



# EVs2Scale and GridFAST Overview

30 September 2024

**Watson Collins**

# Addressing the Barriers to Achieving EVs at Scale

A Three-Pillar Strategy to Address the Key Industry Gaps



1

2

3

## COALITIONS & ROADMAPS

### Industry Forum Convenings

- Utility-OEM Forum
- Utility-Fleet Forum

### National EV Driver Research Board

**50-state eRoadMAP™ to 2030**  
outlining EV loads, grid impacts,  
leadtimes, workforce, costs

## STRUCTURAL SYSTEM REFORMS

### Charging Infrastructure

- Reliability: Benchmarking, Standards
- Charging Innovation & Affordability

### Grid Readiness

- Streamlined Grid Interconnect
  - Expedited Interim Charging Solutions
- Managed Charging at Scale
- Interconnect Standards for V2H/V2B/V2G

## UNIFYING TOOLS & PILOTS

- Approved Product List (APL)
- NEVI/NEHC Coordination with EEI

- GridFAST™ Online Data Exchange
- OEM/Utility V2H/V2B Pilot
- EV Resilience/Evacuation Pilot

Enabling Regulatory and Oversight Framework

Equity Blueprint & Workforce Development

# EVs2Scale 2030™



## PROJECT PARTNERS BROAD INDUSTRY SUPPORT

EVs2Scale 2030



ANALYTICS



DATA



Also:

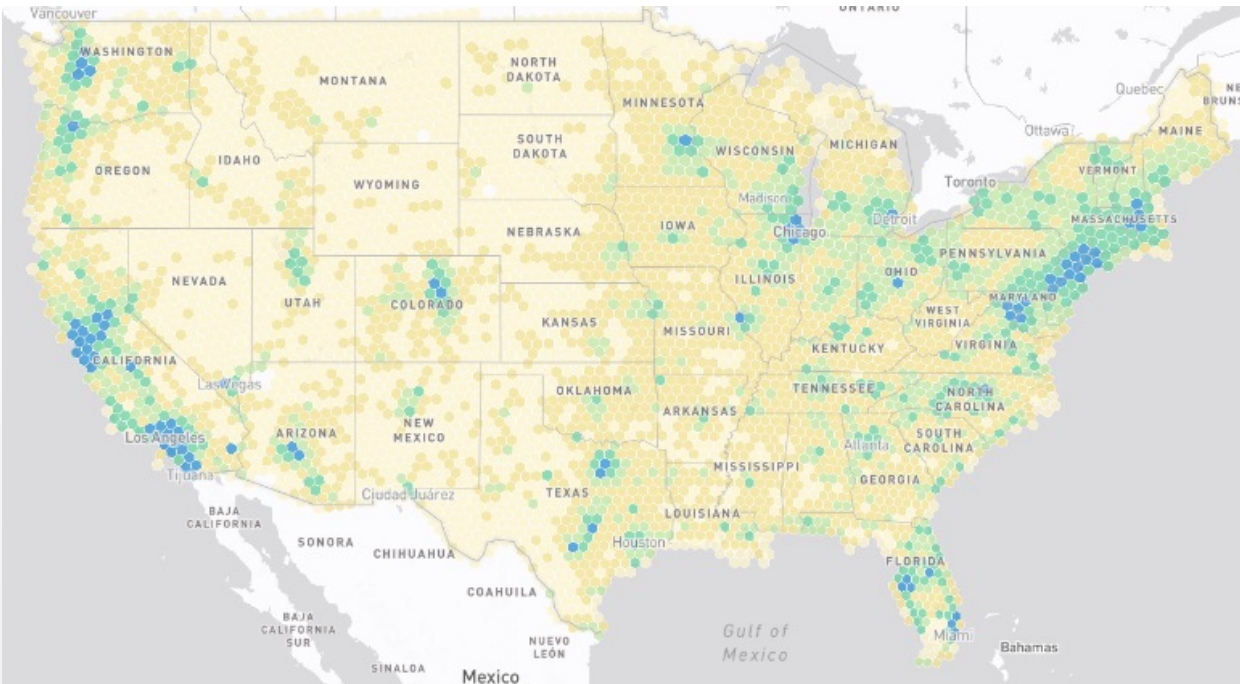


# General Problem to be Addressed

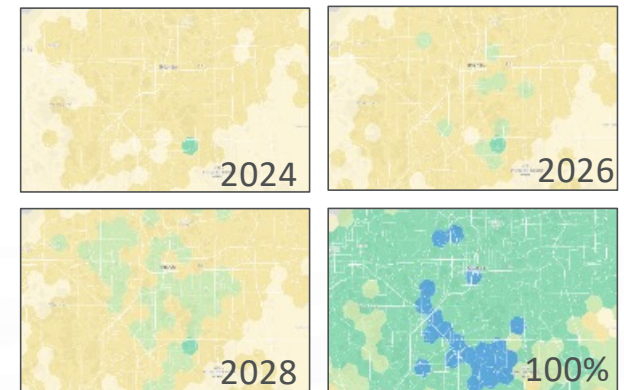
Where and when will loads appear on the grid?



