

Charge Up Dane County EV Site Evaluation

ITS Wisconsin Transportation Conference
October 2025



Chris Halverson & Owen Brown

A Little About Us...



Chris Halverson

- Middleton, WI
- Electrical Designer & Electrician
- Electrical Design & Project Management



Owen Brown

- Madison, WI
- Electrical Engineer Student
- Electrical Engineering

KL Engineering

[A] Better Experience

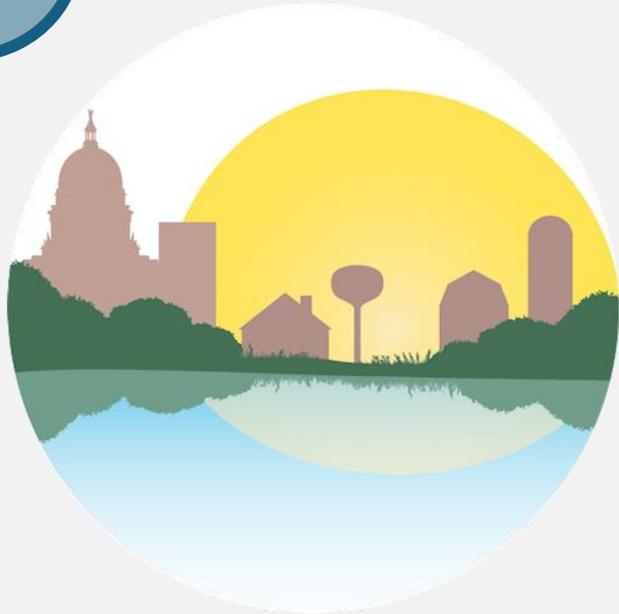
Firm Overview

- Full Service: Civil Engineering
 - Infrastructure Focus
- Incorporated in 1991
- 100+ Employees
- 5 Locations



Charging & Fueling Infrastructure (CFI)

Dane County Programing



Dane County Office of Energy & Climate Change

Our Vision for Dane County

Charge Up Dane County – Accelerating the Transition to EV Transportation for All is a regional initiative to install **EV charging in locations that would otherwise be underserved.**

OECC is leading the grant effort with input from Dane County's [EV Advisory Commission](#), which is made up of folks from local governments, utilities, UW-Madison and a variety of community-based organizations.

We are **focusing on charging gaps in all areas of Dane County - urban to rural.** We aim to ensure that everyone has access to electrified transportation. Our priority areas are:

- High-density urban and suburban areas where residents lack access to private charging networks
- Rural areas where the private charging market is less likely to install charging stations
- Multi-modal transportation hubs where EV charging can support public and active transit options

