



# xcelstor<sup>®</sup> TROLLEY-ELECTRIC

## Zero-emission mobility.

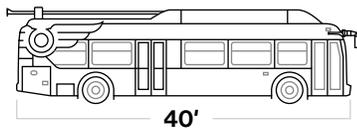


### Green transit solutions.

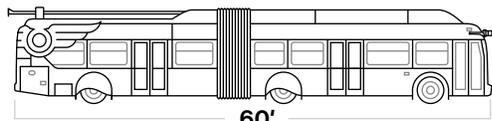
Deploying zero-emission technology is a critical part of reducing greenhouse gas (GHG) emissions.

Introduced to market in 1968, New Flyer's heavy-duty trolley transit bus can meet your transit agency's zero-emission needs today.

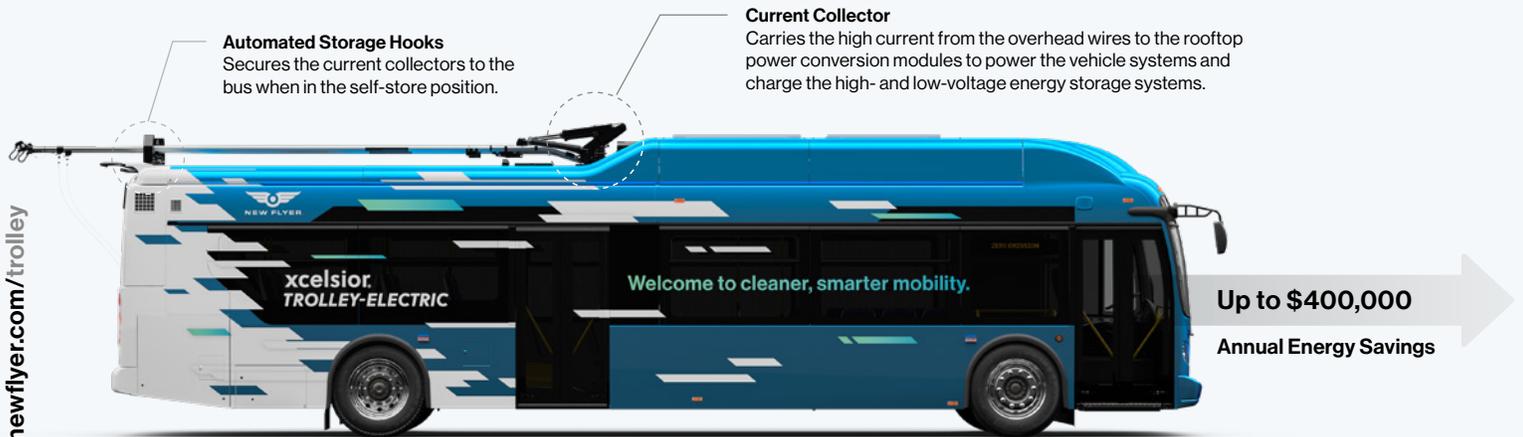
#### Available in 2 Lengths



40'



60'



**Automated Storage Hooks**  
Secures the current collectors to the bus when in the self-store position.

**Current Collector**  
Carries the high current from the overhead wires to the rooftop power conversion modules to power the vehicle systems and charge the high- and low-voltage energy storage systems.

Up to \$400,000  
Annual Energy Savings

# Benefits.



## In Motion Charging (IMC)

Powerful batteries are charged while the bus is in motion (using in motion charging technology), allowing for off-wire operation for several miles at a time. Buses can operate all day without needing to park and charge the batteries.



## Comfort & Accessibility

Low-floor entrances offer easy access for people with greater mobility needs, and the electric motor emits minimal sound which delivers a quieter, more enjoyable passenger experience.



## Streamlined Maintenance

An easy access aluminum compartment houses electronic units supplying power to the traction system and onboard electronics. In addition, reduced noise and vibration results in less wear and maintenance costs.



## High Performance & Reliability

Electronically regulated max speeds (of 40 MPH) and power management allow high performance through demanding grades, achieving traditional (clean diesel-level) performance when travelling outside the range of overhead wires.



## Sustainable & Eco-Friendly

Trolley-electric technology eliminates 100-160 tons of greenhouse gas emissions per year\*, the equivalent of removing 130-210 passenger cars from the road for one year.

\*Compared to a forty-foot diesel bus.



