



Lightning
Systems

What to Consider when Specing Commercial EVs for Maximum Uptime

Julie Johnson
Enterprise Account Manager
Lightning Systems, Inc.

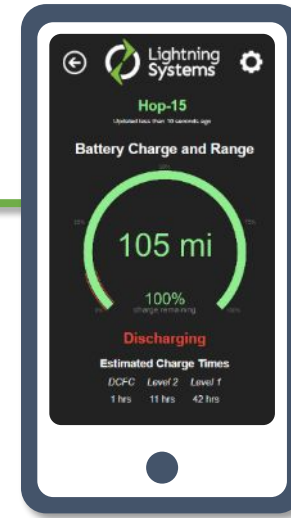
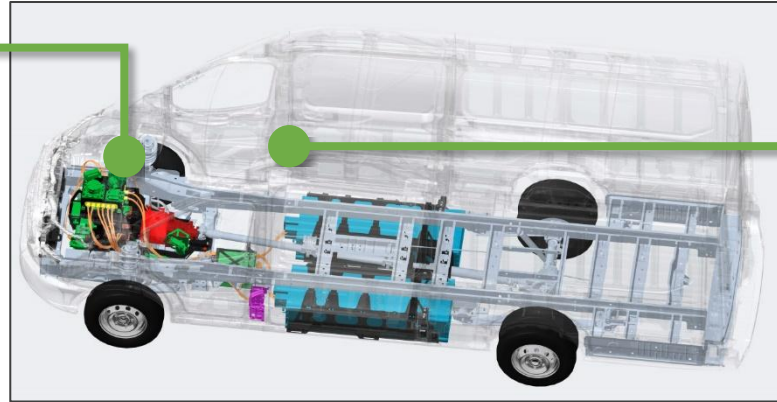


Our Mission

To build a sustainable commercial vehicle industry with zero emissions

Lightning Systems designs, manufactures, and installs all-electric powertrains and “fleet electric ecosystems” for medium- and heavy-duty vehicles

The Lightning Systems Fleet Electrification Eco System



EV POWERTRAIN

High quality, integrated system installed by our experts



EV SOFTWARE

Advanced algorithms, controls, and integration



EV ANALYTICS

Actionable fleet intelligence



EV Charging

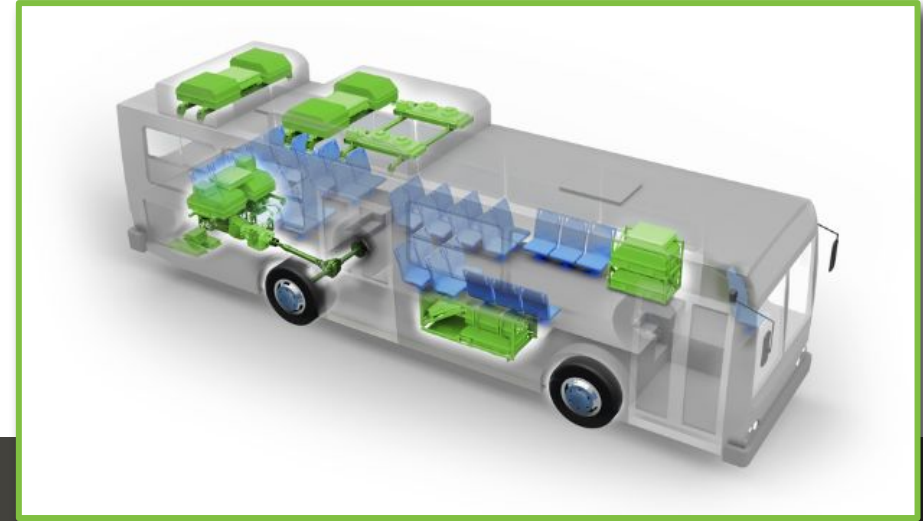
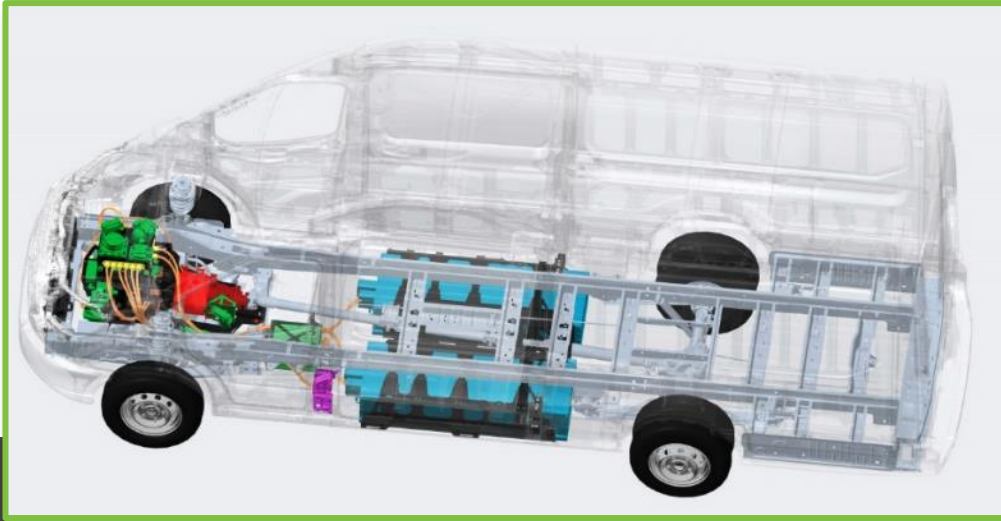
Charging solutions