Evaluation Process

Dane County Level Site Host RFP

PRIORITY AREAS



High Density Urban & Suburban Area

Where Residents
Lack Access to
Private Charging



Rural Areas

Where Private
Charging Market is
Less Likely to Install
Charging Stations



Multi-Modal Transportation Hubs

Where EV Charging
can Support Public &
Private Transit

CONCLUSIONS



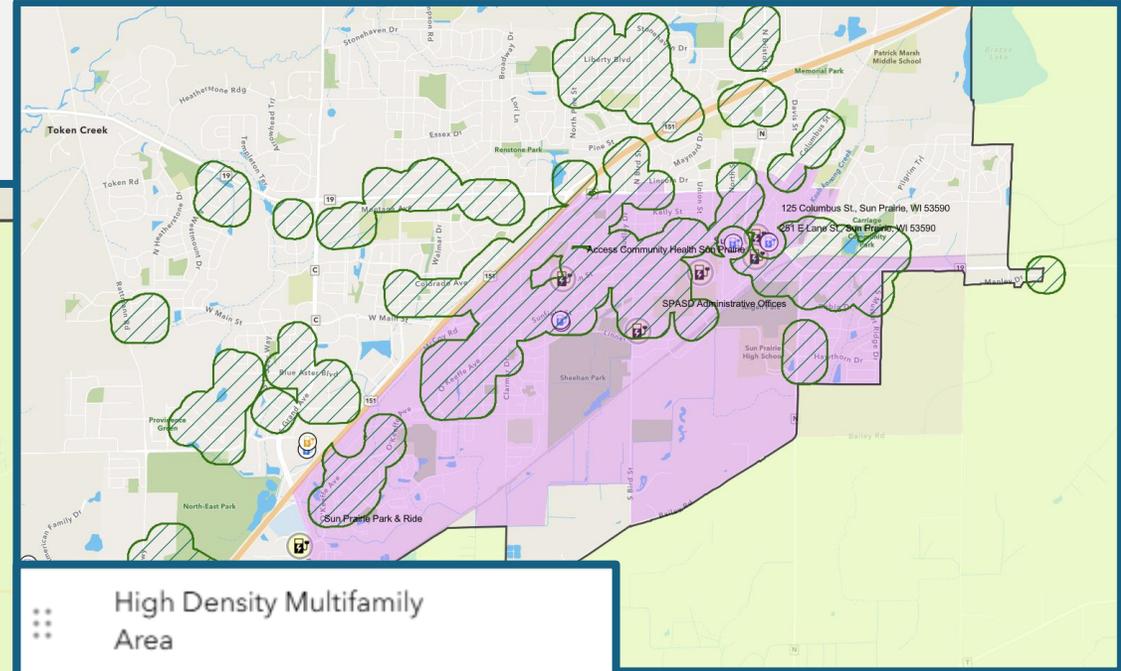
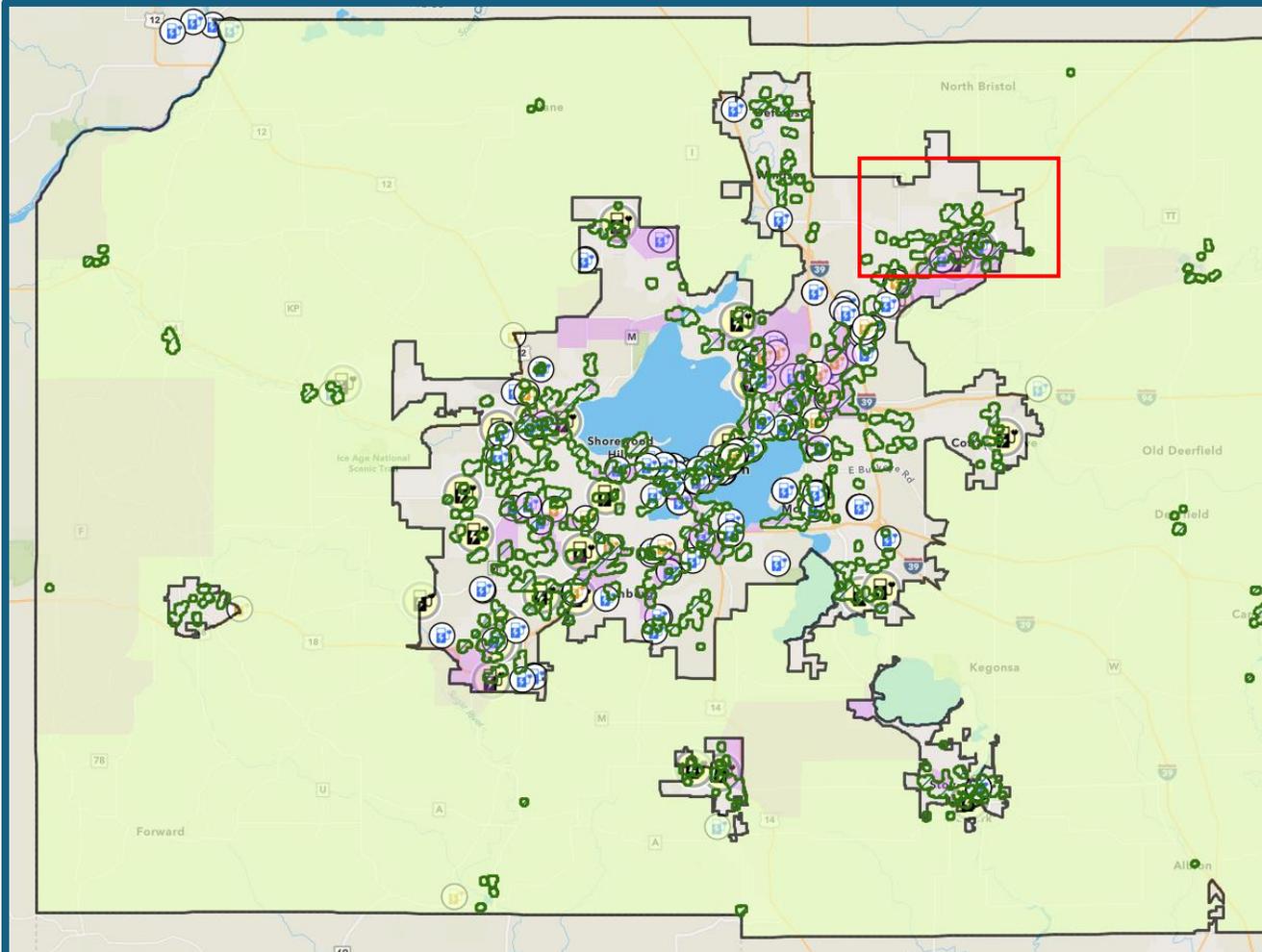
**57 Site Host
Applications
Received**



