ASPIRE

Scaling Commercial Truck Electrification

September 2024

Dave Schaller
Industry Engagement Director

RUN ON LESS ELECTRIC DEPOT

NACFE
NORTH AMERICAN COUNCIL FOR FREIGHT EFFICIENCY

Run on Less - “Best of the Best”

2017

RUN ON LESS BY NACFE

[Long Haul](#)

7 Fleets

10.1 MPG

2019

RUN ON LESS REGIONAL

[Regional Haul](#)

10 Fleets

8.3 MPG

2021

RUN ON LESS ELECTRIC

[All BEVs](#)

13 Fleets

EV Truck Pilots

2023

RUN ON LESS ELECTRIC DEPOT

[BEV Depots](#)

10 Depots

Infrastructure

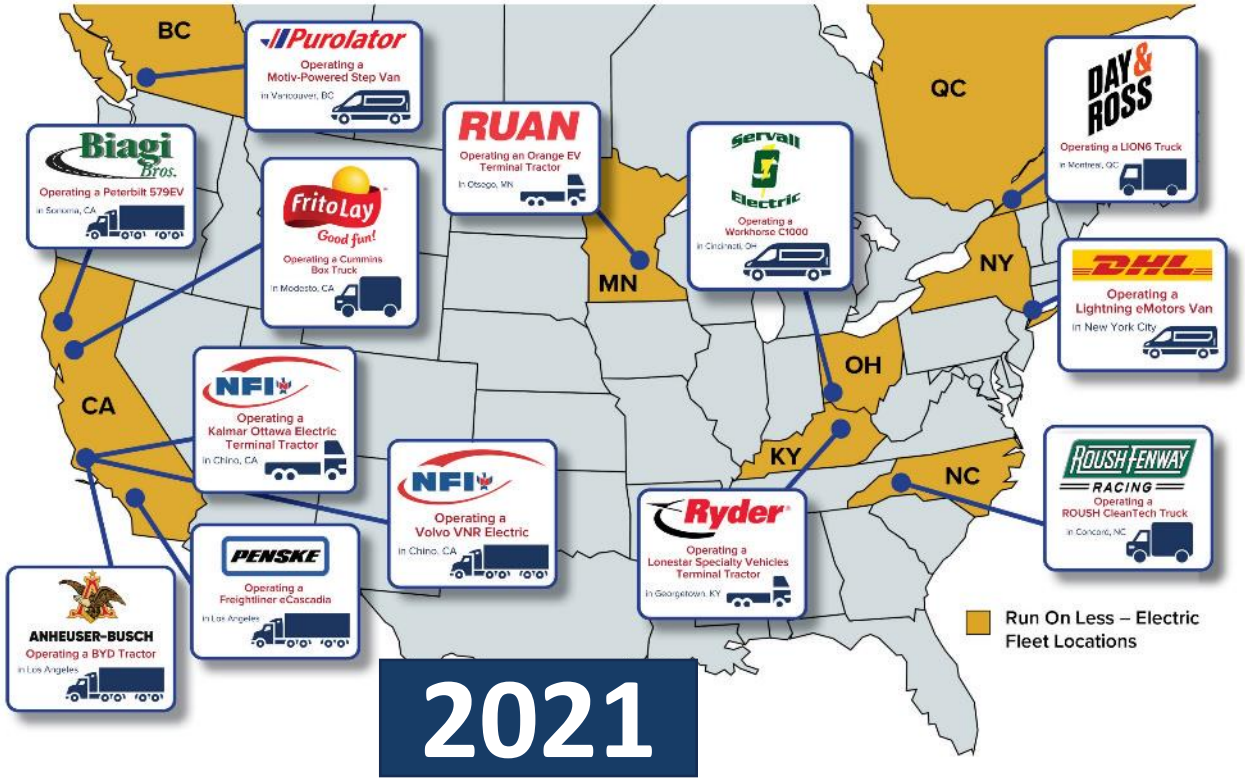
2025

RUN ON LESS MESSY MIDDLE

[Long Haul](#)