Engineered with custom and off-the-shelf components

Proprietary deep integration with OEM vehicle

Critical to fleet success

Broad Applicability: New and Existing Commercial Vehicles



Convert **NEW** Vehicles

Shuttle buses
Delivery/work trucks
Short haul trucks

VEHICLES

Lower vehicle TCO than gas or diesel

ECONOMICS

Near OEM chassis plant

UPFITTER LOCATION

Repower **EXISTING** Vehicles

Shuttle buses
Transit buses
Delivery/work trucks

Up to 75% less expensive than new ZEV

Near customer deployment location

Electric Powertrains for Class 3-8 Vehicles

Repower EXISTING Vehicles

Convert NEW Vehicles

	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
TRUCKS	<p>Ford Transit 350HD</p> 	<p>Ford E-450</p> 	<p>Ford F-59</p>  <p>Ford F-550</p> 	<p>GM 6500XD</p> 		
BUSES	<p>Ford Transit 350HD</p> 	<p>Ford E-450</p> 	<p>Ford F-550</p> 		<p>Transit Bus Repower</p> 	<p>Transit Bus Repower</p> 



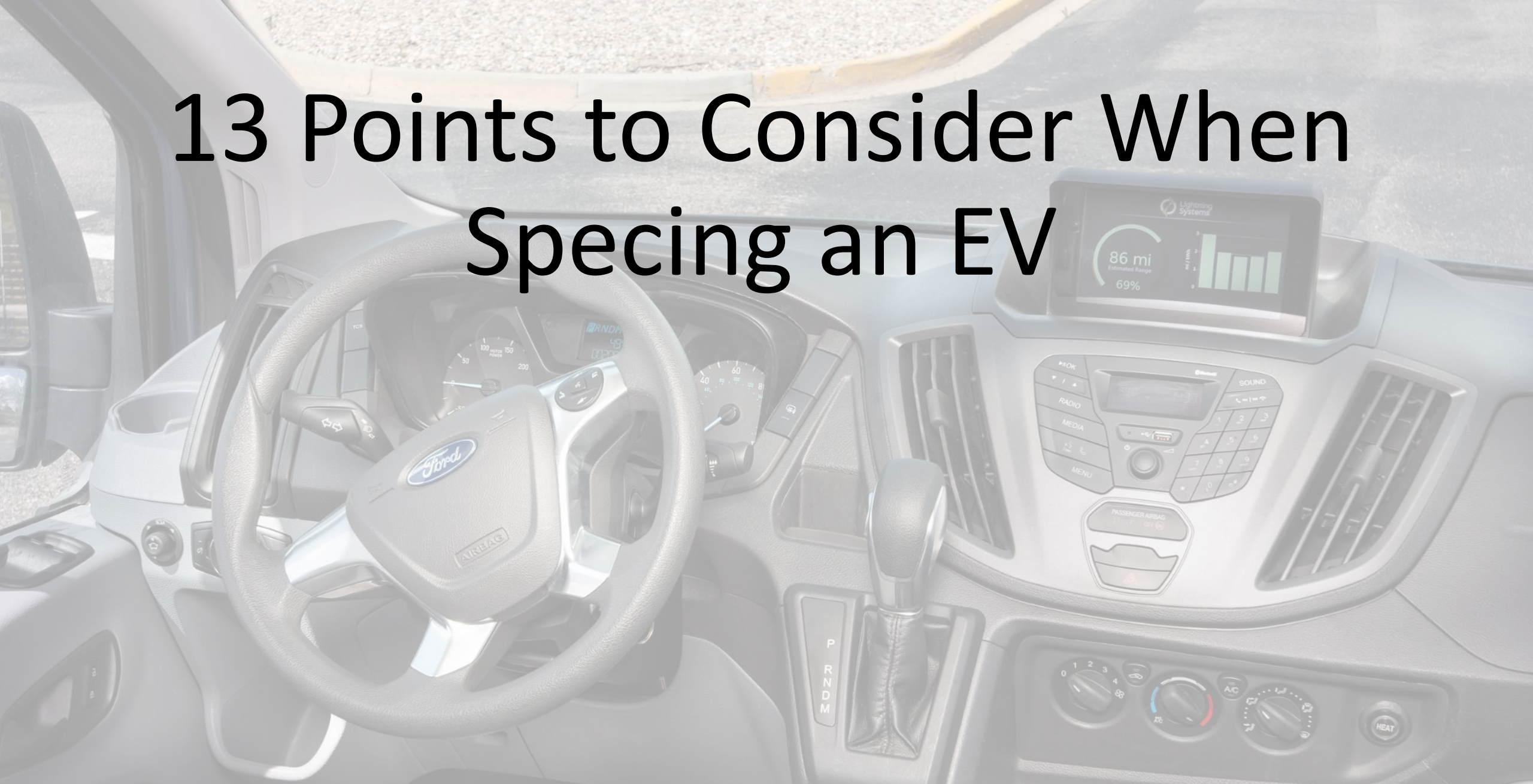
CARB Certified

Enabled and supported by



and their dealer networks

13 Points to Consider When Specing an EV



#1: Know Your Use Case



Learn exactly how this vehicle will be used.

#2: Conversion or Purpose Built

Are you more keen on working with a vendor that offers a proprietary product or one that converts major OEM vehicles to all electric?



OEM
Conversion



Proprietary



#3: Payload

What will this vehicle need to carry? Are you moving boxes full of mostly air or pallets of soda pop?



#4: Range

Most people go immediately to:

“give me maximum range”

or

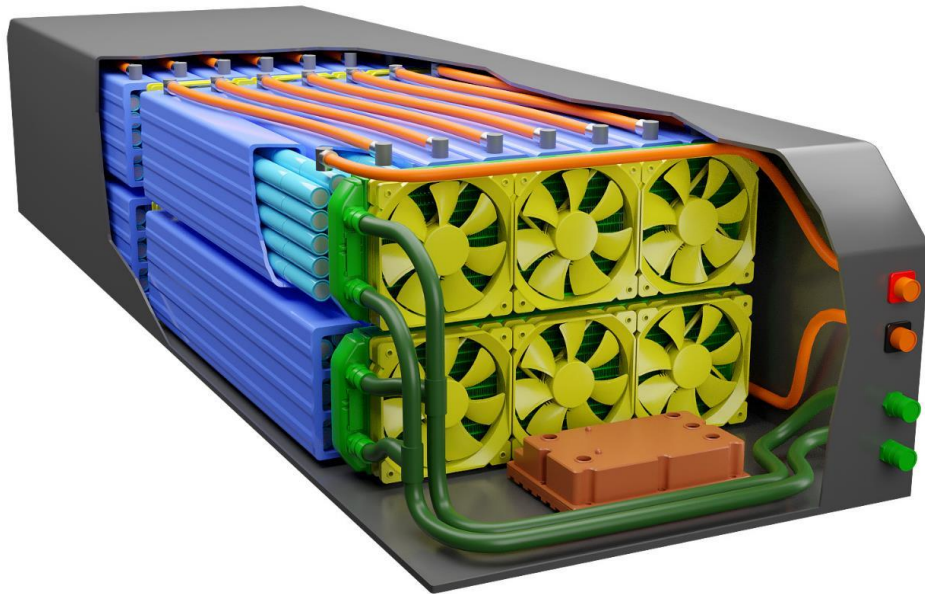
“here is my average range”

This approach can be costly and limiting.

