

Engineering the Charge: CFI-Funded Programming, Site Selection, and Design for Dane County, Wisconsin

with Dane County Office of Energy & Climate Change, Kimley-Horn, and KL Engineering



Our Team



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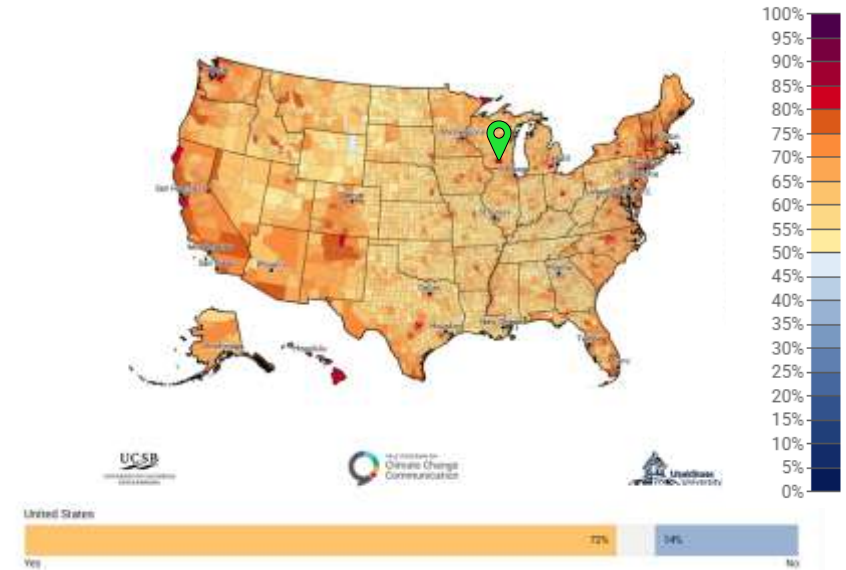


Michael Ostendorf
Senior Project Leader
KL Engineering, Inc.

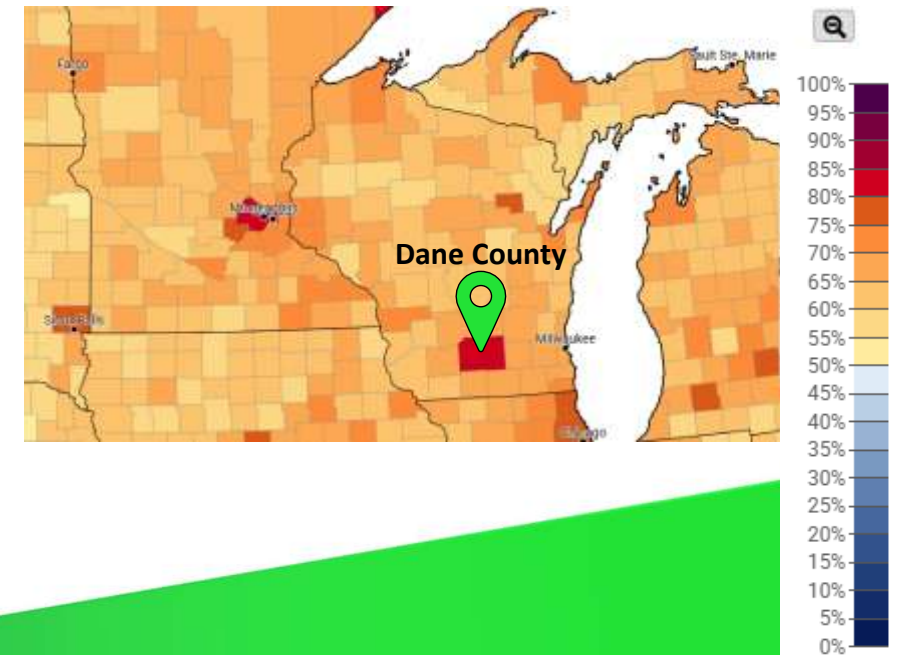


Dane County, Wisconsin: A Progressive Community

- **Madison, WI and surrounding area**
 - 600,000 people; **10%** of the state's population
 - 100,000 dairy cows
 - Home to UW-Madison
- **Early adopters and innovators**
 - **25%** of the state's EVs
 - We lead on climate action
- **Strong leadership expectations**
 - **82%** of Dane County residents believe climate change is happening
(vs. 69% statewide and 72% nationally)