Alternative

Fuels

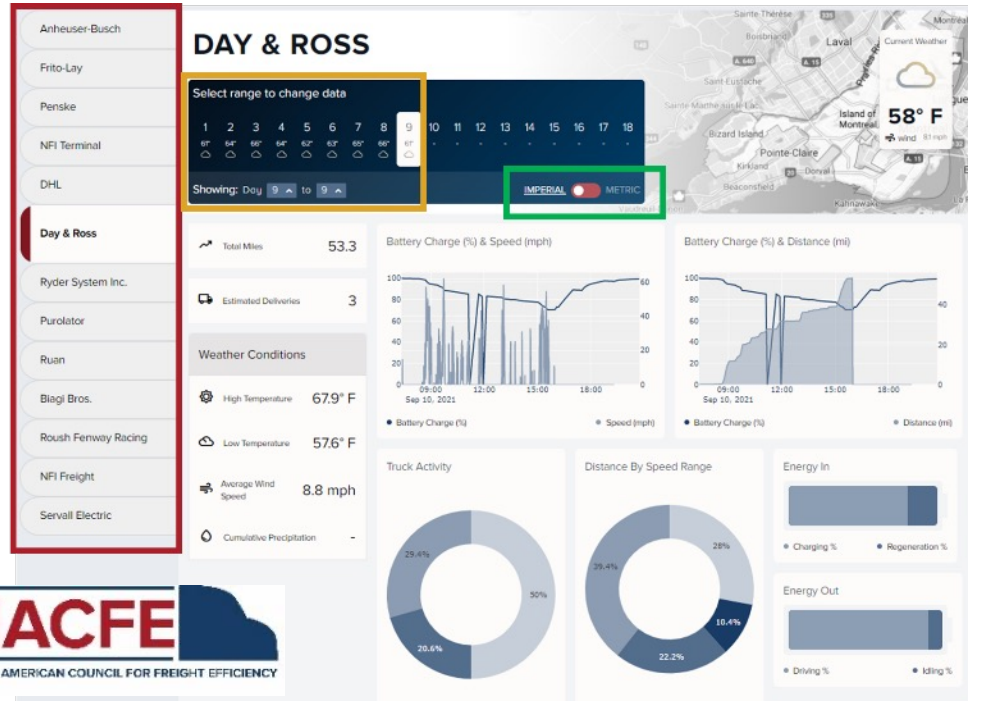


Real-World, Real-Time Case Studies

- For each fleet & OEM
- Fleet Interviews: Drivers & Leaders
- OEM Interviews & more

[Link]

1. Select any of the 13 fleets
2. Select a day or range of days
3. Select Units of Measure
4. Use the data!



NACFE
NORTH AMERICAN COUNCIL FOR FREIGHT EFFICIENCY

Run on Less - Electric DEPOT 2023

- 10 fleet locations
- Each has at least 15 electric trucks
- Many had more
- Fleet videos
- Telematics data