<https://eroadmap.epri.com/>

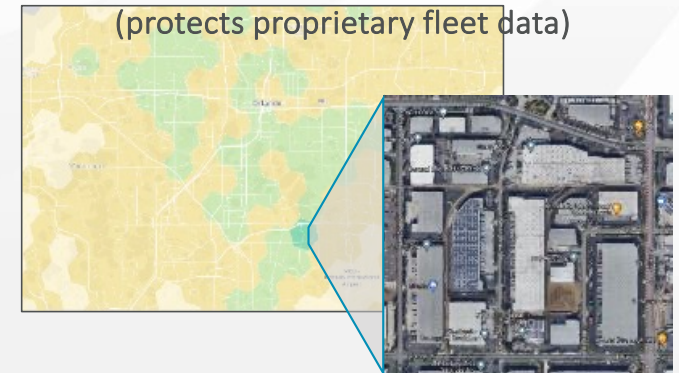


## Fleet Electrification Over Time



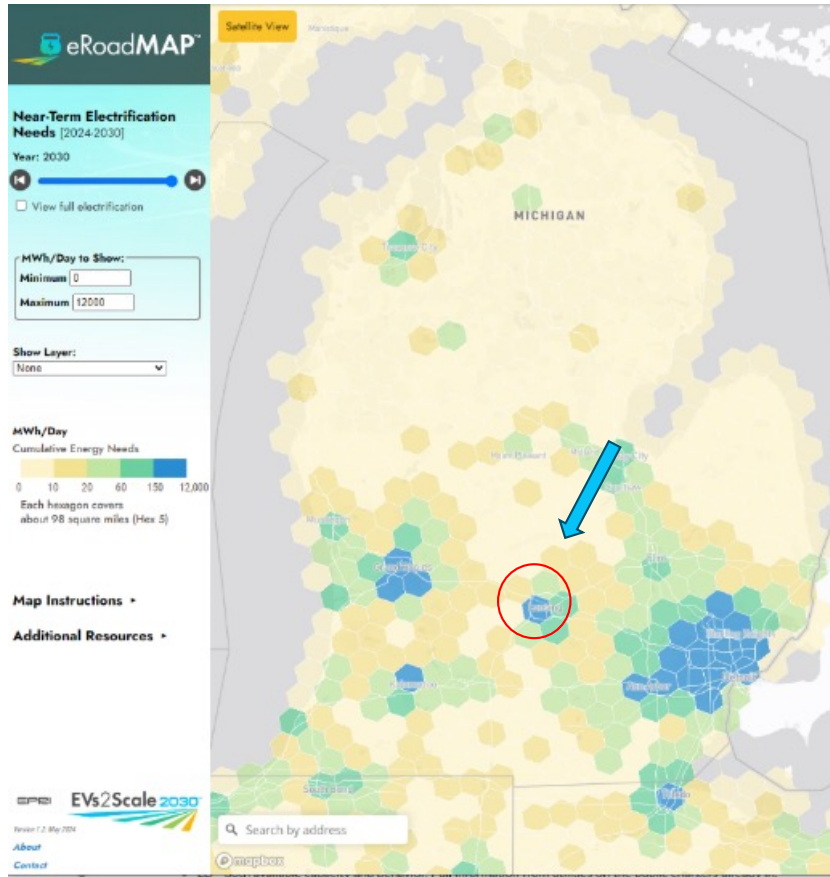
## Fleet activity aggregated to Hex8 Level

(protects proprietary fleet data)



eRoadMAP: Interactive Load Map to Hex8 Resolution (0.28 mi<sup>2</sup>)