Public belief that global warming is happening, based on Yale Climate Opinion Maps



Closing the Gaps in Charging Access

- **MPO study identified EV charging gaps**
 - Over 80% of current charging occurs in home garages
 - Large renter population (42% vs. 35% nationally)
- **Path forward: advance an *equitable clean energy future***
 - Expand EV access for all residents
 - Prioritize the most affordable charging option: *Level 2*



Rows of four and eight-plex buildings across Dane County communities

Leveraging the CFI Grant

Charging and Fueling Infrastructure (CFI): Provides \$2.5 billion over five years to deploy publicly accessible charging infrastructure under the Bipartisan Infrastructure Law

- **An answer to a defined need**
 - Timing was ideal – MPO analysis was nearly done
- **Collaborative proposal *grounded in community support***
 - Municipalities, schools, UW-Madison, utilities, community-based organizations
 - Over **70** letters of support and commitment

So Many Partners



We won ***\$13.2*** Million in Round 1B

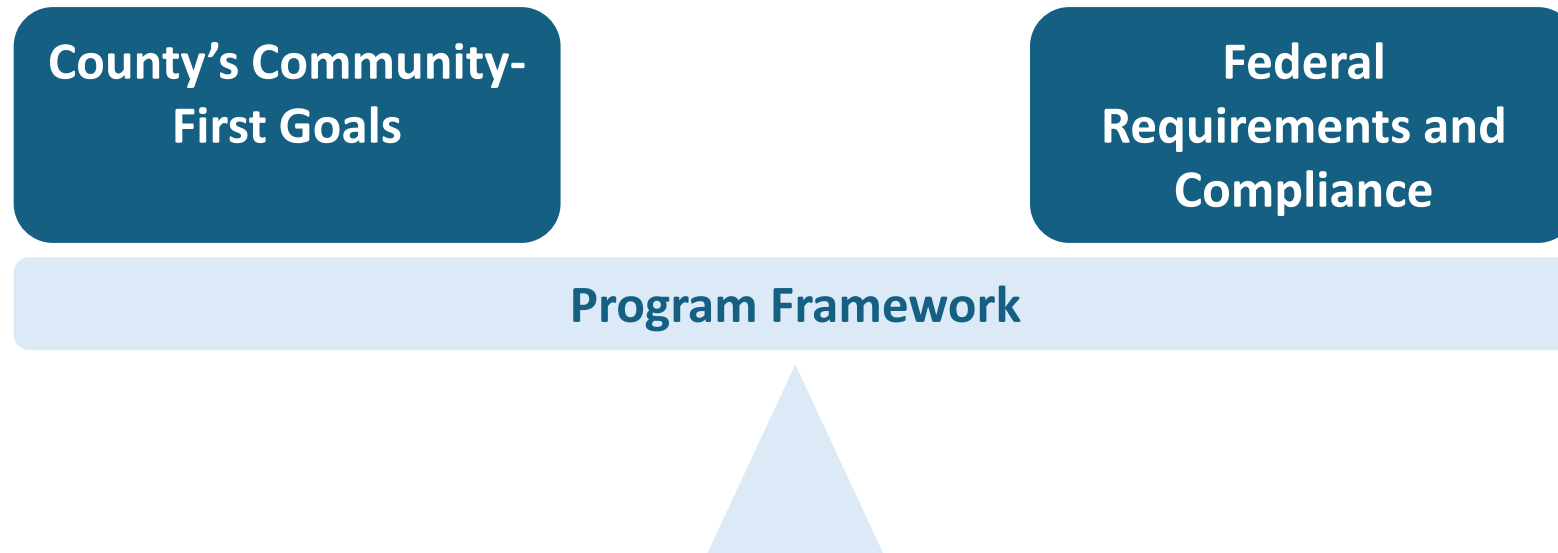
Program Timeline

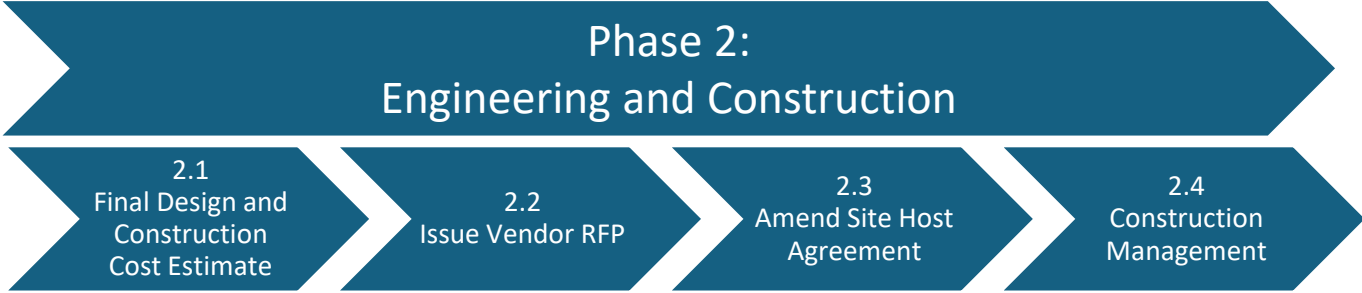


A Community-First Approach

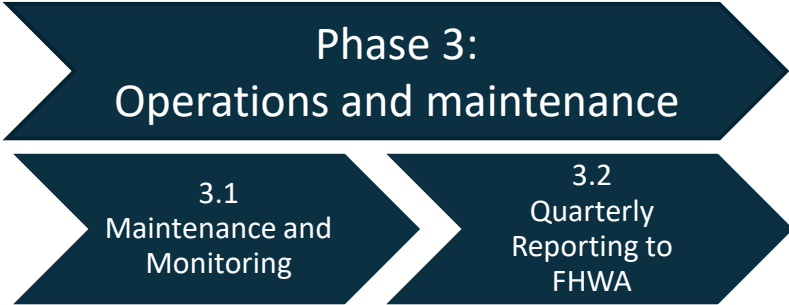
- Dane County's CFI Model *does not prioritize high-revenue sites*
- **Prioritizes:**
 - Opportunity creation
 - Capacity building
 - Equitable access
 - Affordability
- **Delivery Implications:**
 - Level 2 chargers
 - Immediate ownership by site hosts

Supporting a Local Vision with Targeted Expertise





We are here!



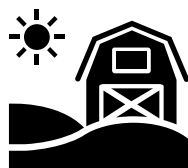
Dane County Site Host Application

PRIORITY AREAS



High Density Urban & Suburban Area

Where residents lack
access to private
charging



Rural Areas

Where the private
charging market is less
likely to install charging
stations



Multi-Modal Transportation Hubs

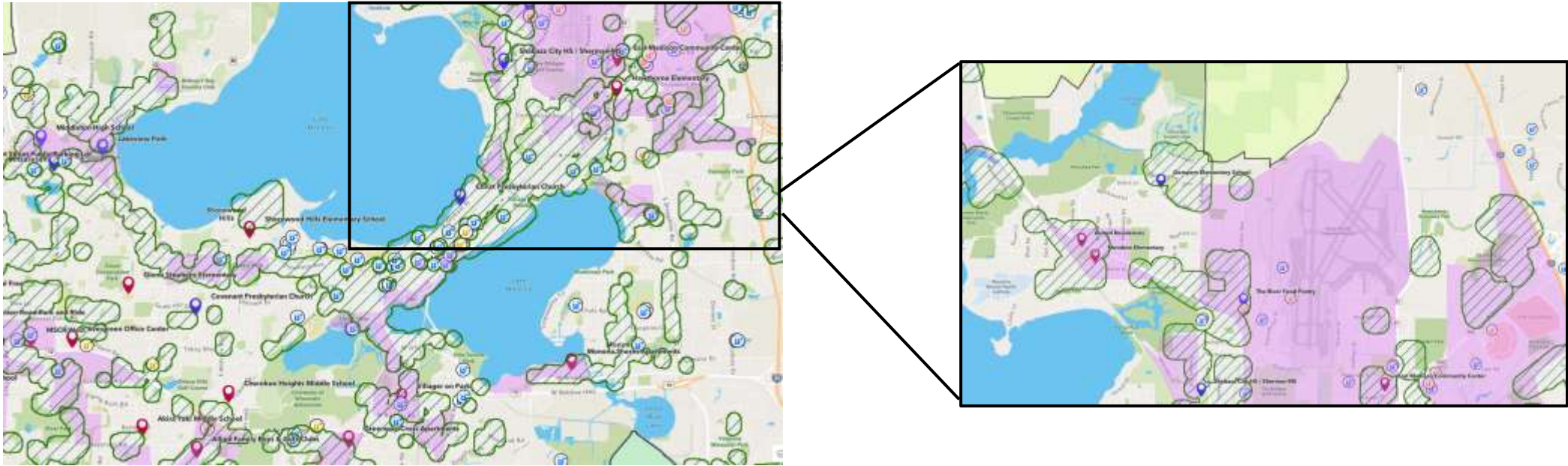
Where EV charging can
support public and
private transit

