

# EV INFRASTRUCTURE PLAN STUDY

(PROJECT 23H2Z)

5/21/2024 DRB & 6/27/24 JCAC



Kimley»»Horn

## JOINT CAMPUS AREA COMMITTEE PRESENTATION



## AGENDA

- INTRODUCTIONS
- PROJECT GOALS AND BACKGROUND
- INITIAL FINDINGS
- EXAMPLE SITE PLAN
- SUSTAINABILITY CONSIDERATIONS
- DISCUSSION

2024

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## PROJECT GOALS

### Provide an infrastructure roadmap to fleet vehicle electrification

- **Fleet Conversion**
  - Focused on electrifying fleet - Inform possible future community charging
  - Portions of fleet to convert: sedans, SUVs, minivans, light-duty trucks
  - Convert approximately 100 of a total of approximately 311 light-duty vehicles over the next 10 years in 3 phases (short-, mid-, and long-term)
- **Infrastructure Assessment**
  - Identify 10 sites for charging infrastructure
  - Assess infrastructure improvement needs
- **Sustainability Considerations**
  - Solar and battery storage
- **Review federal funding options**

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## **PROJECT BACKGROUND**

- **UW-Madison Campus Green Fleet Report (2021)**
- **Fleet Electrification Suitability Study (2022)**
- **UW-Madison Energy Study (On-going)**
- **Dane County EV Infrastructure Plan (On-going)**
- **UW-Madison Campus Master Plan (2025)**

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## INITIAL FINDINGS

### ezEV Suitability Assessment

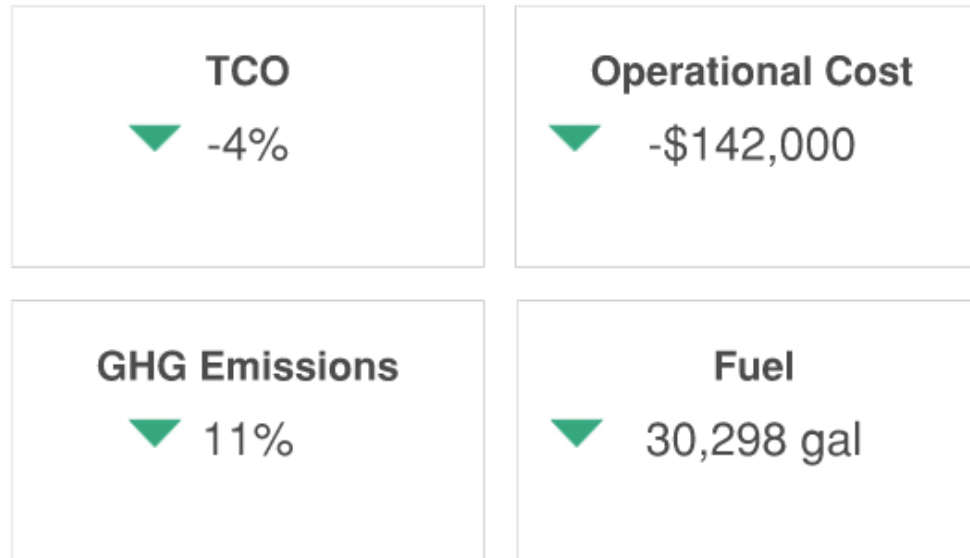
**Client:** University of Wisconsin  
**Group:** All Vehicles  
**Category:** Light Duty  
**Generated on:** 09/22/2022

#### Sawatch Labs

Sawatch Labs analyzed 50 Light Duty vehicles using our proprietary ezEV Analytics. ezEV compares each vehicle with available EV models to determine if an EV would be a good operational and economic fit. This analysis gives you and your drivers the confidence to know when an EV will meet your needs.

