Alternative Strategies Lessons

-NCSU Transportation-

- EV Charging Infrastructure
- Wolfline Service Contract_2017
- LEED Certification Collaborations
EV Charging Infrastructure

System:
- 12 total # affiliated with NCSU
- 8# managed by NCSU Transportation
- 2# Other Departments
- 2# Privately owned

Distribution:
- 5 Campus Precincts
  - North Campus – 1
  - Central Campus -2
  - South Campus – 2
  - Centennial Campus – 7
  - CBC - 1

Electric Vehicle Charging Stations

NC State University
Transportation

[Map of EV Charging Stations showing various locations and numbers of charging stations associated with different departments and ownerships.]

http://www2.acs.ncsu.edu/trans/maps/map-charging-stations.pdf

Last updated 11/16/2018
PEP Stations — Centennial Campus

Locations
• Partners I
• West Oval parking deck
• Partners Way parking deck
• Partners II
• Research IV

Brief History
• Hubbell pedestal “PEP” chargers
• Level 2 Chargers
• Installed in 2011
• Total Cost $125,000
  • $50,000 - US DOE
  • $75,000 – Centennial Campus Development Office
PEP Stations — Lessons

For efficient operations:

Parking control
• Non-EV auto parking
• Past charging session-4 hour limit
• Parking enforcement

Utilization data
• Demand – Frequency of use
• Unique charging sessions
• kWh used / GHG savings, etc.
• Running costs

Real-time monitoring
• Service needs
• Charging sessions notifications
• Enhanced customer support
PEP Stations — Lessons

PEP Station Usage Report for NC State University
Dates: 01/01/14 To 10/01/15

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<th>Location</th>
<th>Left/Serial Number</th>
<th>Type</th>
<th>Connect Date</th>
<th>Connect Start</th>
<th>Connect End</th>
<th>Hours</th>
<th>KWH</th>
<th>Dollars</th>
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<td>004.3</td>
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<td>09/30/14</td>
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<td>00.8</td>
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Electricity Use by Month

Days in Utilization by Month

Connection Vs. Charging Sessions

Average Electricity Use per Charging Hour
**ChargePoint Stations - Main Campus**

**Our Stations**

**Real-time Summary**

**Brief History**
- Level 2 Chargers (2-Dual 30 amp wall mount)
- Installed in 2015-2016
- Total Projected Cost $30,610
  - $24,488 – NC Clean Energy Technology Center & NCDOT
  - $6,122 NCSU Transportation (20% project cost match)

**Locations**
- Coliseum parking deck
- Dan Allen parking deck
# ChargePoint Stations - Lessons

## Budget

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<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cost ($)</th>
<th>Vendor</th>
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<tr>
<td><strong>EV Chargers</strong></td>
<td>Assembly, final installation &amp; activation of the charging stations</td>
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<td>ABM Electrical Power Services</td>
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<td>Charge point EV charger, Dual cord, wall mount, Gateway</td>
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<td>Charge point Network service plan</td>
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<td><strong>Electric &amp; Communication Installations</strong></td>
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<td><strong>27,492.00</strong></td>
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</tbody>
</table>

**Duration:**
- Grant – 4 months
- Acquisitions- 6 months
  - Sites, network, vendor, material etc.
- Installation – 3 months
- Total period- 13 months
ChargePoint Stations - Lessons

Awareness

**Why**
- Grant requirement
- Educational

**How**
- Soft launch
  - February 22\textsuperscript{nd}
- Hard launch
  - Local – March 1\textsuperscript{st}
  - World–March 21\textsuperscript{st}

**Drive an Electric Vehicle?**
Two electric vehicle charging stations were recently installed on campus!

**Coliseum Deck**
**DAN ALLEN DECK**

Visit the Quick Links - Maps section at ncsu.edu/transportation for more information.
ChargePoint Stations - Lessons

Real-Time Monitoring

System Notice: We've added some great new features to Connections and Flex Billing. Check out the Release Notes for more information.

Our Stations

NC STATE / DAN ALLEN DR 01
110 Dan Allen Dr, Raleigh, North Carolina 27607, United States
Notes: On right side as soon as you enter parking garage
Port 1: (208/240V, 30A, J1772) In Use
Port 2: (208/240V, 30A, J1772) In Use
Reservations Disabled
Station Price: Free
Get Directions

Real-time Summary

Available 2 (50%)
In Use 2 (50%)
Watch List 0 (0%)
Needs Service 0 (0%)
Not Ready 0 (0%)

Manage Stations
ChargePoint Stations - Lessons

Reporting: Manager Dashboard

![Manager Dashboard](image-url)
ChargePoint Stations - Lessons

Reporting: Energy Use

Energy Last 90 Days

Energy (kWh) Accumulated (kWh)
ChargePoint Stations - Lessons

Reporting: GHG Savings

GHG Savings Last 30 Days

- GHG Savings (kg)
- Accumulated (kg)
ChargePoint Stations - Lessons

Reporting: Unique Drivers
ChargePoint Stations - Lessons

Reporting: Session Length

Avg. Session Length = 02:34:30.9411
Wolfine Service Contract - 2017


- 40 buses fleet size
- Over 70,000 annual service hours
- Over 3 million boarding last academic year
- Day & night service
- Free & open to members of public

RFP provision:
- Alternate option of 3 electric buses as part of the bus fleet
  - 35 foot heavy duty low-floor,
  - 120 miles per charge minimum range

Progress so far:
- Currently receiving proposals
  - 🙏
LEED project certifications

Collaborations

All new construction and major renovations over 20,000 square feet to be LEED Silver Certified at a minimum.

Location & Transportation:

• Important category for LEED rating systems
  • Vehicle Technology & Fuel – 2 of the transportation factors
    • Strategy: Encourage or provide alternative fuel/vehicles

Progress so far:

• 10 LEED certified projects
• 6 projects in certification process
  • Considerations for EV charging stations
  • Priority parking
  • Alternative modes-bike, carpool, etc.

New Talley Student Union: LEED Silver Certified
-December 2015-
-Thank you!-