



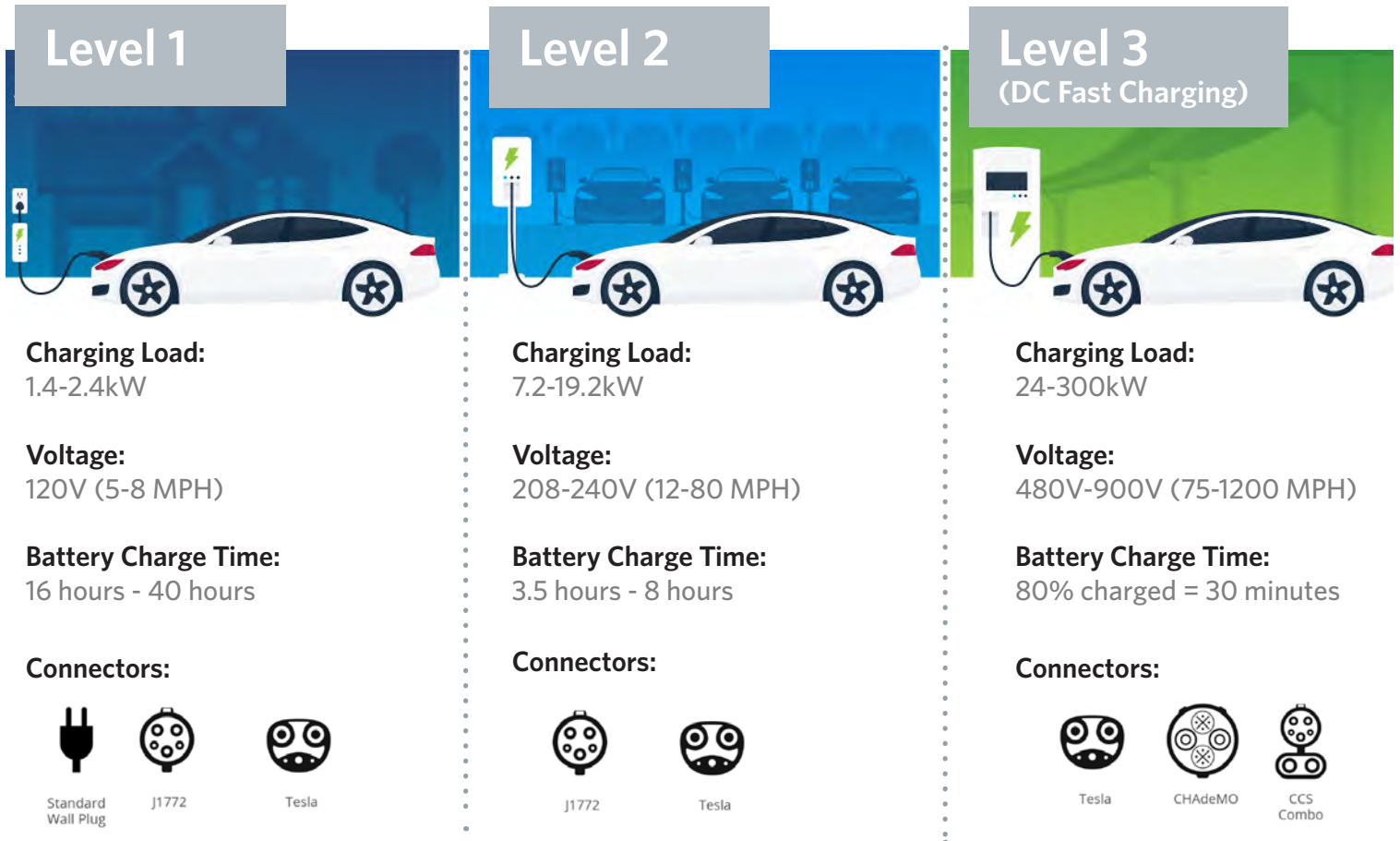
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ELECTRIC VEHICLE CHARGING STATION EXPERIENCE

As the world continues to evolve towards a more sustainable future, electric vehicle charging stations are becoming more prevalent in parking garages, shopping centers, businesses, multi-family buildings and hotels. Bala has the capabilities to vet the infrastructure and capacities of new or existing sites and buildings, to maximize electric vehicle (EV) charging stations as well as standalone installations or within site infrastructure. Bala has successfully coordinated with existing services and implemented EV charging infrastructure ranging from 13,200 Volt substations to secondary distribution support systems.

