified.
- Topographical and utility information is minimal.
- Re-zoning is not included.

Project Schedule

• An approximate project duration schedule is shown below based on 2024 contract, engineering, and construction.

Estimated Duration	Activity
June 2024 - Start	RFP update submission
July 2024	Provide New Flyer with contract and Notice-to-Proceed
Aug-Oct (3 Months)	Order Charging Equipment, Infrastructure Engineering/Design Reviews, Utility
	Coordination
Nov-Feb (4 Months)	Permitting, Advance approval of long lead items
Mar-June (4 Months)	Infrastructure Construction and Charger Installation
July 2025 (1 Month)	Charger Commissioning
14 Months	Total



Proposal Assumptions

New Flyer's Turn-Key Project approach is based on the following assumptions:

- a. NFIS will coordinate with Manufacturer for all charger related specs, technical coordination, scheduling, testing and acceptance of charger and functionality.
- b. Sites visits are included in the proposal (project site coordination, engineering, construction phases, and equipment commissioning)
- c. New Flyer is prepared to provide design materials to support that location, but additional site investigations will require additional services, which would be quoted at a later date.
- d. Exclusions to installation:
 - i) Any repaving or parking lot modifications, beyond those related to this work.
 - ii) Design modifications to existing or future service entrances, electrical systems, building features.
 - iii) Removal and remediation of Soil contamination
 - iv) Boulder removal
 - v) Increased demolition/soil disposal due to adverse soil conditions
 - vi) Removal of underground structures / debris
 - vii) CEQA costs and coordination
 - viii) Site lighting and security camera systems
 - ix) Site beautification requirements
 - x) Utility power quality issues
 - xi) Liquidated damages currently not priced
 - xii) Bonding currently not priced
- e. NFIS will be onsite with manufacturer for Charger Commissioning including:
 - i) Management of manufacturer power-on and start-up
 - i) Commissioning and integration of NF buses with chargers
 - ii) Agency will allow commissioning team to collect and analyze charge data produced by charge management system.
- f. Mobility House ChargePilot charging and energy management system is included for 1 year. Pricing for packages up to 5 years is available upon request. Note: After year 1 is complete, customer can extend the annual subscription to Change Management system directly with the Mobility House. Annual cost for Software License is \$1,440 per dispenser and \$900 per site for Cellular Connectivity.
- g. New Flyer is aware of the outbreak of Coronavirus (commonly known as COVID-19) or any mutation of such virus which is impacting or may impact normal business and supply chain. New Flyer hereby reserves the right to amend the delivery date/schedule set out in this proposal.



New Flyer Infrastructure Solutions

New Flyer Infrastructure Solutions[™] (launched early 2019) is a full-suite service, with a team of subject matter experts and engineers that guide zero-emission infrastructure projects through the process. The New Flyer Infrastructure Solutions[™] team's sole purpose is to support and carry out electric bus mobility projects including: planning, engineering, construction, commissioning, and procurement, as well as determination of wayside or depot charging needs. The Infrastructure Solutions[™] team has a combined experience of over 100 years of Electrical, Mechanical, Civil and Transportation experience.

Project Management

Project success hinges on the project team's ability to build, maintain and manage relationships with stakeholders. We will support with project messaging, developing effective outreach and engage stakeholders within your team. We use proven strategies, to engage project stakeholders early, often and throughout planning, design and implementation.

Our approach is focused and proactive so that teams address stakeholder input as it is received and create positive experiences while reducing the demand on your public relations staff.

Single point of contact Leadership

It is important to find a team who will understands New Orleans RTA's requirements and execute them right, the first time. From pre-planning to post-construction, we have the right resources to make a project successful. Carefully aligning your Scope of Work alongside the skills of our professionals, the experience of the team presented will design and build New Orleans RTA's charging stations in a seamless, timely and cost-effective fashion. Specifically, the team can support New Orleans RTA's program with its collective experience executing nation-wide design-build program management, multi-site permitting and utility coordination. As projects progress, skill sets and levels of effort change and it is our job to ensure the resources needed for your project are always maintained.

The program management team will consist of a combination of core competences to serve this project in a manner it deserves.