All information at:
RunOnLess.com

Truck Models in Run on Less 2023

1. Vans & Step Vans
2. MD Trucks
3. Terminal Tractors
4. Tractor-Trailers

FORD

FREIGHTLINER

FORD

FREIGHTLINER CUSTOM CHASSIS CORPORATION

ORANGE EV

GM

MOTIV

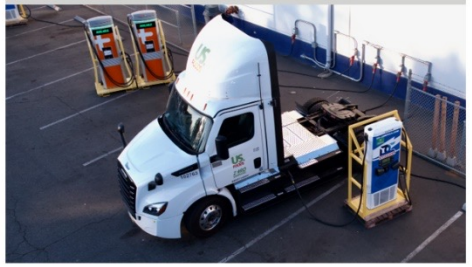
NIKOLA

FREIGHTLINER

INTERNATIONAL

FREIGHTLINER

FREIGHTLINER



TESLA

VOLVO

FREIGHTLINER

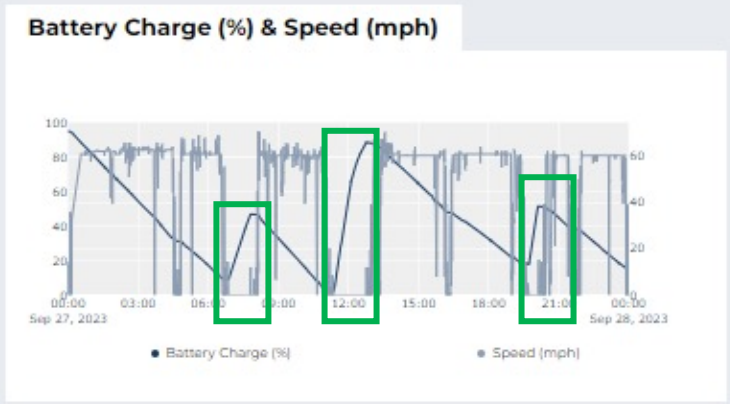
RUN ON LESS ELECTRIC DEPOT

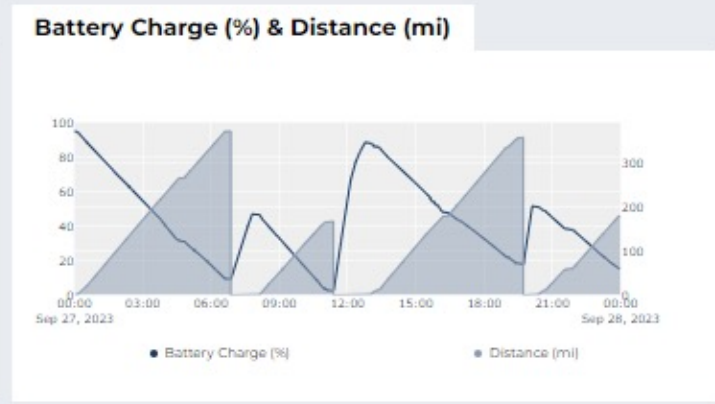
NACFE
NORTH AMERICAN COUNCIL FOR FREIGHT EFFICIENCY

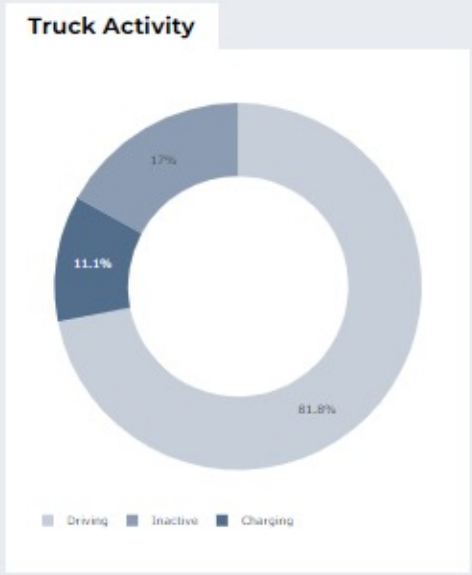
New RH Metrics

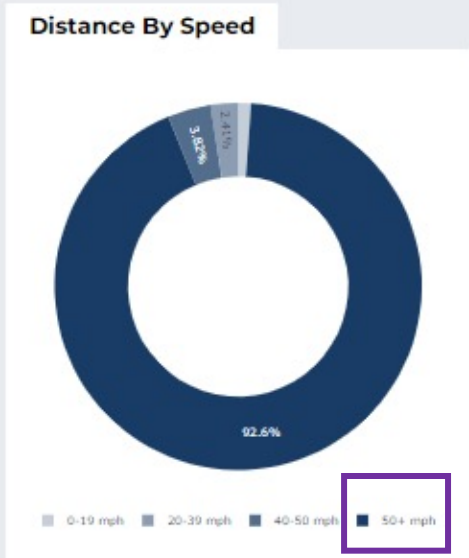
- Tesla Semi at Pepsi
- Sacramento CA depot
- 1076 miles (1,732 kilometers) in 24 hours
- 5 deliveries
- Three charging sessions
- Some regenerative braking
- Most of the day above 50 MPH = 80.5 KPH (55 MPH/88.5 KPH speed limit in California)