Bala provides study and design services including metering and load analysis to determine electrical infrastructure upgrades for additional charging stations, or to maximize EV charging within the constraints of the current infrastructure. Our structural engineering group also provides structural design for gantries supporting EV charging locations for larger vehicles, buses, and trucks as well as provides structural analysis of garages to account for the additional weight of the vehicle's.

Electric Vehicle Charging



*level of charging (1,2,3) = charging speed in MPH/RPH

DESIGN CONSIDERATIONS

- Quantity of chargers could warrant an up-sized or additional utility service.
- Mounting options (wall, bollard, overhead) and single vs. dual head.
- Level 3 chargers may require additional parking stall lengths, bollard and steel bar anchoring, ventilation, and remote closet for inverters.
- Power can be managed via integral or 3rd party networking systems.
- Not truly sustainable design unless utility generation is green.

REBATE EXAMPLES

Level 2

- DEP PA - \$3000-4000 per charger
- PECO - 50% of project costs or \$2,000 per charging port, for up to 20 non-residential ports

Level 3

- DEP PA - 60% of project costs or \$250,000, whichever is less
- PECO - 50% rebate for level 3 charging cost for 36 months until 06/2024



JOHNS HOPKINS UNIVERSITY

Location: Baltimore, MD

Electric Bus Charging Facility Study

Bala prepared a feasibility study for constructing an Electric Vehicle (EV) charging facility to allow Johns Hopkins to convert their fleet of transit buses to electric buses. The facility would be located on an existing parking lot presently serving the bus fleet and provide 180kW Level 3 EV charging for 12 buses. The charging stations will be served by a 480/277 volt, 3 phase, 4 wire, 2,000 ampere exterior weather resistant switchboard. A duplex GFCI protected receptacle would be provided at each station to facilitate charging and minor maintenance of the buses during charging operation.

Parking Power and Fiberoptic

To update parking control devices to HIPAA standards and provide for additional EV charging on the Bayview Campus, Bala developed design and documentation for the underground power and singlemode optical fiber cables to various parking facilities, which were fed from buildings on the campus. The routing consisted of underground conduit ductbanks with MaxCell innerduct for the optical fiber. End points were housed in new concrete pad mounted environmental enclosures for termination and distribution to service parking control gates and intercoms.

SELECT BUILDING EV CHARGING STATION PROJECTS

- New York Transit Authority - Bus Charging Stations
- 160 First Street - Car Charging Station
- Atlas Park Mall - Car Charging Station
- Queens Center - Car Charging Station
- King Plaza - Car Charging Station
- 878 Washington Ave - Car Charging Station
- 212 East 47th Street - Car Charging Station
- 160 First Street - Car Charging Station
- 210 Stuart Street - Car Charging Station
- Queens Center Mall - Car Charging Station
- Atlas Park Mall - Car Charging Station
- Brooklyn Museum - Car Charging Station
- 106 Mott Street - Car Charging Station
- HQ Plaza Morristown - Supercharger Design
- 609-633 Broad Street - Supercharger Design
- 437 Madison Ave. - Supercharger Design
- Pier 59 - Supercharger Design
- 242 West 53rd Street - Supercharger Design
- 1100 Market Street - Supercharger Design
- 420 North 20th Street - Supercharger Design
- 300 Mercer Street - Supercharger Design
- 5550 Centre Ave. - Supercharger Design
- Pod Hotel - Supercharger Design
- Queens Place - Supercharger Design
- College Point - Supercharger Design
- 136-17 38th Street - Supercharger Design
- Richmond Ave. - EPR Filing
- 3035 Cropsey Ave. - EPR Filing
- 1 Beard Street - DOB EPR Filing Services
- Queens Place - EPR
- 102-05 Ditmars Blvd - Electric Service Evaluation
- Stamford, CT - Site Utility Evaluation
- Northlight at Edge-on-Hudson - Sleepy Hollow, NY
- LeFrak - Jersey City, NJ
- Medford Leas, Medford, NJ
- 1620 Sansom Street - Philadelphia, PA
- SORA West - Conshohocken, PA
- PennDOT RTMC - King of Prussia, PA
- 210 Stuart Street - Boston, MA
- Prudential Center - Boston, MA
- Pooks Hill, Bethesda, MD
- 212 East 47th Street - Car Charging Station





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