The Evaluation Process




Desktop Key Considerations

- Flood plains
- 24/7 public parking availability
- Proximity to existing EV chargers
- Historical/cultural constraints
- Contamination risk
- Sidewalk proximity

Dane County's Existing EV Charging Infrastructure



Photos courtesy of Dane County, Wisconsin, ArcGIS Online Interactive Legend

-  High Density Multifamily Area
-  Non-Urban (Rural) Areas
-  Underserved Priority Area

Key Site Considerations

- Grades
- Available Space
- ADA Accessibility
- Property Lines
- Slope



KL Engineering staff assess key site considerations at a potential host location

Site Evaluation Tools



Data Entry Tablet



GoPro 360



Cellular Network Scanner

Electrical Key Considerations

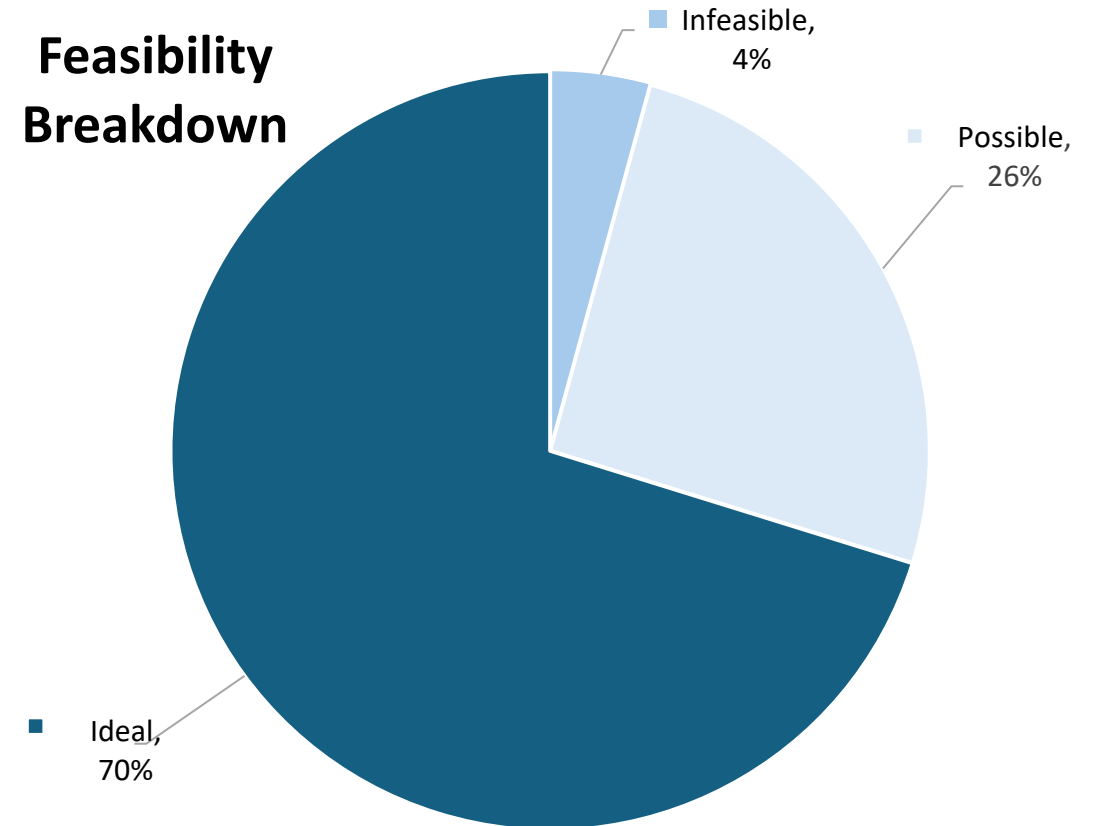
- Service size and load capacity
- Service voltage
- Electrical service location within the building
- Distance to utility point of connection and available capacity