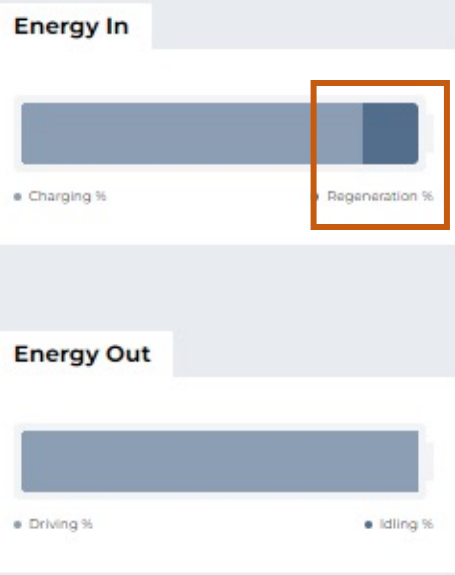
Total Miles	1076	Average Miles/Day	1076
Estimated Deliveries	1	Average Deliveries/Day	1

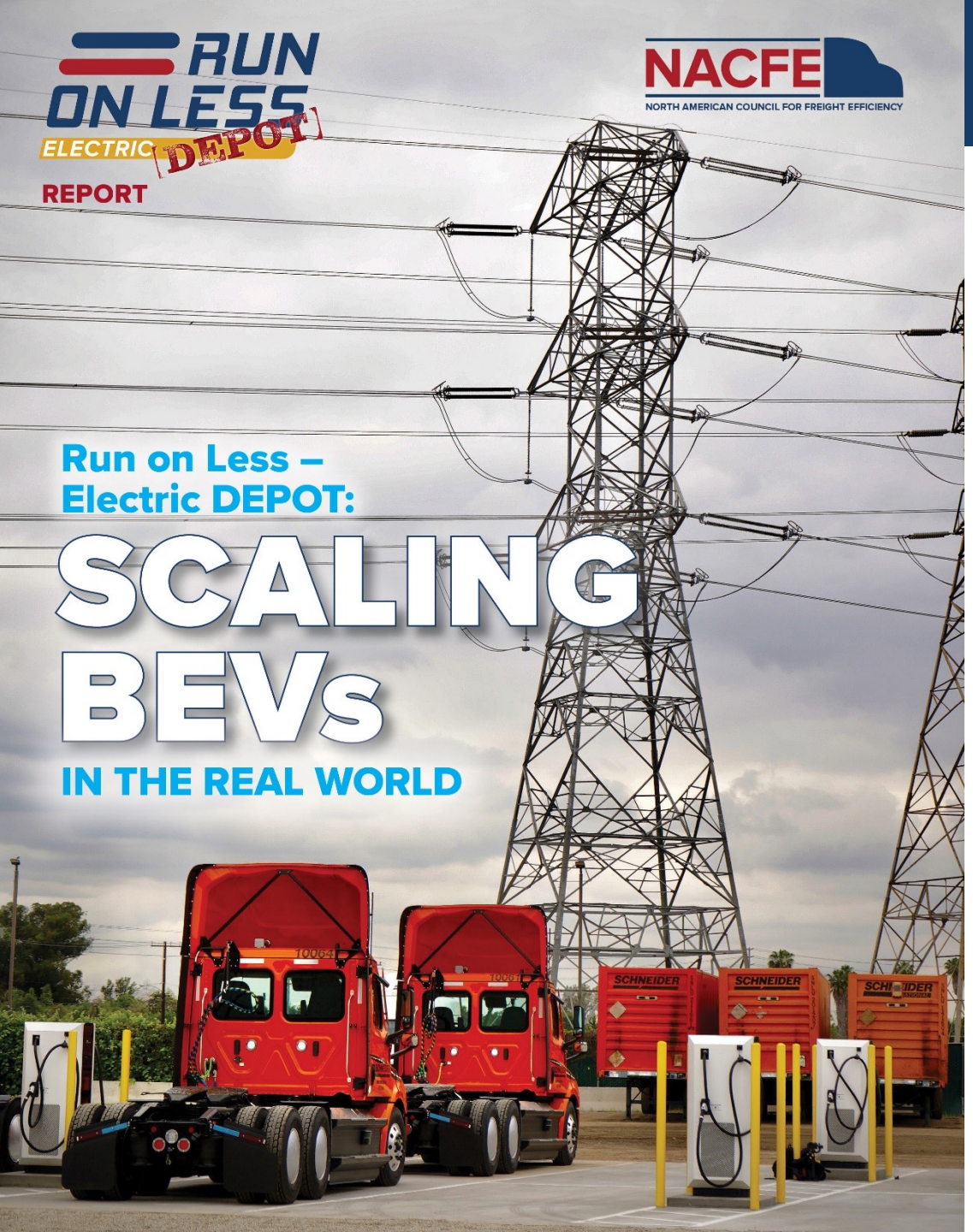












DEPOT Report

- New video: https://runonless.com/run-on-less-electric-depot-reports/
- Final findings in executive summary, or full report format.
- Detailed analysis of 22 EV trucks at 10 fleets over three weeks.
- Initial and Final Findings.
- Contains new research including summaries of 30 current electric truck depots.

