UC Davis EV Charging Infrastructure Evaluation

Scope of Work
- Updated UC Davis EV Charger Report:
  - Part I: Current/Future Projects, Optimal Locations, Billing Mechanisms, Charger Models, Department Recommendations
  - Part II: Our Recommendations (Charger Models, Billing Mechanisms, Pricing Policy), Urgency Assessment

Background Information
- Regulations:
  - 2035 Zero Emission New Vehicle Sales Mandate (California Air Resources Board)
- UC Davis Sustainability Goals:
  - 50% of New Light-Duty Fleet Vehicles Purchased to be Zero-Emission or Hybrid by 2025
  - 4.5% of Commuter Fleet to be ZEVs by 2025 and 30% by 2050
- Current Infrastructure:
  - 80 EV Chargers (64 ClipperCreek, 3 Lighthouse, 2 ChargePoint, 1 Tesla)
- 2021 Electric Vehicle Study - Affiliated Engineers & DKS Associates:

“Dumb” vs. “Smart” Chargers

ITS Commuter Survey:
- Commuters Outside Davis: 24.4% (contribute 88.6% of total CO2 emissions)

Type of Vehicle Used
- All-Electric (1.8%)
- Plug-in Hybrid Electric (17.7%)
- Conventional Hybrid (9.9%)
- Gas or Diesel (86.4%)
- Other (0.2%)

Summary of Findings

Map of Cost-Effective Charging Locations by UC Davis Design and Construction Management

Needs:
- Rapid Expansion of Smart Level 2 Charging Infrastructure
- Pay per kWh Billing
- Replacement of ClipperCreek Level 2 “Dumb” EV Chargers

Concerns:
- Must Capture LCFS Credits
- UCD vs Commuting Vehicles Priority Use
- Lack of Interdepartmental Coordination
- Access Restrictions and Time Limits
- Ongoing Maintenance of Charging Stations

Limitations:
- Transformer Availability
- ADA Compliance Update Costs
- Stations Must Qualify for CAlEVIP Grants

Recommendations

<table>
<thead>
<tr>
<th>Map Index #</th>
<th>Parking Facility</th>
<th>Address</th>
<th># of Charger Ports</th>
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Future Considerations
- Billing System: $28-$38 per kWh, App-Based or Card/Contactless Payment
- Priority of DCM Locations (see table above)
- Charger Model: ChargePoint Commonly Preferred Amongst Departments
- Upgrade “Dumb” Chargers to “Smart” Chargers (and/or Relocate “Dumb” Chargers “Behind the Fence” without Public Access)
- Funding Concerns (ADA Compliance/UCD Increase Allocated Funding)

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