Risk Management

Effective risk management is essential for the success of any project. The ability to identify and address risk is vital to controlling costs and maintaining project schedules. Our risk management concepts are based on an analytical approach that allows for early identification of areas of high concern and their potential cost and schedule impacts.

Project Team

The New Flyer team will include the following subcontractors and suppliers – Heliox (Charging Equipment), The Mobiility House (Charge Management Syastem), Kimley Horn (Engineering), and construction will be procured once engineering is complete.



Heliox - Technical Specifications

heliox

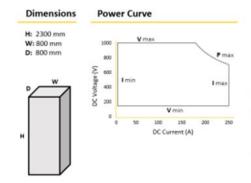
FLEX 180 kW CE/UL 3 x 60 kW





Charge any CCS compatible EV with up to 180 kW in flexible configurations. Performing at industry's highest efficiency of up to 95.5%. A fast and high-efficiency solution for a single vehicle, or a 3-vehicle fleet at 60 kW simultaneously. By adding the internal power router option, the FLEX 180 kW can dynamically reconfigure between 60/120/180 kW per charging connector dependent on EV requests and availability.

Modular product design provides optimal system redundancy and allows for upgrading the charging power to 360 kW with parallel products. The FLEX 180 kW only requires front access and minimum clearance area through optimized thermal management easing serviceability. The charging system can be composed using CCS and automated connection devices, thereby securing vehicle manufacturer compatibility.



CE

General	Charger	
Charging standard	IEC61851-1/23 / SAE J1772 / SAE J3105	
Communication standard	IEC61851-24 / DIN70121 / ISO15118- 1/2/3 ed1 (incl. V2ICP/VDV261 support)	
Compliance and safety	CE / IEC61851-21-2 / UL 2202 / UL 2231	
Output DC voltage range	150 - 1000 V	
Rated DC output power	Single output: 180 kW Triple outputs: 60 kW each	
Maximum DC output current	Single output: 250 A Triple outputs: 83 A each	
Input connections, Frequency	3P + PE (G) / 3P + N + PE, 47-63 Hz	
Full load / idle input power	205 kVA / 100 VA	
According to certification	CE	UL
Input line-line voltage range	400 V AC +/- 10%	480 V AC +6/-13%
Input max. AC phase current	300 A, no inrush	283 A, no inrush
Power factor above 50 % rated	> 0.98	
Peak efficiency	95.5%	
Dielectric withstand	3000 V	
Network cellular back office	4G modem, LAN OCPP 1.6J/2.0, ChargeSight	
Temperature range	- 30 to 45 °C	-22 to 113 °F
	derating may apply	r
Operational noise level	<60 dB(A) @ 1 m	
System weight	600 kg	1323 lb
Protection	IP54 / IK10	NEMA 3R
Environment operating	ISO 12944: C4 H, optional C5 H	

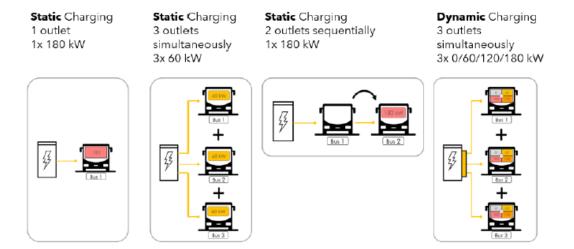
Specifications subject to change without notice





Heliox FLEX[™] Charging System

Heliox offers the versatile Flex Charging system. Below is an overview of the charging configurations possible. The Flex 180 kW charger provides 4 different charging options to provide maximum charging flexibility to the fleet operator.