**51 Moved Onto
Desktop
Review**

Evaluation Process

Dane County Level Site Host RFP



- ⋮ High Density Multifamily Area
- ⋮ Non-Urban (Rural) Areas
- ⋮ Underserved Priority Area
- ⋮ Existing Level 3 Charging
- ⋮ Existing Level 2 Charging
- ⋮ Likely Charge Up Level 2 Charging (Round 1)

Desktop Evaluation

MS Forms

Key Considerations:

- Flood Plains
- 24/7 Public Parking Availability
- Proximity to Existing EV Chargers
- Historical / Cultural Constraints
- Contamination Risk
- Proximity to Nearest Sidewalk
 - ADA Accessibility

20. Contamination Risk - If Yes, Explain

Enter your answer

21. Traffic Volume (AADT)

Enter your answer

22. Site/Charger Access: Can someone get from their car to a sidewalk?

- Poor Accessibility
- Fair Accessibility
- Good Accessibility

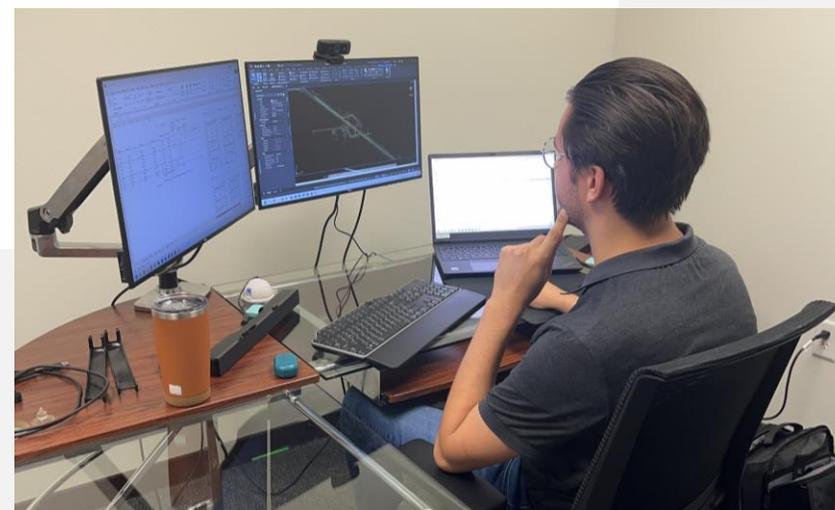
23. Is the Charger Visible From ROW - 4.1 (ALSO ON SITE REVIEW)

(Not Visible from ROW, Visible From Entrance, Visible from ROW)

- Infeasible
- Possible
- Ideal

24. Distance to Nearest EV Charger (Miles)

- Infeasible (< 0.1)
- Possible (0.1-0.25)
- Ideal (> 0.25)



