

Infrastructure Considerations for Vehicle Electrification

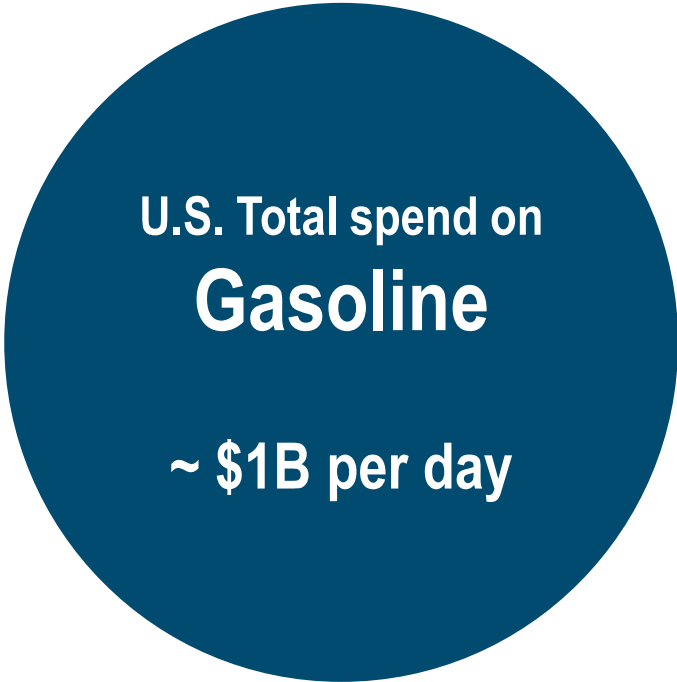


Understanding the Transportation Electrification Transition

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U.S. Total spend on
Electricity

~ \$1B per day

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U.S. Total spend on
Gasoline

~ \$1B per day

Residential



- The vast majority of residential EV charging will occur at the home
- Single family vs multifamily considerations
- Affects will vary widely depending on current state
- Good ability to control charging times

Commercial



- Each situation is unique
- Likely mix of L2 and DCFC
- Some ability to control charging times

Fleets



Example: Distribution Center – Last Mile Delivery

- 100 Class 6 trucks
- 30 Class 8 trucks
- Site load today ~ 500 kW

Electrified Depot

- Class 6 trucks: ~ 100 kWhs per day
 - 10,000 kWhs in 8 hours = 1250 kW (@ 100% LF)
- Class 8 trucks: ~ 400 kWhs per day
 - Overnight charging
 - 12,000 kWhs in 8 hours = 1.5 MW
 - Slip-seating (multi-shift)
 - 400 kWhs in 45 min = 500 kW per vehicle
 - Assume 4-6 vehicles charging = 2 – 3 MW



ELECTRIFICATION