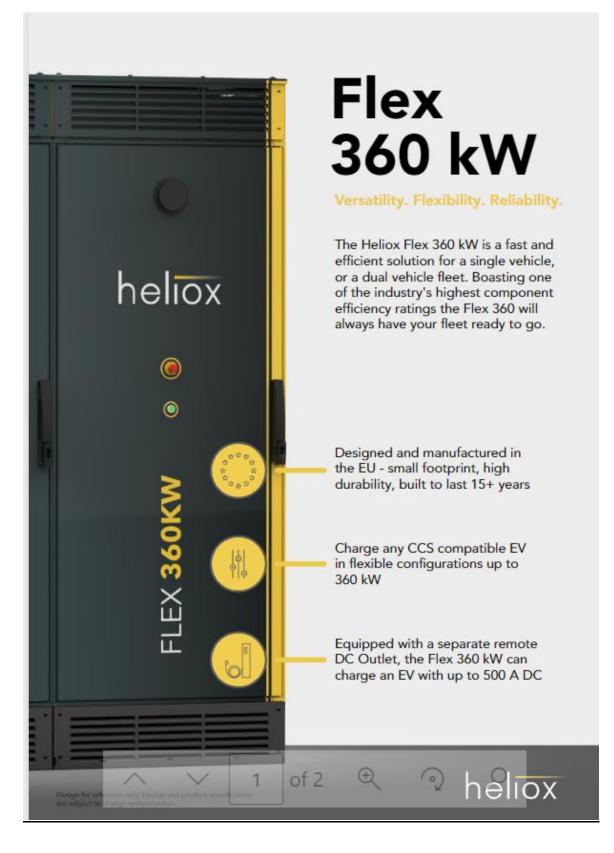
Static Charging (1 x 180 kW) for those charging situations where a single vehicle requires a rapid opportunity charge. In this case the dispenser cable is attached directly to the charger cabinet and the cabinet has to be installed at the charging location.

Static Parallel Charging (3 x 60 kW) is for standard depot charging where the vehicles have typically and overnight charge window. This configuration delivers the charge through three Charge Columns. The charge columns can be located up to 300 ft from the charger cabinet thus providing the fleet operator with flexibility in locating the charging location.

Static Sequential Charging (2 x 180 kW) sequentially. Delivering the charge through charge columns this configuration provides high powered rapid charging to two vehicles per charger.

Dynamic Charging.(multiple charge configurations). The unique power router in this configuration allows maximum flexibility of charger configuration where 60 kW, 120 kW and 180 kW can be delivered out of each of the three dispensers as required by the fleet operator.







Flex 360 kW



Versatile: Charge a single vehicle at 360 kW, or dual vehicle fleet 2x 180 kW simultaneously.

Reliable: Industry highest component reliability and system redundancy keeps your fleets' battery charged at all times. The charger is designed according to the IEC 61851 standard and is available in different configurations.

General

Charging standard	IEC61851-1/23
Communication standard	IEC61851-24 / DIN70121 / ISO15118-
	1/2/3 ed1 (V2ICP/VDV261 support)
Compliance and safety	CE / IEC61851-21-2
Power factor above 50 % rated	> 0.98
Peak efficiency	95.5%
Dielectric withstand	3000 V
Network cellular	4G modem, LAN
Back office	OCPP 1.6/2.0, Chargesight
Temperature range	 30 to 45 °C derating may apply
Operational noise level	<60 dB(A) @ 1 m
System weight	1200 kg
Protection	IP54 / IK10
Environment operating	ISO 12944: C4 H
Dimensions	H: 2300 mm, W: 1600 mm, D: 800 mm

Input

Full load / idle input power Input line-line voltage range Input max. AC phase current

Input connections, Frequency 3P + PE (G) / 3P + N + PE, 47-63 Hz 400 kVA / 200 VA 400 V AC +/- 10% 593 A, no inrush

Output

Output DC voltage range Rated DC output power

Maximum DC output current

150 - 1000 V Single output: 360 kW Dual outputs: 180 kW each in parallel OR 360 kW sequential Single output: 500 A

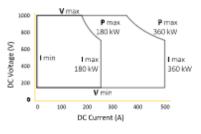
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Interfaces







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CE



Charge Management System

ChargePoint Charge Management System by Mobility House is provided in this proposal.

ChargePilot, an Open Charge Point Protocol (OCPP) compliant system, charges electric vehicle fleets intelligently, reliably and cost efficiently. With just one system, fleet managers can centrally monitor and manage all chargers, dynamically schedule charging across vehicles and chargers to reduce overall power demand, manage loads and keep track of fleet's energy consumption while charging. ChargePilot is modular and grows with your needs, providing the flexibility to design and plan for future growth. ChargePilot optimizes the use of available power, charging and energy infrastructure. ChargePilot processes different real-time parameters such as total available power, building load, electricity rates, vehicle battery State-of-Charge (SoC), and EV schedules, in order to optimize when and how much to charge each vehicle. The goal is to smooth out expensive peak loads ("peak shaving") and take advantage of low-cost charging windows, which significantly reduces electricity (e-fueling) expenditures. ChargePilot controls the charging cycle to manage the use of power from the utility grid for reduction of peak demand charges and general fleet charging management.