#### Fleet Impact

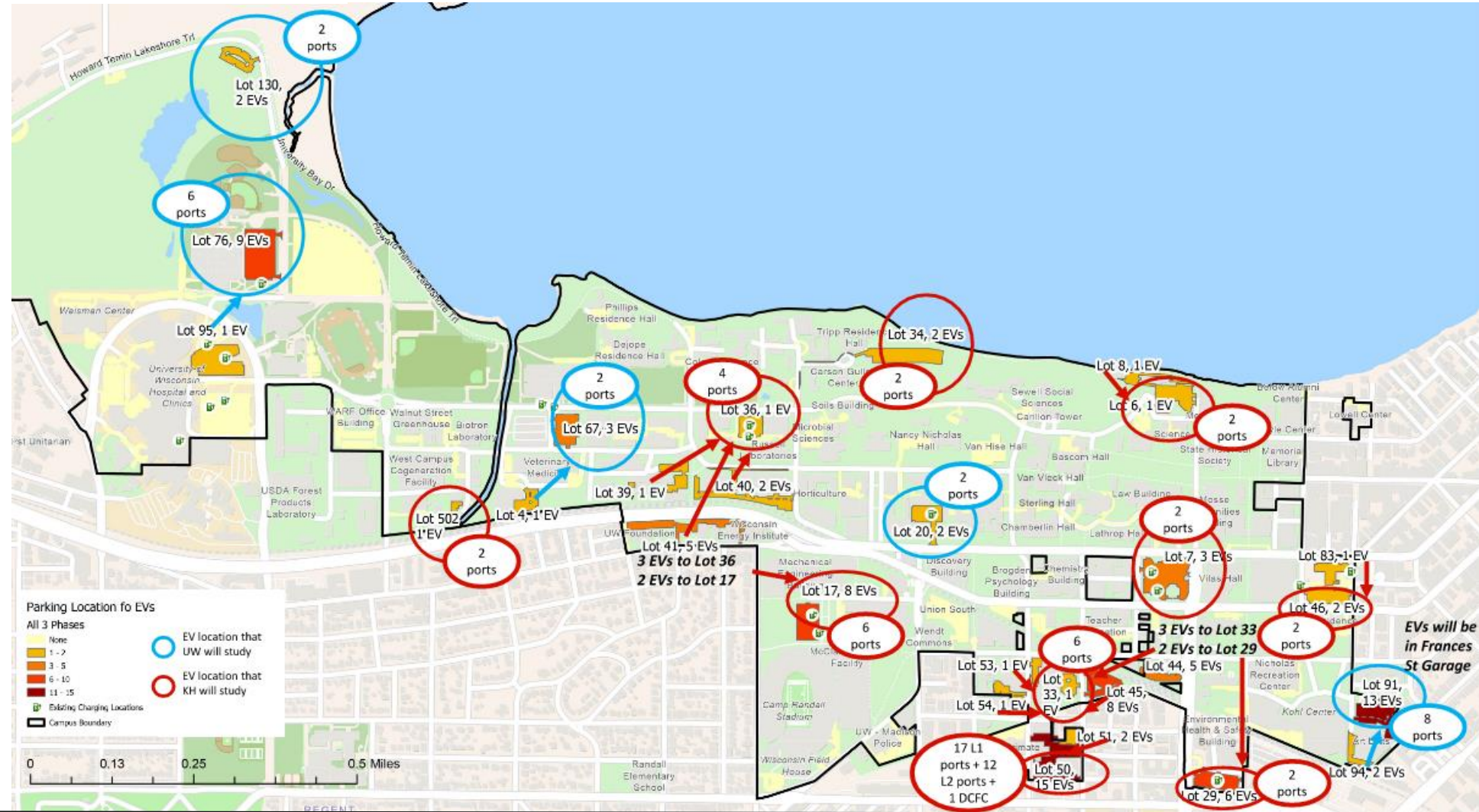
Estimated lifetime impact of replacing your 14 EV Candidates:



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## INITIAL FINDINGS



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10 sites were assessed and organized based on expected difficulty of fleet conversion

EXPECTED DIFFICULTY OF FLEET CONVERSION	HOW IS THIS DEFINED?	WHICH LOTS?
EASY	Appears to be physical/electrical capacity in existing panel to feed new chargers.	Lots 7, 29, 34, and 502
MEDIUM	Appears to be physical/electrical capacity to install and feed new panel or new step-down transformer and new panel to feed new chargers.	Lots 6, 17, 33, and 46
CHALLENGING	Does not appear to be physical/electrical space to feed new chargers. May require new or upgraded service, upsizing of existing equipment, or installation of new equipment.	Lots 36 and 50

### Next Steps

Working to acquire metering data for each lot. Metering data will be used to validate proposed panel/switchboard selections used to feed proposed new chargers. If metering data indicates in any case that electrical capacity is not available, design team will propose an alternate solution to feed proposed new chargers.



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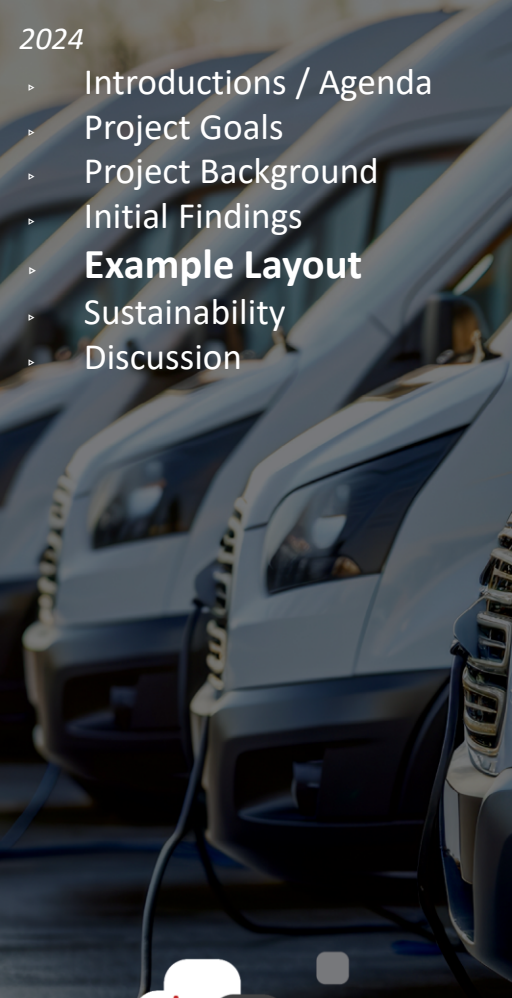


**EXAMPLE LAYOUT – PROPOSED CHARGERS**

**Lot 33 - Charter Steet Heating Plant**



**Lot 50 - FP&M / Fleet Maintenance**



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## SUSTAINABILITY – POSSIBLE CONSIDERATION

### Complementary Sustainability Consideration - Rooftop Solar / Battery Storage

- Could Be a Consideration at Certain Sites
- Purpose
  - Electrical Redundancy
  - Additional Electrical Capacity

Virginia Commonwealth University



North Carolina DOA



\*Example precedent imagery from Kimley-Horn projects

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# Design Review Board Meeting

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# DISCUSSION