

Battery-Electric Bus Infrastructure

October, 2018 Tony Cohen

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Welcome to Long Beach

Long Beach Transit welcomes our friends and colleagues from across California to the CTA's 53rd Annual Fall Conference and to our beautiful home

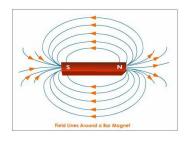
LONG BEACH

Topics

1. Planning your needs



2. Inductive Charging System



1. Depot Charging



2. Controlling Demand Costs



Planning your needs

- 1. How many BEBs does you agency plan to operate in 5 or 10 years and how many miles per year?
- 2. What charging protocol AC or DC?
- 3. Space constraints? 40 BEBs will take up more space than 40 non-electric buses.
- 4. Are you planning to build solar arrays?
- 5. Are you planning to store electricity?
- 6. You are now ready to talk to your fuel supplier.

1. Inductive Charging System

- System capability 50kWh.
- Iconic bus stop design.

System designed to provide periodic boost to extend range.





WAVE Generator

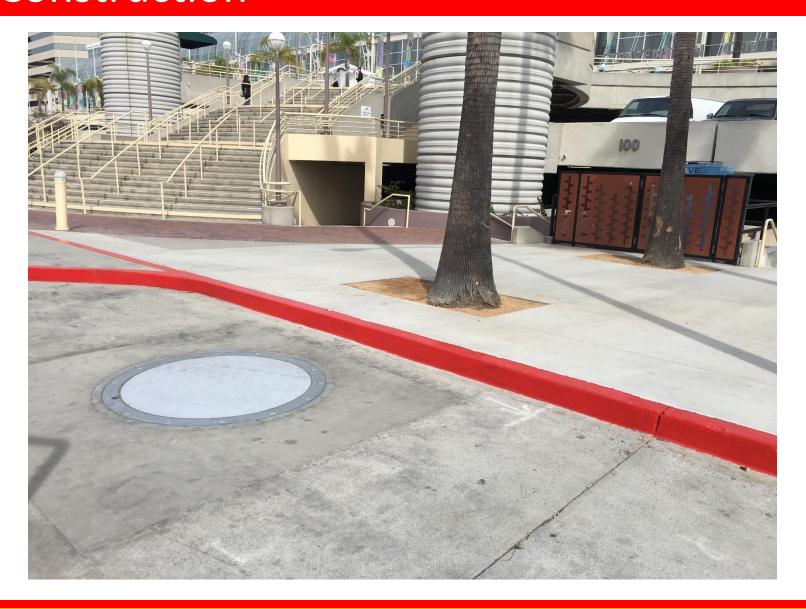
- Generator and
- Controls.



Construction



Construction



2. Depot Charging System

- 10 Charging interfaces
- Providing 480 volts AC, 100 amp delivering 80 kWh
- Capacity 3.8Mw
- System expandable to power 40 buses
- Charging cycles are controlled by an Energy Load Management System (ELMS).



3. Power Supply

Sufficient Power supply had to be brought to the property.

Required lateral drilling across main intersection.



Construction



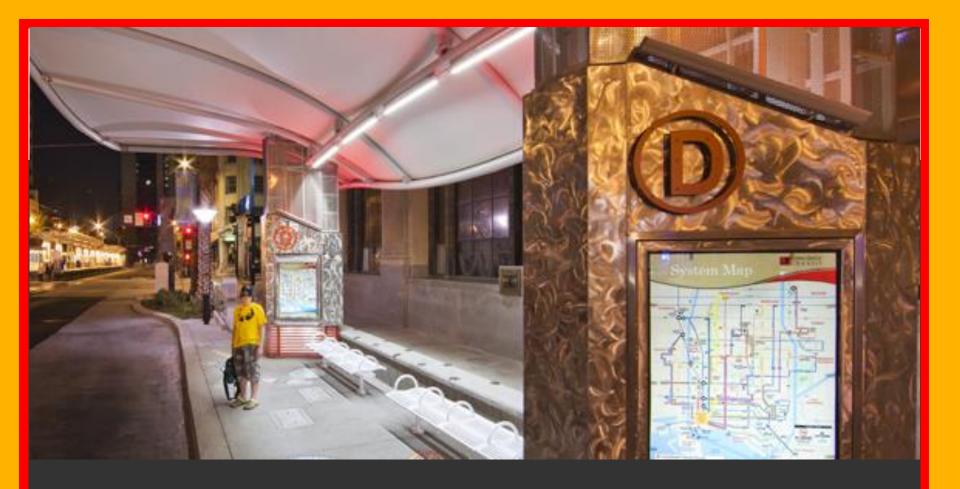
 Each charging pedestal requires individual electrical supply.

Transformer Foundation



Ready to Charge





Thank You