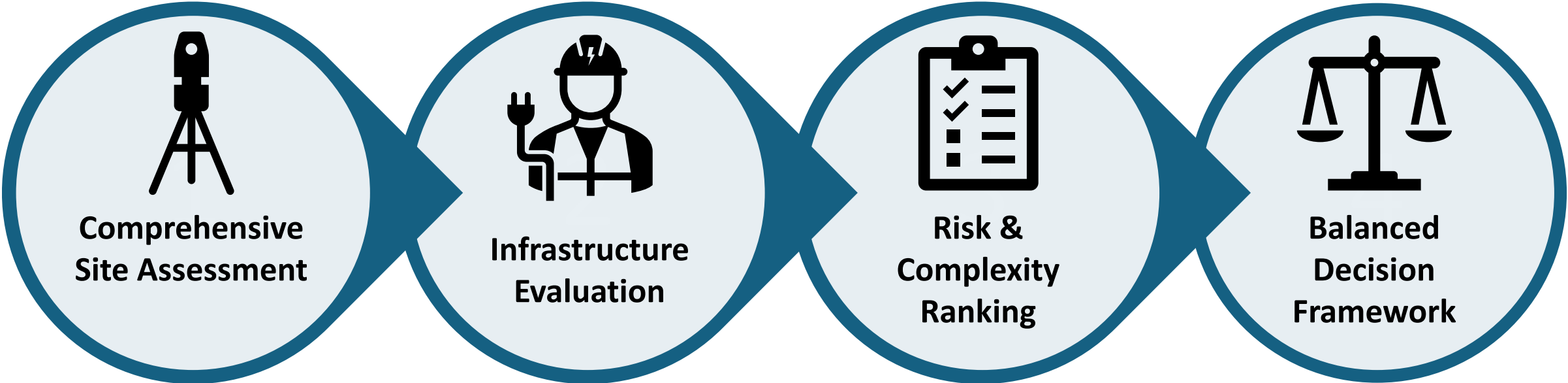
Pictured above is an electrical evaluation

Site Evaluation Conclusions *(to date)*

- Out of **61** evaluated, **50** have advanced
- **Advancing sites demonstrated:**
 - ADA compliance
 - No identified flooding concerns
 - Limited construction-related constraints
 - Electrical compatibility
 - Willingness to participate in the program



Decision Criteria Alignment with County



Key Takeaways

Site Considerations

- More *stakeholders* involved = more *challenges*
- Focus on *project vision*



Charging site draft plans

Parking Considerations

- *“Primary”* and *favorite parking spaces* must be protected to avoid operational conflicts



GoPro 360 footage capturing a potential site host

Schools as a Strong Partner

- **3** school districts are site hosts
- **33%** of sites are schools
- An opportunity for districts to advance community engagement goals



Shorewood Hills Elementary School – Madison Metropolitan School District

Planning Chargers for Wisconsin Weather

- ***Snow removal*** must be considered during site design
 - Account for snow plowing routes and practices, snow storage, and piling areas



Designated snow storage area within a parking lot

The Road Ahead

NEPA/CE
approvals

Complete design

Construction



FHWA Phase 2
(construction)
amendment

Construction RFP
(equipment,
software,
construction,
and operations &
maintenance
[O&M])

Five-year O&M
partnership

Q & A