NACFE
NORTH AMERICAN COUNCIL FOR FREIGHT EFFICIENCY

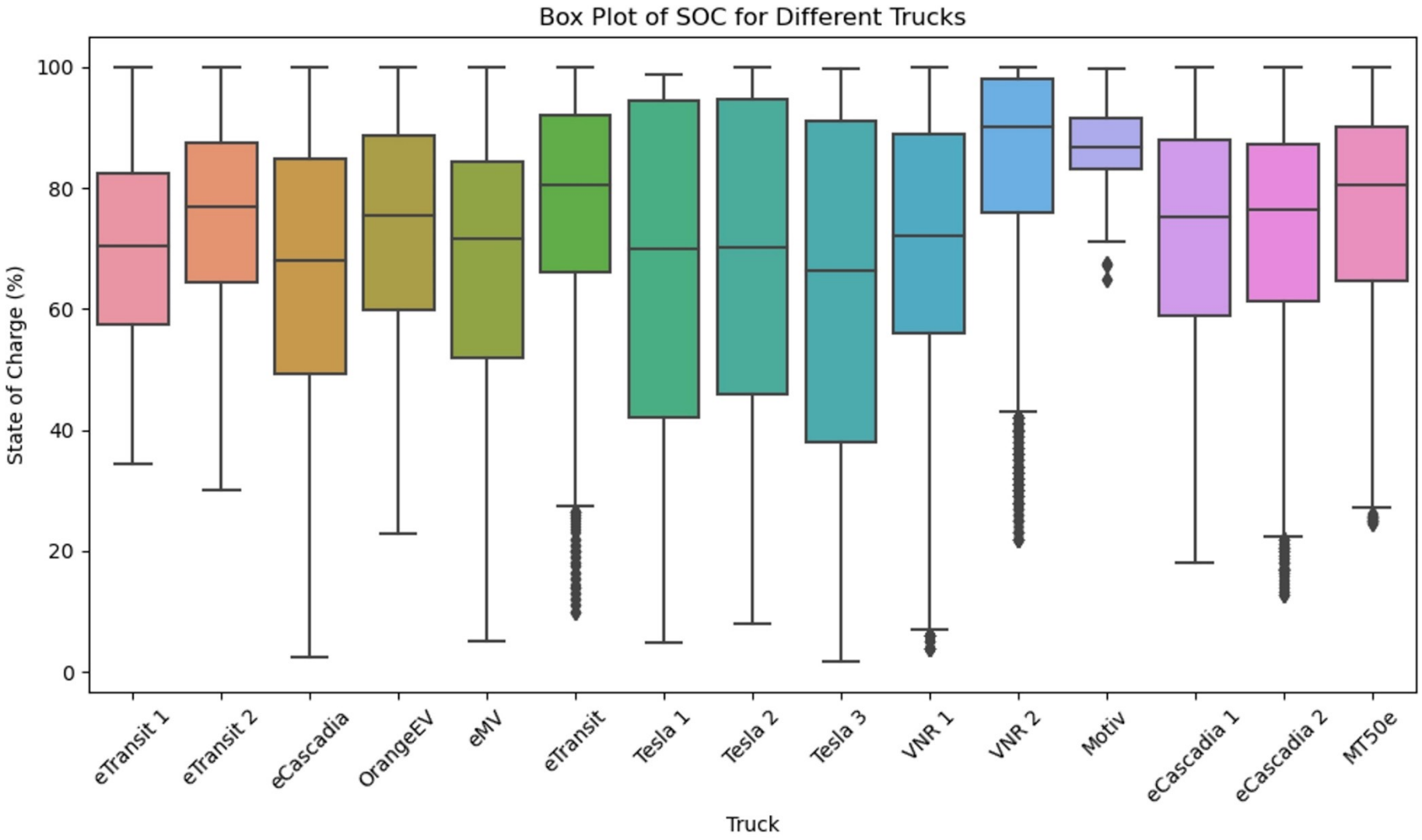
Electrical Consumption

Segment	Consumption at Meter (kWh/mi)
Class 2b/3	0.4 - 0.5
Class 6	1.3 - 1.5
Class 8 Terminal Tractor	2.5 - 4.0
Class 8 Day Cab	1.6 - 2.4

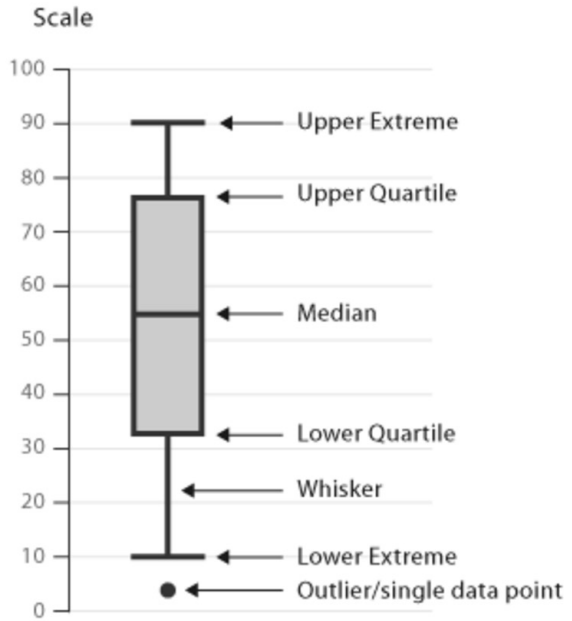
Assumptions:

1. truck in standard environmental conditions of 68°F at sea level with nominal wind conditions.
2. there will be energy losses at the charger and between the charger and the vehicle, and losses inside the vehicle.
3. at the meter numbers assume a level of regenerative braking energy recovery while driving as that definitely contributes to range.