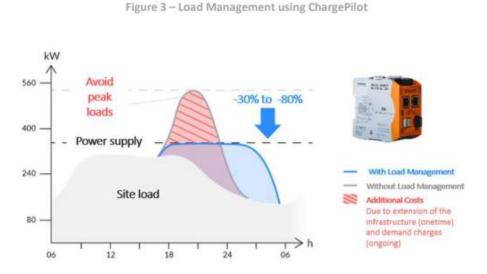
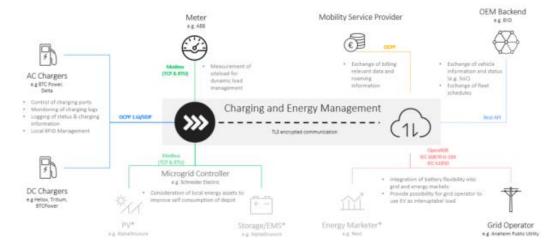


Figure below shows Charge Pilot's open system approach and different interfaces that enable the integration of several 3rd party systems such as chargers, onboard vehicle telematics systems, fleet management systems, microgrid controllers or distributed energy resources (DERs

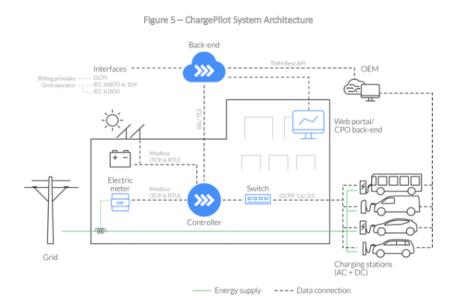


ChargePilot offers interfaces to various services and devices for an optimized management of energy and mobility



ChargePilot communicates with chargers such as the Heliox 180 Flex via the OCPP 1.6J or 2.0 communication protocol. ChargePilot communicates with onboard vehicle telematics systems such as New Flyer Connect via the system's open APIs. In the future, the integration with New Flyer Connect will be even more comprehensive via OCPP Proxy.

In order to ensure the highest level of reliability, the ChargePilot system architecture applies both local and cloud intelligence. All chargers are physically connected to an onsite controller using Ethernet and by thus fulfilling the low voltage requirement to reduce the simultaneous factor behind the fuse. The controller communicates with the charging stations using open-source communication protocol, OCPP and ensures that charging processes can be controlled even if there are network or internet connectivity issues. The following figure provides an overview of the architecture.





Charging Management Module

ChargePilot is available in a number of configurations. For transit, we recommend Fleet Charging and Energy Management module, in order to optimize charging around vehicle schedules, vehicle state of charge and electricity costs.

Fleet Charging and Energy Management includes:

• Remote monitoring of operational status and power distribution, data collection, and error handling, incl. remote start and shutoff;

• Remote charge management, user management and analytics via the web-based user interface;

• Optimization of charging considering available power or utility tariff (scheduling charging during off-peak hours), as well as vehicle schedules and vehicle energy demand;

• Allows for the input of EV schedules manually or via a 3rd -party fleet management systems. With this module:

i. Electric buses can be charged using a first-in-first-charged (FIFC) method wherein the vehicle which arrives and plugs in first get charged first.

or

ii. Electric buses are charged based on their schedule information (arrival time and departure time), as well as on the basis of the vehicle's energy demand (SoC requirement). iii. Charge ports can also be prioritized to provide full power to a specific vehicle that might have an urgent charging need. This module scales easily as the fleet grows and enables accurate control over the power drawn from the grid to minimize capital cost of electricity service upgrades as more charging ports are added. The controller installed on-site during implementation is capable of controlling over 70 charging ports without any upgrades.

The ChargePilot main dashboard shows the following information across sites:

- Available chargers (total, available, in-use, waiting, in-error chargers);
- · Grid limit;
- Fleet load (and site load) in near real-time.
- The user can select a specific site to view in detail and view the following information:
- Electric vehicle State of Charge;
- · Charging power per charging port;
- Energy consumption per vehicle;
- Fleet load (and site load) in near real-time.