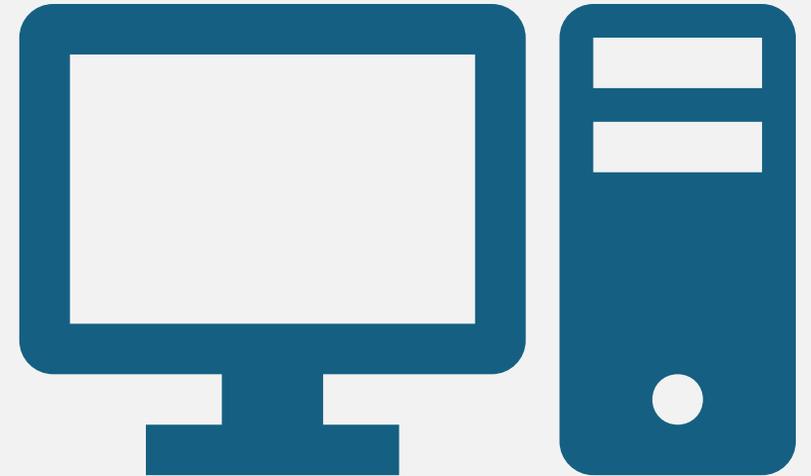
Desktop Evaluation Conclusion

Who Didn't Move Forward?

- 3 Sites Did Not Move onto Site Evaluations

Why?

- Flood Plan
- 24/7 Parking Not Available
- Proximity to Property Lines



Site Evaluation Tools



Site Evaluation

MS Forms

DCEV - Site Evaluation

Choose "Possible" when in doubt. Anything identified as infeasible should be indicated in notes at the bottom to describe reason. If form is incomplete, click "incomplete" on last question, submit, and choose "Save and allow revision"

1. Site ID *

Enter your answer

2. Site Name *

Enter your answer

3. Visit Date

Please input date (M/d/yyyy)

4. Inspector Name

Enter your answer

5. Are There Steep Grades Where Charger Foundation Will be Placed? - 1.1 (ALSO ON DESKTOP REVIEW)
Steep grades >10% slope. Minimal grade changes 5-10%. Relatively flat 0-5%

Infeasible
 Possible
 Ideal

6. Is There Sufficient Clear Space Around Where Proposed EVSE Would Go? - 1.2 (ALSO ON DESKTOP REVIEW)
Infeasible: number of spaces is limited to 4 and doesn't allow additional space. Possible: 1 or 2 additional spaces available next to and across from location of EVSE. Ideal: EVSE equipment has multiple potential locations to be installed, space for wheelchair to turn around.

Infeasible
 Possible
 Ideal

7. Would All Required EVSE Fit Within Site's Property Line? - 1.3 (ALSO ON DESKTOP REVIEW)
Infeasible: location of EVSE is at or off of property line or easement. Possible: property line or easement is within 10' of EVSE. Ideal: EVSE is > 10' from easement or property line.

Infeasible
 Possible
 Ideal

Key Considerations:

- Grades
- Available Spaces
- ADA Accessibility
- Property Lines



Site Electrical Evaluation

MS Forms

Key Considerations:

- Existing Service Size
 - Capacity to Add
- Existing Service Voltage
- Location within Building
- Proximity to Utility
 - Capacity to Add



DCEV - Pieper Electric Form

Choose "Possible" when in doubt. Anything identified as infeasible should be indicated in notes at the bottom to describe reason. If form is incomplete, click "incomplete" on last question, submit, and choose "Save and allow revision"