#5: Batteries

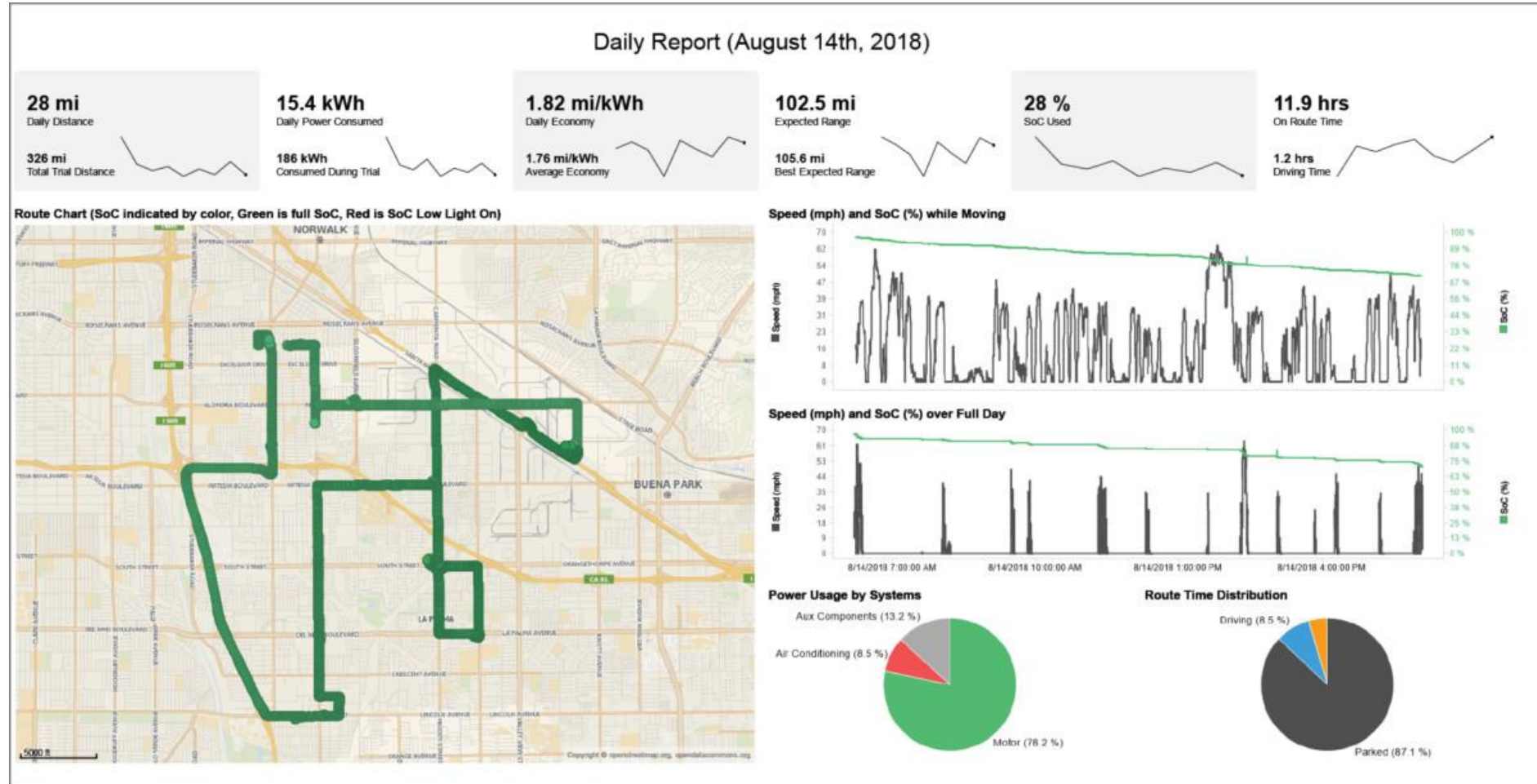
In the world of EVs, batteries are **everything.**

Specing a vehicle with high quality batteries will go a long way.



#6: Vehicle Analytics

A robust analytics application is **critical** to the effective deployment of an EV fleet.



#7: Maximum or Regulated Speed

Depending on your use case, you may want to specify a minimum top speed or that the speed can be “detuned”.

#8: Creep and Hill Hold

Creep is when you take your foot off the brake and the vehicle starts moving slowly. Hill hold is the vehicle's ability to stay in place on an upward hill.