## Cost Efficient

Fuel cost savings delivered by in motion charging are up to \$400,000 over the 12-year life of the bus. Actual savings will depend on regional energy costs and charging methods.



## Why choose a New Flyer trolley bus?

New Flyer has been your trolley leader for more than 50 years, and offers unmatched expertise in the design and deployment of zero-emission transit buses.

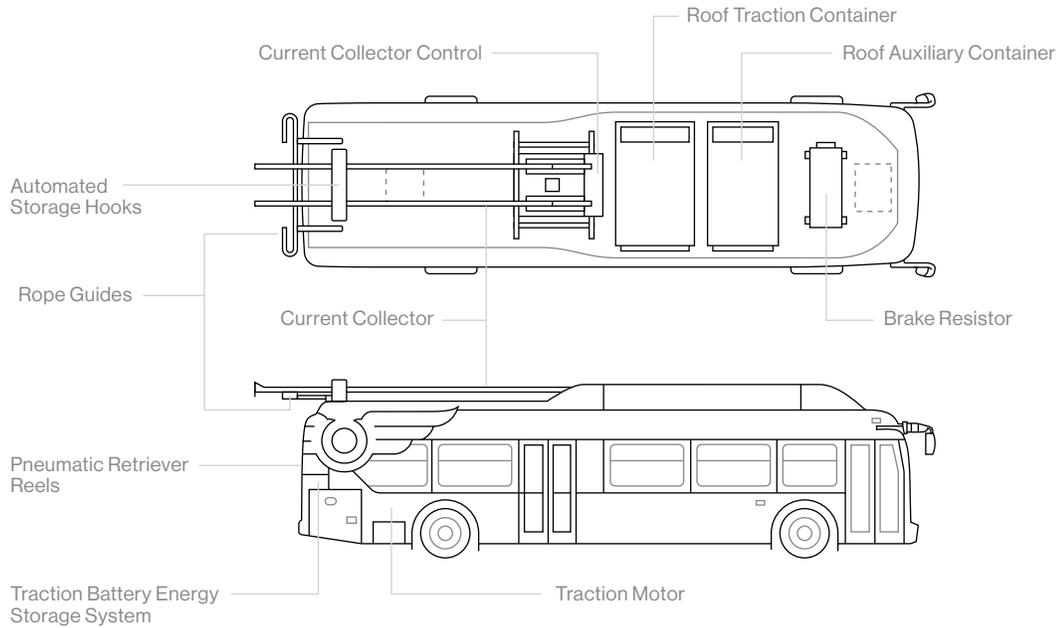
## Facts.

New Flyer has delivered over 1,700 trolley buses to transit agencies across the United States and Canada. Today, its trolley technology is built on the Xcelsior® transit bus model.

# How it works.

Xcelsior® trolley buses are powered with In Motion Charging (IMC), using electricity from overhead wires drawn by trolley poles and storing energy in onboard batteries (used to power off-wire operation).

Xcelsior® TROLLEY-ELECTRIC 40'



## Flexible Operation

Trolley-electric buses offer flexible navigation, able to depart (steer away) from overhead wires by several feet to avoid parked or stationary vehicles and other obstructions.

## Off-Wire Capability

With off-wire capability, trolley-electric buses can help reduce the need for, dependence on, and maintenance of overhead urban infrastructure.

# CONNECT 360™

Connect 360™ is included on every new Xcelsior® trolley-electric bus. Learn more at [newflyer.com/connect](http://newflyer.com/connect).

Powered by New Flyer Connect®, Connect 360™ performance dashboards offer custom real-time smart analytics to expand data-driven intelligence for managing your Xcelsior® trolley bus fleet.

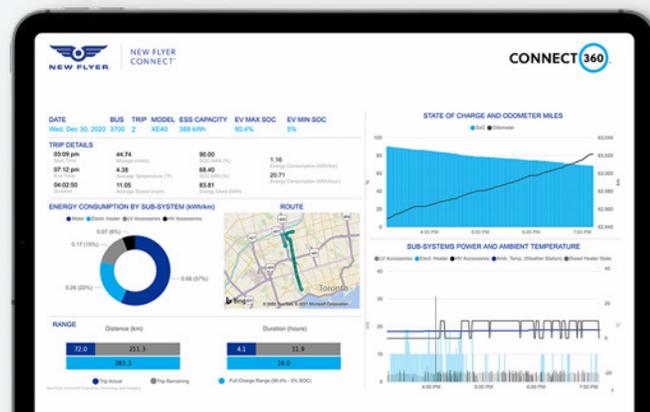
 **Additional range** capability with improved driver performance.