1 Site ID *

Enter your answer

2 Site Name *

Enter your answer

3 Proximity To An Existing Utility Power Pole or Transformer - 1.5
> 1000 ft, 100-1000 ft, < 100 ft

Infeasible
 Possible
 Ideal

4 Electric Utility / Meter Number

Enter your answer

5 Utility Voltage/Phase

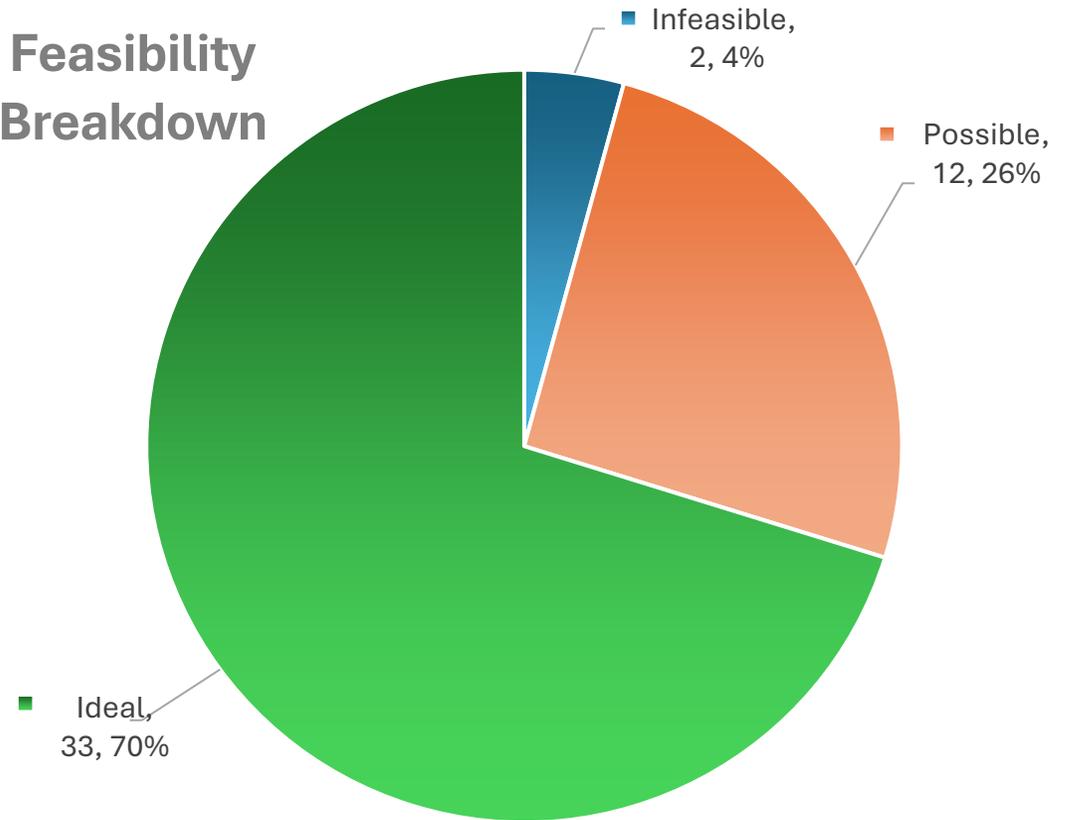
480V / 3-Phase
 480V / 1-Phase
 208V / 3-Phase
 240V / 1-Phase

Site Evaluation Conclusion

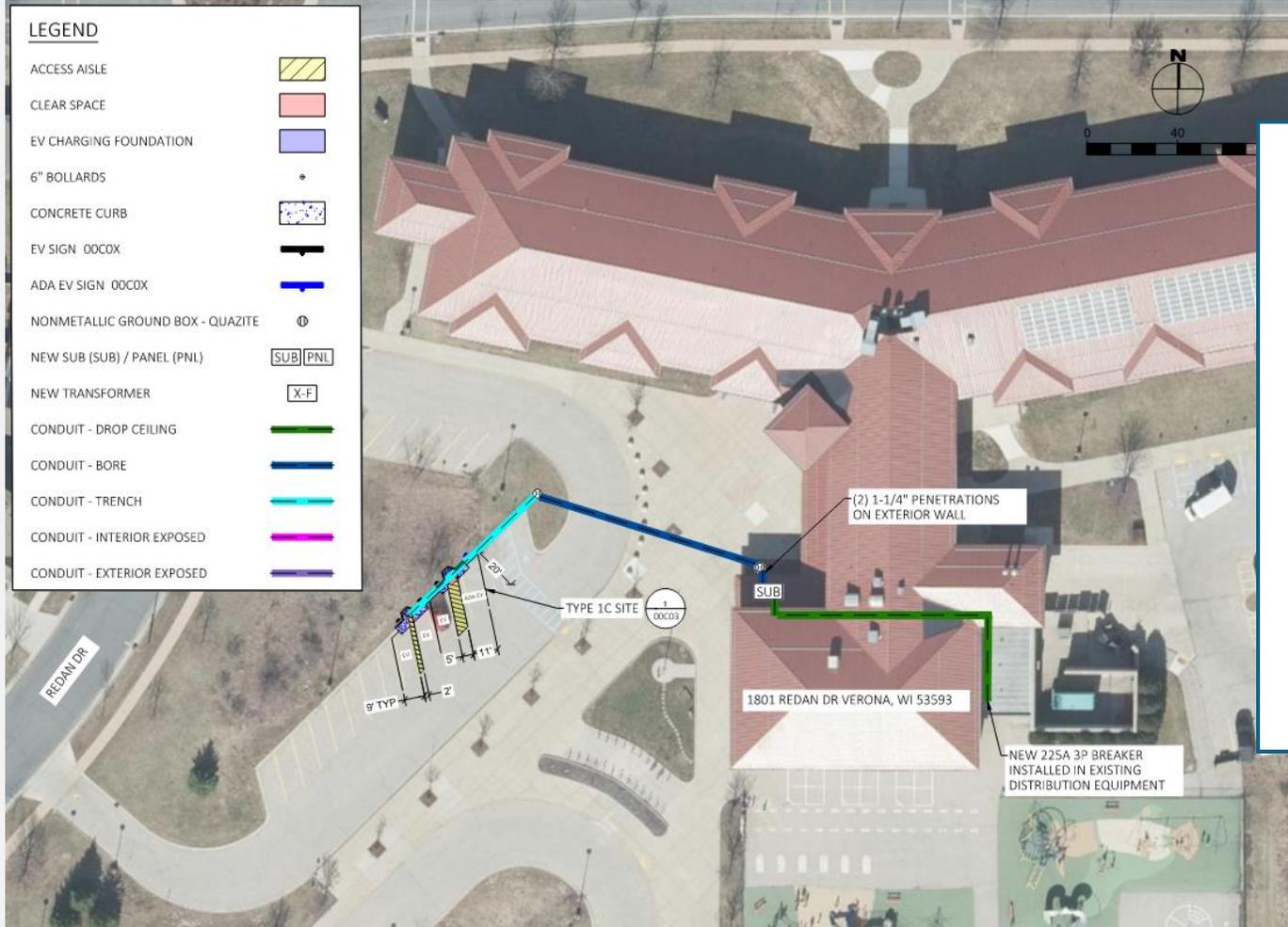
What Didn't Move Forward?