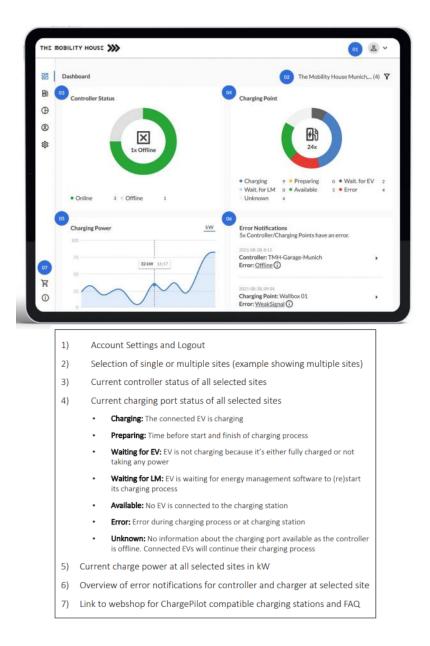


Figure below displays chargers' status, vehicle ID connected, charging power, SoC, plug in time and ability to control chargers remote at a single or multiple sites. Displays specific site with 6 chargers.



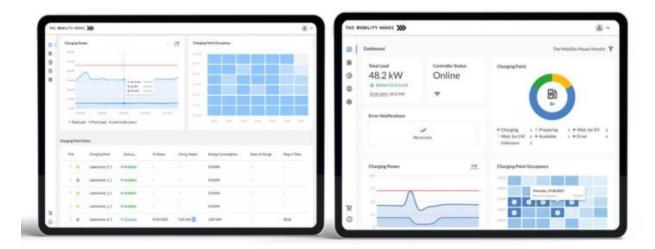
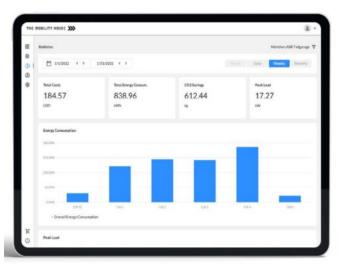


Figure below displays Depot statistics over a selected period with peak load, total power, total cost and CO2 emissions savings



Data collection and statistics

ChargePilot provides the hours of use per charger as well as the amount of electricity used per charger for a user-defined period. This defined period could align with peak and off-peak pricing periods to understand charger utilization in various periods. It also provides the amount of electricity used and the cost of electricity used per charging session per vehicle for various internal and external reporting purposes. This information can be seen on the ChargePilot dashboard or can be downloaded as a CSV file for analytics and reports.

Connectivity

The ChargePilot controller connects to the Heliox chargers via Ethernet. Internet connectivity for communication from the controller to the cloud backend can be provided via a 3G/4G/LTE cellular router or by connecting directly to the local Internet Service Provider (ISP).



Start-up, Testing and Commissioning Plan

New Flyer will oversee all start-up, testing and commissioning of the chargers with New Flyer buses. New Flyer has developed a process that has resulted in the successful commissioning of over 260 chargers across North America.

Each charger will undergo a thorough review of factory wiring by the manufacturer. The checkout will confirm the correct wiring, connections, and overall installation from the power cabinets to the dispenser. Mounting hardware will also be checked for conformance. Once complete, the unit will be powered on and go through extensive commissioning and be updated to the latest software. A report will be provided for each charger.

Once the start-up process is complete, chargers will be tested with buses according to all OEM standards. Bus logic will be monitored as initial connection is established. Once handshaking is complete, the bus will initiate the charge from the charger. Loading will be observed by the commissioning conglomerate of manufacturer and New Flyer teams to ensure a successful charge. Testing will continue on the bus with short and long charging sessions to meet or exceed the charger performance tests.

Upon completion, New Orleans RTA will undergo training on the chargers, the charging process, and basic maintenance.

We appreciate the opportunity to provide this updated proposal and stand prepared to start the work upon your issuance of a Notice-to-Proceed.

Sincerely,

Pat Jones

Pat Jones

Business Segment Director, Infrastructure Solutions

cc: Ryan Moser – RTA Zhaleh Parsaei Nicole Robertus Spencer Holmes



