



# Planning & Execution at U.S. Coast Guard Sites

EVSE Empowerment Week

***Plug Into the Future: Energize Your Skills!***

# EVI-LOCATE

EVSE Planning Tool and Cost Estimator

Ranjit Desai  
Ranjit.Desai@nrel.gov

EVSE Empowerment Week  
*Plug Into the Future: Energize Your Skills!*

# Federal Fleet Tools

Where do I Start?

- **ZEV Ready Center**- 15-step process to help sites get ZEV-ready
- **U-Finder**- Utility contact information and available incentives
- **Fleet Requirements Resource Center**- Addresses key requirements for agencies

**Zero-emission vehicle (ZEV) candidates**

- **FleetDASH**- Identify ZEV opportunities and fueling locations
- **ZPAC**- Identify ZEV opportunities based on fueling data (tied to FleetDASH)

**How many electric vehicle (EV) charging stations and types are needed?**

- **ZPAC**- Estimate charging needs from fleet inputs and fueling data
- **EVI-Fleet** *forthcoming*- Identify precise charging needs with telematics and fueling data

**EVI-LOCATE**- Site assessment and estimate site-specific costs for an EV supply equipment (EVSE) project

Who should take the lead on using the tool?

EV Champion + Fleet Manager , **EV Champion + Fleet Manager + Facilities, EV Champion + Facilities**

Source: <https://www.energy.gov/femp/overview-zev-ready-federal-fleet-electrification-process>

Federal Fleet Email: [federal.fleets@nrel.gov](mailto:federal.fleets@nrel.gov)

# Problem and Objective

**Problem Statement:** Design costs and timelines add significantly to EVSE installation scope.

**Objective:** Simplify the EVSE design and cost estimation process with a web tool.



## **EVI-LOCATE (Electric Vehicle Infrastructure–Locally Optimized Charging Assessment Tool and Estimator)**

- Plan charging station deployments
- Assess site-specific electrical needs
- Calculate local project costs

- Website: <https://evi-locate.nrel.gov>.
- Email: [evi-locate@nrel.gov](mailto:evi-locate@nrel.gov).
- Federal employees can sign up for accounts directly.
- Federal contractors need to email [evi-locate@nrel.gov](mailto:evi-locate@nrel.gov) with federal EVI-LOCATE users CCed.

The image shows a screenshot of the EVI-LOCATE web application. On the left is a vertical sidebar menu titled "Steps" with eight items: 1 Create Project, 2 Define Site, 3 Manage EV Chargers, 4 Manage Transformer, 5 Manage Service Panel, 6 Review Design, 7 Estimate Cost, and 8 View Site Report. The "1 Create Project" item is highlighted. To the right is the "Create Project" form, which includes the following fields:

- Your Name**: A text input field.
- Your Email**: A text input field.
- Your Agency**: A dropdown menu with "Civilian Agency" selected.
- Select Agency**: A dropdown menu with "Department of Energy" selected.
- Zip Code of Project Site**: A text input field containing "80228".

# Site Selection

1. Select agency,
2. select state,
3. then select base if DOD customer.

| Steps |                      |
|-------|----------------------|
| 1     | Create Project       |
| 2     | Define Site          |
| 3     | Manage EV Chargers   |
| 4     | Manage Transformer   |
| 5     | Manage Service Panel |
| 6     | Review Design        |
| 7     | Estimate Cost        |
| 8     | View Site Report     |

## Create Project

Your Name

Your Email

Your Agency

Select Agency

Zip Code of Project Site

# Define Site Boundary

## Define Site

- Draw a polygon around EV parking area
- Name your site
- Make sure the polygon is large enough to include service transformer, panel, and charging stations.



# Select EVSE Type

## Select EVSE Charger Template

- Users can filter to their preferred charger or select generic charger option.

# Locate Chargers

## Drop Chargers on Map

- Currently, users can only select AC Level 1 and Level 2 unidirectional chargers.
- Working on DC fast chargers and bidirectional chargers.

# Panel Questions

## Determine Service Panel Needs

- . Voltage rating?
- . Unused circuit breaker spaces?
- . Main breaker current rating?
- . Existing peak load?