- Sites that Didn't Meet ADA Requirements
 - Slopes / Grades were Too Steep
- Evidence of Flooding
 - Soil Erosion
- Construction Complexity
 - Grading & Electrical Improvements

Feasibility Breakdown



Site Evaluation - Walkaway

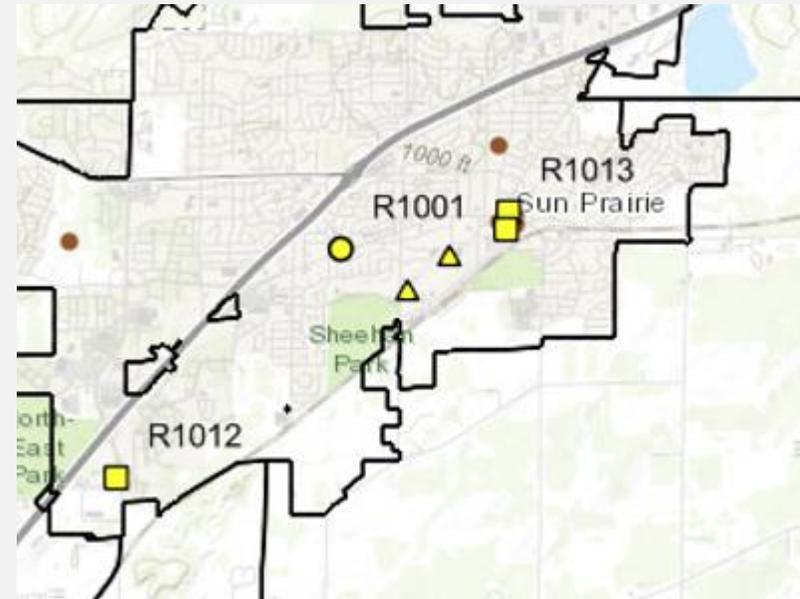
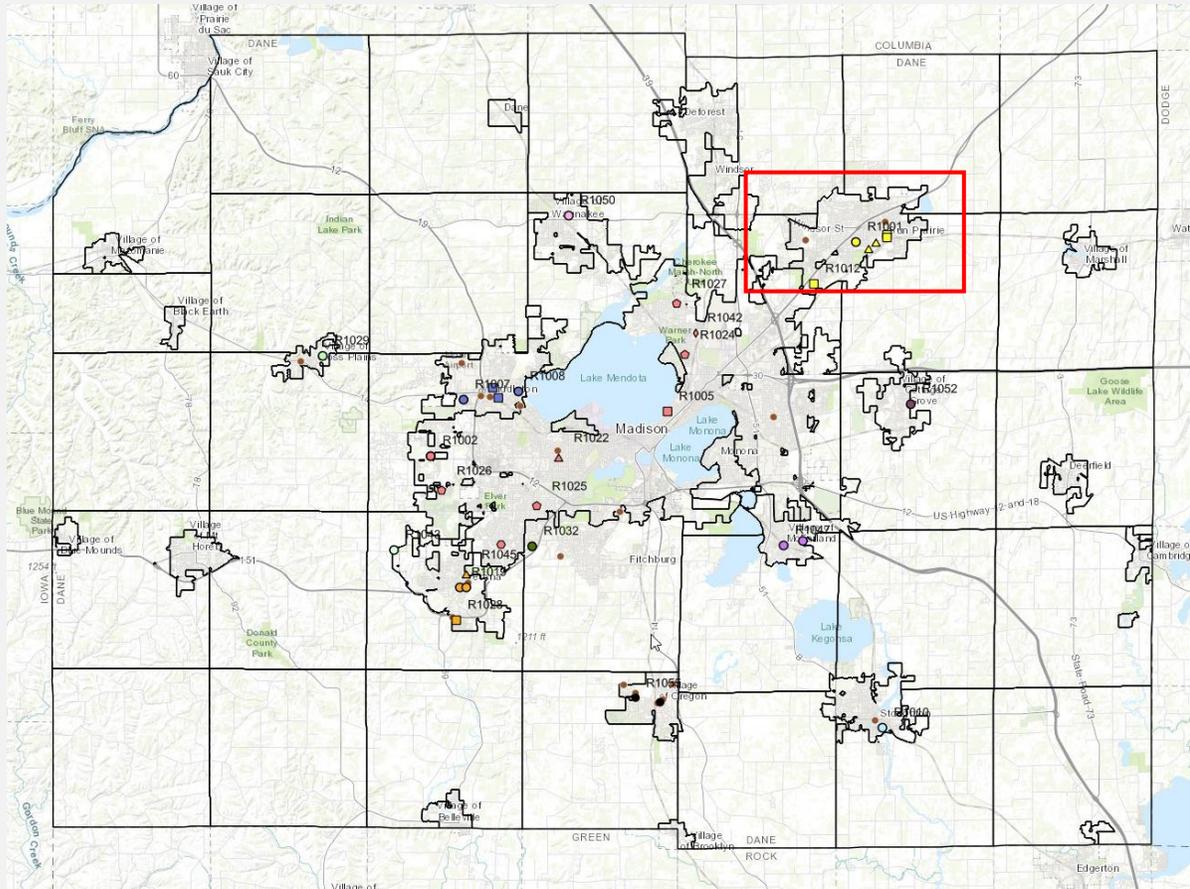


Electrical Compatibility

- Existing Service was able to Accommodate EV Chargers
- Overhead Conduit & Wire Installed Above Ceiling in Facility
- Directionally Bored Conduit from Facility to Parking Lot
- Open Cut Trench to Charging Locations for Conduit / Wire Continuation