#9: Buy America(n)

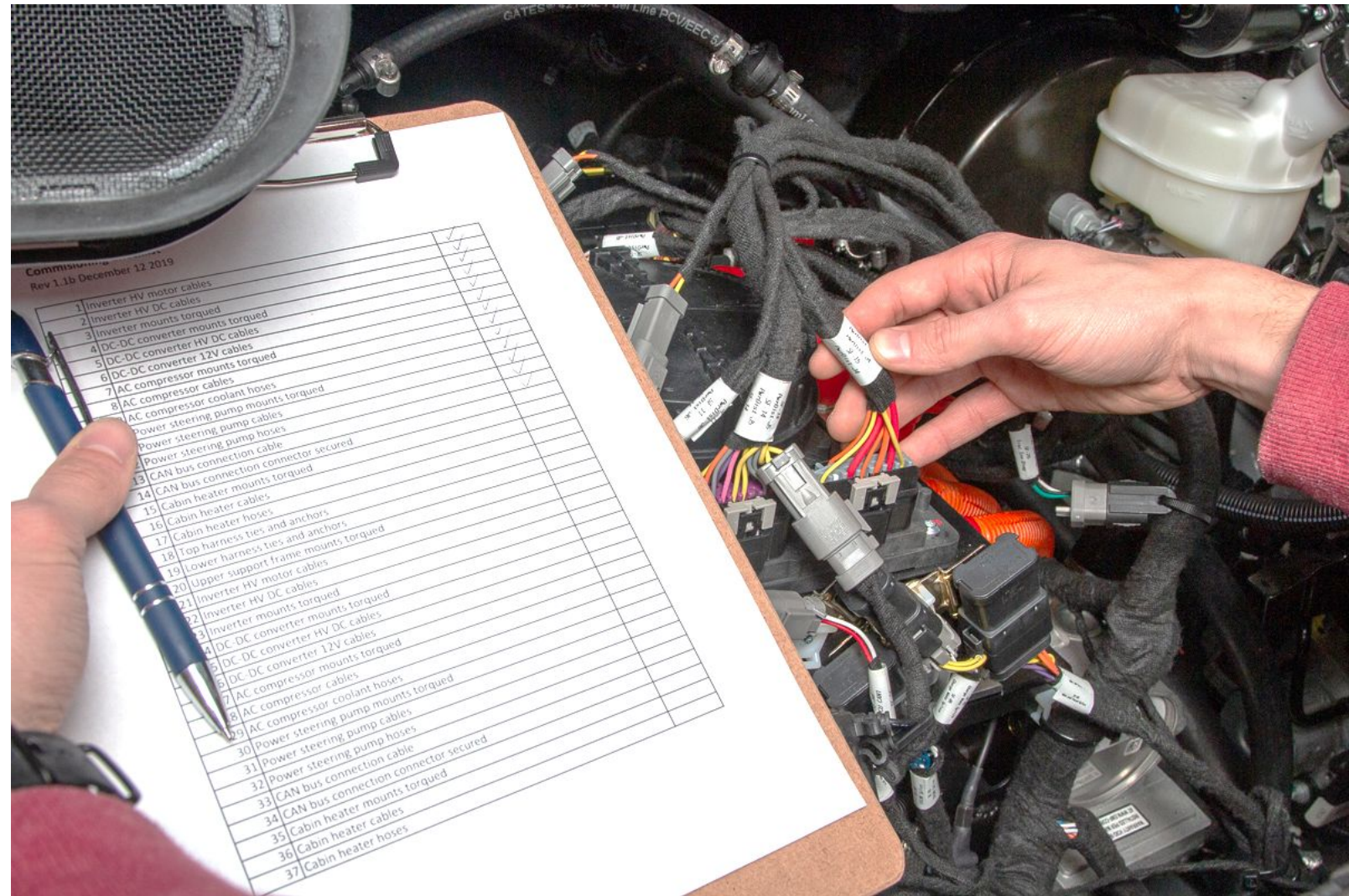


Buy America (Federal Transit) and **Buy American** (aviation surface transportation) may be mandated – and may just be the right thing to do.



#10: Vehicle and Component Quality

Quality is sometimes difficult to gauge, but there are ways to ensure your EV will stand the test of time.



The image shows the interior of a white van. On the left side, there is a workbench with a wooden top and a blue handle. The right side features metal shelving units with multiple shelves. The floor is a light-colored metal grating. In the background, the rear door of the van is visible. A small logo for 'PHENIX' is located in the top left corner. The overall scene is brightly lit, likely by interior van lights.

#11: Upfit Accessories

Know what accessories will be needed for the vehicle and be sure you can get what you need.



#12: Charging

Charging can be a charged topic but is the glue that holds an EV fleet together. Getting it right may well be harder than you think.