# Wiring: Connecting the Equipment

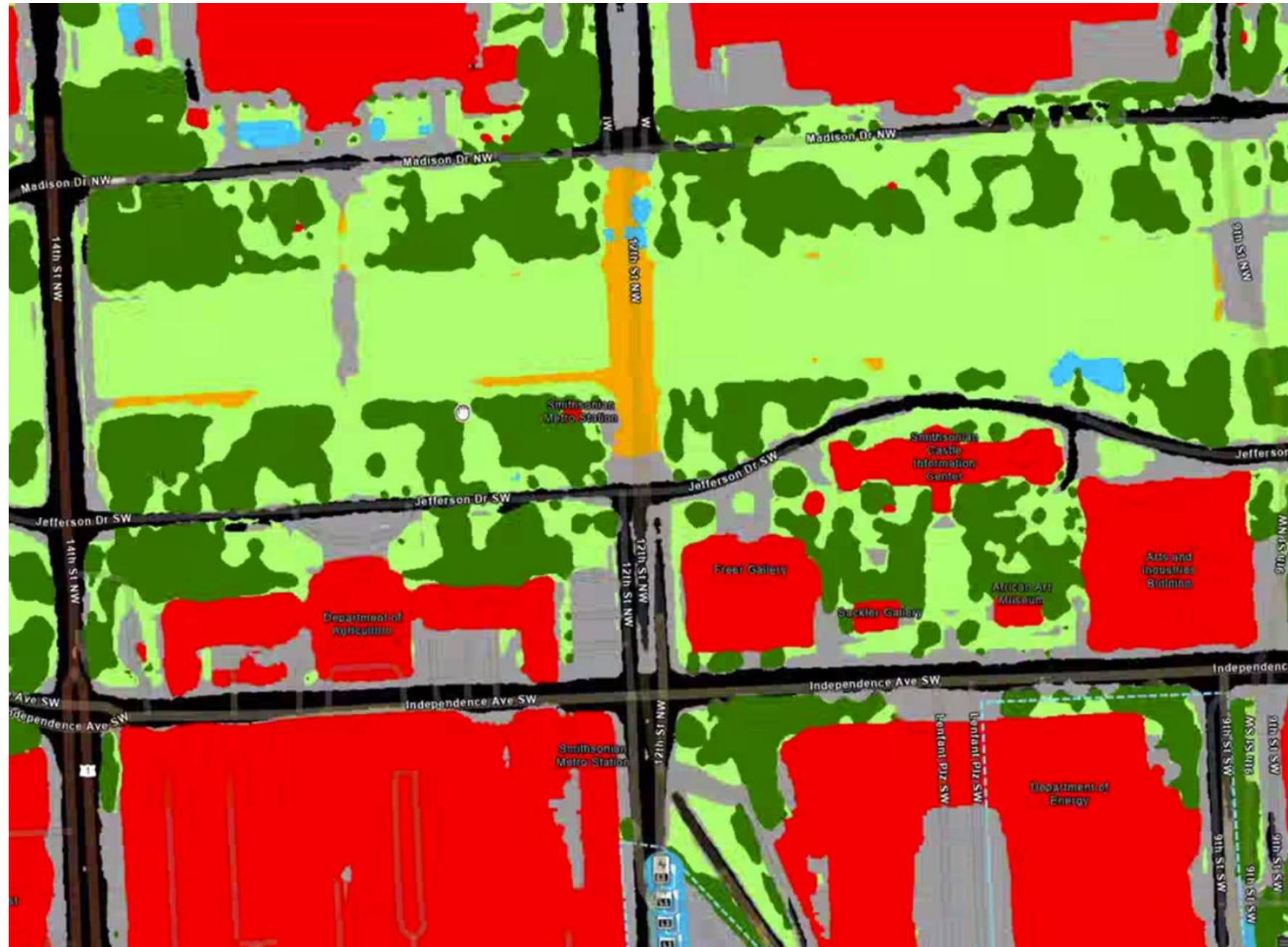
## Wiring Run

- Tool identifies low-cost line from transformer to panel to chargers.
- Identifies hardscape and softscape.

# Wiring: Behind the Scenes

## Wiring Run

- Siting algorithm uses near-infrared imagery to distinguish surface type and buildings.
- Identifies least-cost path to run conductors and conduit.



# Cost Calculations

## Cost Adjustment

- Slider bars for project costs (e.g., feds may not need to pay taxes).