Site Data

ArcGIS



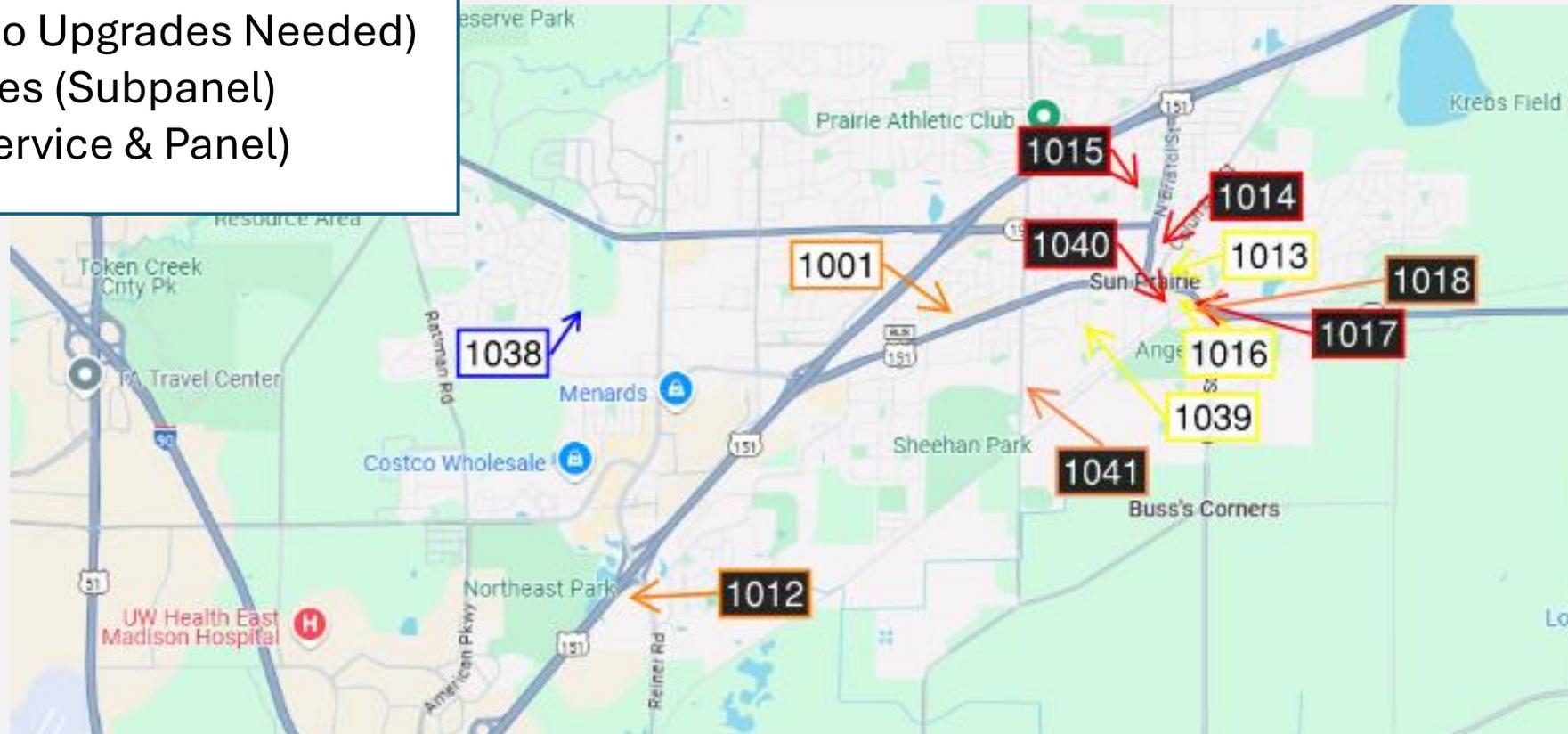
KL Generated Map
Outlined Municipalities
Risk Level Identified with Shapes

Site Evaluation Conclusion

Construction Complexity

What Will It Take?

- Slam Dunk (No Upgrades Needed)
- Minor Upgrades (Subpanel)
- Major (New Service & Panel)



Feasibility Analysis

Decision Criteria



Comprehensive Site Assessment

Field teams conduct thorough site visits evaluating access, visibility, usability, and infrastructure for charger placement.



Infrastructure Evaluation

Electrical panel capacity, trenching, and other necessary site improvements are assessed for feasibility.



Risk & Complexity Ranking

Sites are ranked by risk and complexity considering permitting, construction, and utility coordination challenges.



Balanced Decision Framework

Decisions balance site risks with public benefits like underserved community coverage and regional access value.

Lessons Learned

Practice Makes Perfect!

ADA Compliance is Critical

- Designing EV Stalls to Meet ADA Requirements Ensures Accessibility & Regulatory Compliance

Effective Coordination Enhances Design

- Aligning Site Design with ADA Standards, Civil & Electrical Engineering Needs, and Site Host Preferences Improves Project Outcomes.

Gained Efficiencies in the Site Review Process

- Refined Site Evaluation Process

Acknowledgments & Questions

- Dane County
- FHWA
- Kimley-Horn & Associates, Inc.
- Pieper Electric, Inc.
- Terracon Consultants, Inc.
- Alliant Energy
- MG&E
- Sun Prairie Water and Light Commission
- Stoughton Electric Utility
- Waunakee Water and Light Commission