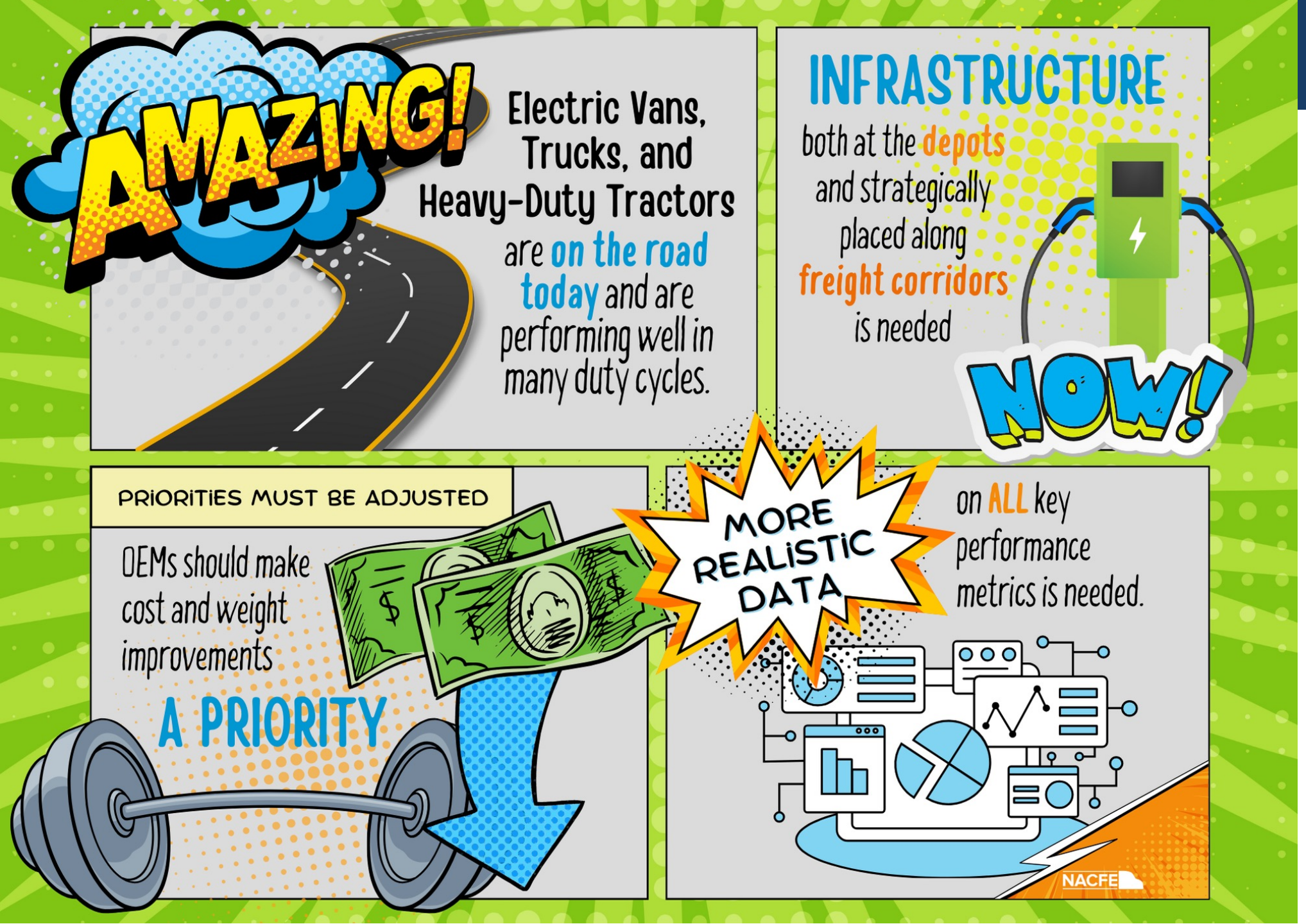
State of Charge Ranges: Depots



KEY:



