



# THE **BAI+T**ERY SHOW

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## NORTH AMERICA

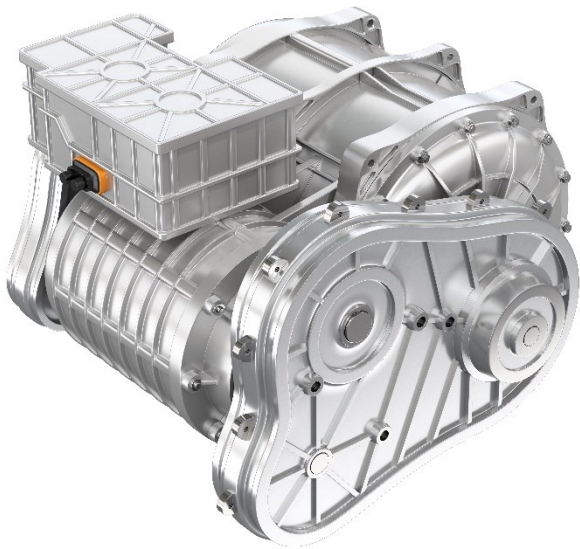


north  
america

**Rapid Mass Adoption of Wireless Charging  
Highways Through Electrified Retrofits of  
Existing ICE Vehicles**

**Ryan Bohm**

# WHY EVS?

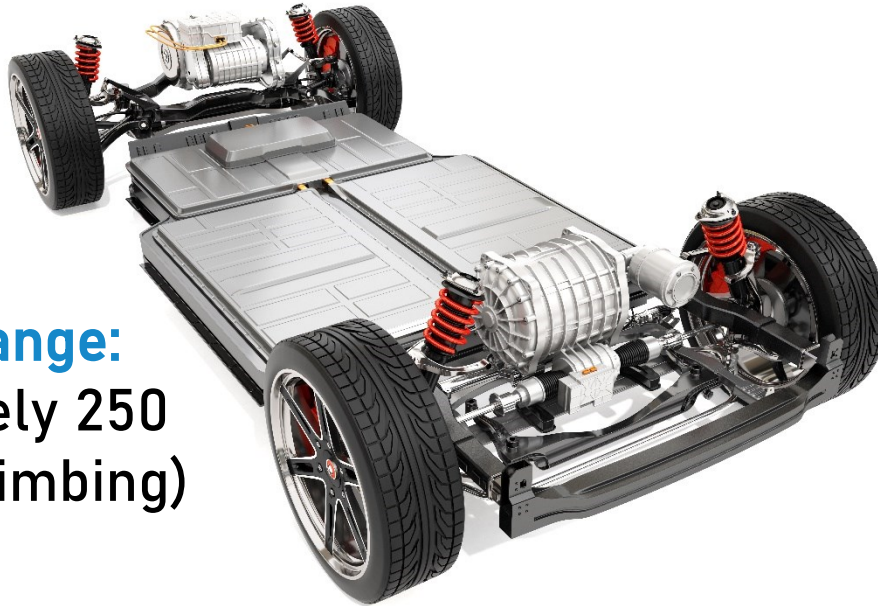


**> 77% Efficient**



**12-30% Efficient**

# THE CURRENT PATH: BIG BATTERIES

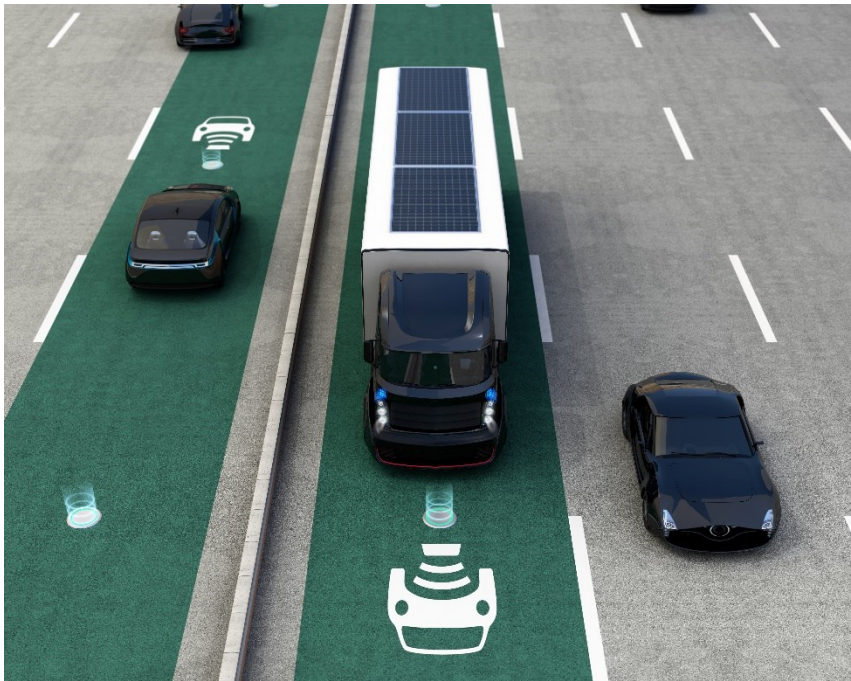


**Current Range:**  
Approximately 250  
miles (and climbing)

## Associated Problems:

- High cost
- Strain on required mineral resources
- High weight

# THE VISION: WIRELESS ROADWAYS

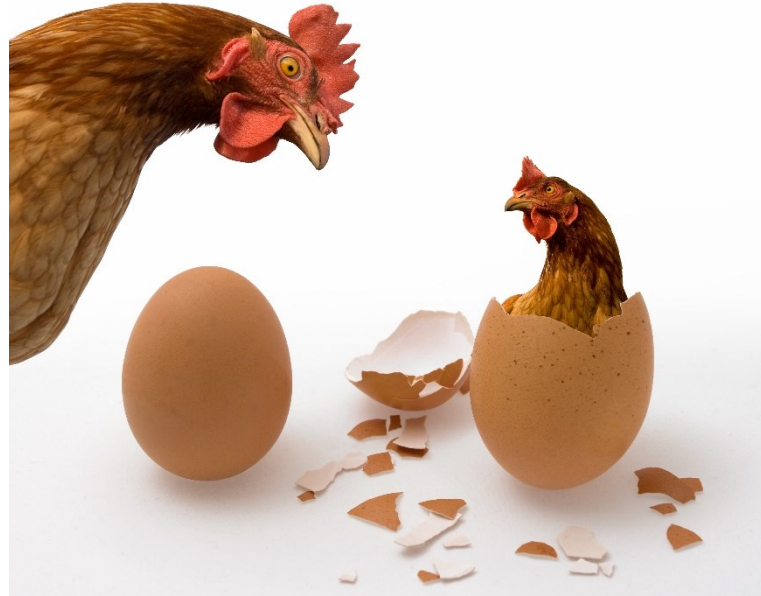


## Game-Changing Benefits:

- **Smaller** battery packs
- **Continuous** driving
- **Sustainable** electrified heavy-duty transport

# THE CONUNDRUM

Wireless  
roadways  
no  
wireless  
charging  
vehicles?



Wireless  
charging  
vehicles  
no  
wireless  
roadways?

# THE SOLUTION: ELECTRIFY EXISTING

## Adaptable Platforms:

- Hybridization of ICE passenger trucks
- Refrigerated transport
- Unrealized possibilities





# HYBRIDIZATION OF TRUCKS



- Completely bolt-on solution
- Leaves passenger and bed space 100% stock
- 28 mpg city, 40+ mpg combined highway/city
- Easily adaptable to high-power in-motion wireless charging

# REFRIGERATED TRANSPORT



- Battery pack and inverter is used to power refrigeration
- 480 VAC 3-phase power
- 40-80 kWh capacity
- Substantial reduction in cost compared to diesel
- Wireless charging would easily adapt to underside of battery pack



# CONCLUSIONS

- **Electrification of transportation** will continue to bring societal improvements, cost reductions, greater flexibility, and higher efficiency
- **Reductions in battery size** will allow for sustainable and widespread growth
- **Wireless charging highways** pave the way for this transformation
- **To accelerate the mass adoption of wireless charging highways we should be looking for ways to electrify existing platforms that can then easily have wireless technology added as a retrofit**