 **Decision-making information** to optimize charging strategies.

 **Intelligence** on how to preserve battery energy throughout the day.

 **Reduced operating cost** and maximum fleet utilization.

\*Xcelsior CHARGE® pure battery bus shown. Xcelsior® trolley is similar.



40'

60'

## Measurements

<b>Length</b>	41' 0" (12.50m) Over bumpers; 40' 2" (12.24m) Over body	60' 10" (18.54m) Over bumpers; 60' 0" (18.29m) Over body
<b>Width</b>	102" (2.6m)	102" (2.6m)
<b>Roof Height</b>	11' 1" (3.3m) Over charging rails	11' 1" (3.3m) Over charging rails
<b>Step Height</b>	14" (356mm)	14" (356mm)
<b>Front Step Height (Kneeled)</b>	10" (254mm)	10" (254mm)
<b>Interior Height – Floor to Ceiling</b>	79" (2m) Over front and rear axle; 95" (2.4m) Mid-coach	79" (2m) Over front and rear axle; 95" (2.4m) Mid-coach
<b>Tire Size</b>	305/70R22.5	305/70R22.5
<b>Wheelbase</b>	283.75" (7.2m)	229" (5.8m) Front / 293" (7.4m) rear
<b>Pole Overhang</b>	41.25"	41.25"

## Propulsion

<b>Motor</b>	Kiepe Electric	Kiepe Electric
<b>Rated Power</b>	246 kW	246 kW
<b>Rated Torque</b> (Based on 1:4.10 ratio axle)	2,138 ft-lb	2,138 ft-lb

## Passenger Capacity

<b>Seats</b>	Up to 40	Up to 61 (with one exit door)
<b>Standees</b>	Up to 44*	Up to 62 (with one exit door)*

## Accessibility

<b>Doors</b>	2	2 or 3 (option for up to 5 doors)
<b>Wheelchair Accessibility</b>	32" (813mm) wide, 1:6 slope; Flip out NFIL ramp, front door	32" (813mm) wide, 1:6 slope; Flip out NFIL ramp, front door
<b>Wheelchair Locations</b>	2 - Front location, rear location also available (other options available)	2 - Front location, rear location also available (other options available)

## Weight

(Approximate weights; \*Varies with ESS configuration)

<b>Curb Weight</b>	32,950 lb (14,940 kg)*	46,560 lb (21,112 kg)*
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## Approach Angle

<b>Approach/Departure/Breakover Angles</b>	9°/9°/9°	9°/9°/12° (front) 9° (back)
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## Turning Radius

(Body, with aluminum wheels; \*Varies with wheel type)

<b>Turning Radius</b>	43' (13.1m)*	43' (13.1m)*
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## Main Components

<b>Floor</b>	Marine grade plywood floor; Optional composite floor; Composite rear interior step; Tarabus, Altro, RCA floor covering	Marine grade plywood floor; Optional composite floor; Composite rear interior step; Tarabus, Altro, RCA floor covering
<b>Electrical System</b>	Parker Vansco/Kiepe	Parker Vansco/Kiepe
<b>Propulsion Cooling System</b>	Electric cooling fans	Electric cooling fans
<b>HVAC</b>	Thermo King TE15 (rear)	Thermo King RLFE (front) TE15 (rear)
<b>Axles</b>	MAN VOK 07 Front disc brakes; MAN HY-1350 Rear disc brakes; Single reduction axle	MAN VOK 07 Front disc brakes; ZF AVN 132 Center disc brake; MAN HY-1350 Rear disc brakes; Single reduction axle

## Energy Storage System

(\*Newer generation of ESS will improve off-wire range significantly.)

<b>ESS Capacity</b>	71 kWh*	71 kWh*
<b>Range (no HVAC)</b>	22.1 miles (35.6 km)	15.7 miles (25.3 km)



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[newflyer.com/trolley](http://newflyer.com/trolley)



**VIC** | VEHICLE INNOVATION CENTER

Learn more about this technology at the Vehicle Innovation Center  
[newflyer.com/VIC](http://newflyer.com/VIC)