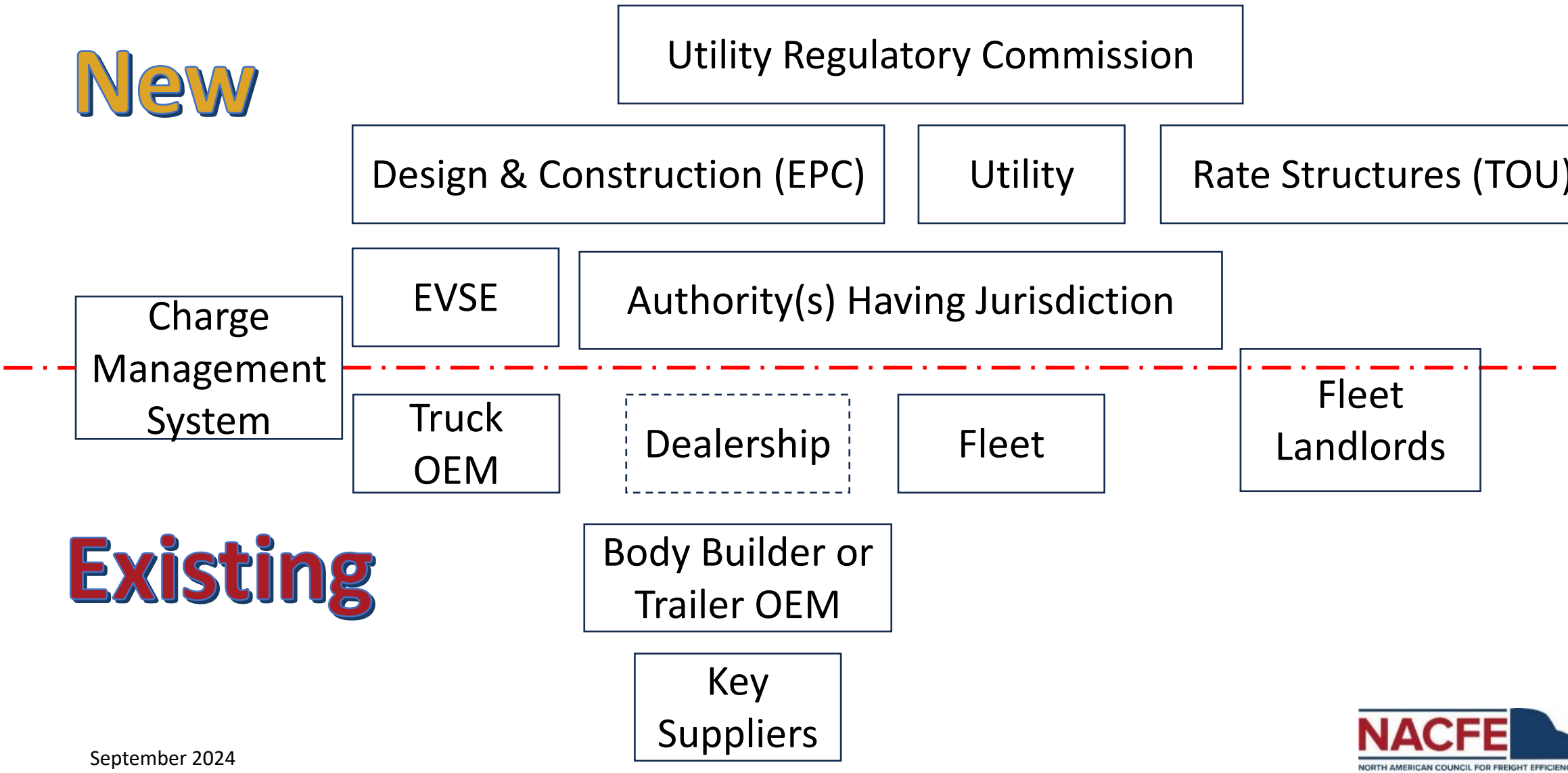
RUN ON LESS ELECTRIC DEPOT



[Free Report Download]

RUN ON LESS ELECTRIC DEPOT

New Playing Field for Electrification



Complexity In Both Industries

Truck Fleets

Trucks
Tractors
Trailers

Drivers:
Company
Independent Contractors
Owner-Operators

Vehicles:
Owned
Leased

Facilities:
Owned
Leased

Dozens of different applications

Fuels: diesel, biodiesel, CNG, LNG, LP, DME, electric, hydrogen, renewable diesel, RNG, RLP, hybrids & more

Utilities

Services:
Generation
Transmission
Distribution

Ownership:
Independent
Municipal
Cooperatives

Rate Structures:
Time Of Use
Demand Charges

Regulated
& Unregulated

Fuels: NG, coal, hydroelectric, solar, wind, nuclear, and more

"If you've seen one ___, you have only seen one."

Run on Less 2025

The “Messy Middle” in Long Haul Freight

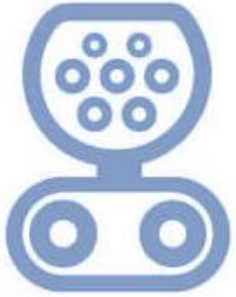
- All trucks will be Class 8 heavy-duty tractors
- Focus on alternative fuels in long return-to base operations and long-haul over-the road using day cabs and/or sleepers
- Multiple solutions will be featured:
  - battery electric,
  - hydrogen fuel cells and engines,
  - renewable natural gas,
  - renewable and bio diesel,
  - hybrids and
  - energy efficiency features for all fuel types

RUN ON LESS MESSY MIDDLE

Additional Information

Today building towards Tomorrow

CCS1



CCS2

NACS/Tesla

MCS or CharIN

NACFE

NORTH AMERICAN COUNCIL FOR FREIGHT EFFICIENCY

NACFE.org

Let's Stay Connected…
…and Charged Up!

RUN ON LESS ELECTRIC

RunOnLess.com

LinkedIn **NACFE** (& Spanish: NACFE LATAM)

NACFE

@NACFE_Freight & @RunOnLess

NACFE

Dave Schaller

David.Schaller@NACFE.org

260-602-5713