The DC Fast Charge port, SAE J1772 CCS Combo Type 1

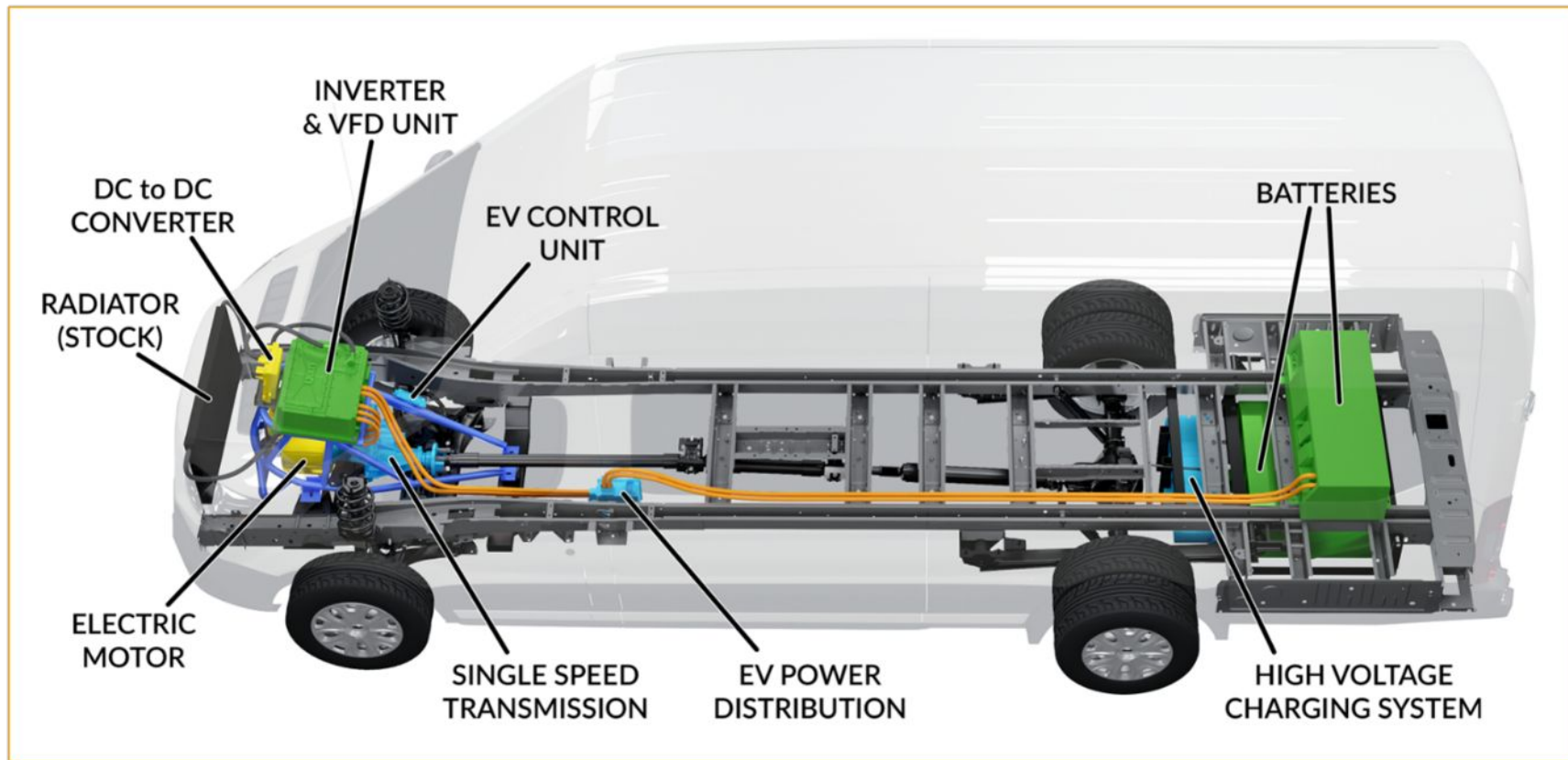
#13: Support and Training

Any fleet is useless if your team doesn't understand the vehicles or they are down for maintenance. Be sure you have the EV training, tools and support you need.



BONUS: Maintenance

Understand what will be required to keep your shiny new EVs on the road.





Lightning Systems

Fleets Powered by Lightning

Julie Johnson

(415) 577-2983

julie.johnson@lightningsystems.com

LinkedIn: [/juliejohnsonmorris](#)