# Interactive Energy Map: Michigan, 2030



# Interactive Energy Map: Lansing Area

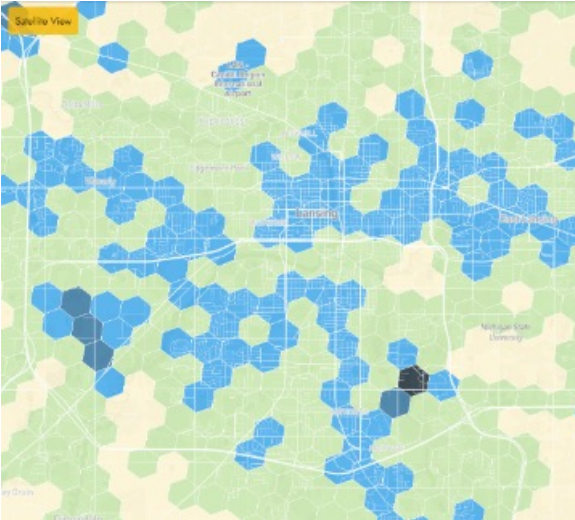
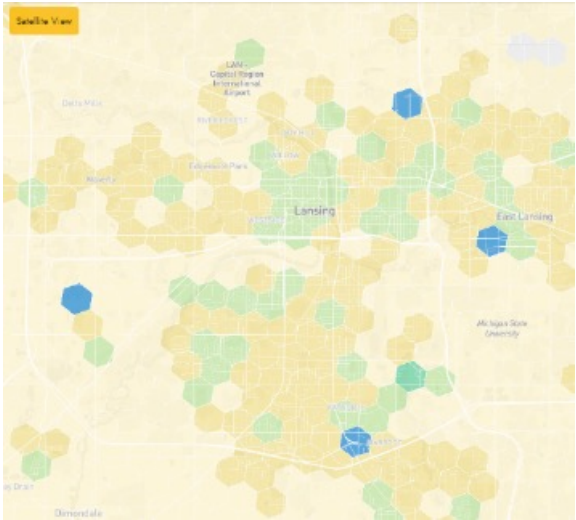
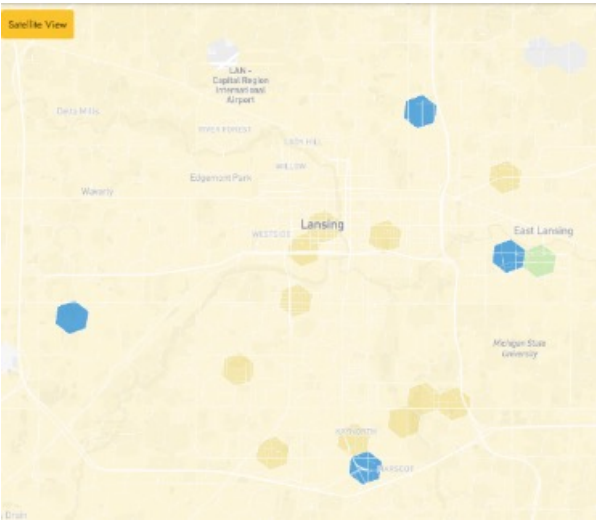
2027 to 2030 to Full Electrification Comparison



2027

2030

Full Electrification



Hex 8 (0.28 mi<sup>2</sup>)

# Interactive Energy Map: Lansing Area

2027 to 2030 to Full Electrification Comparison

2026

2030

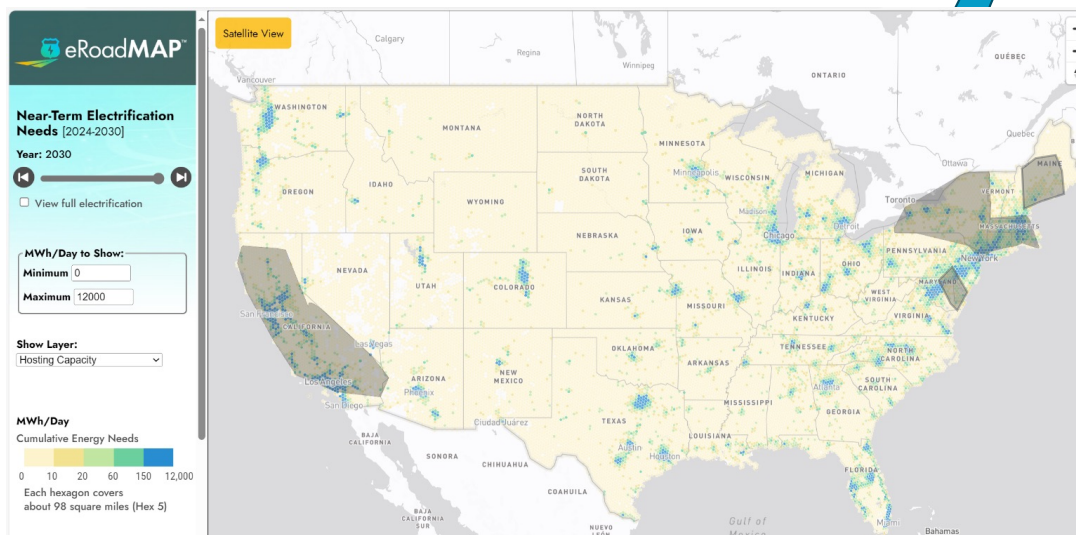
Full Electrification



Hex 8 (0.28 mi<sup>2</sup>)



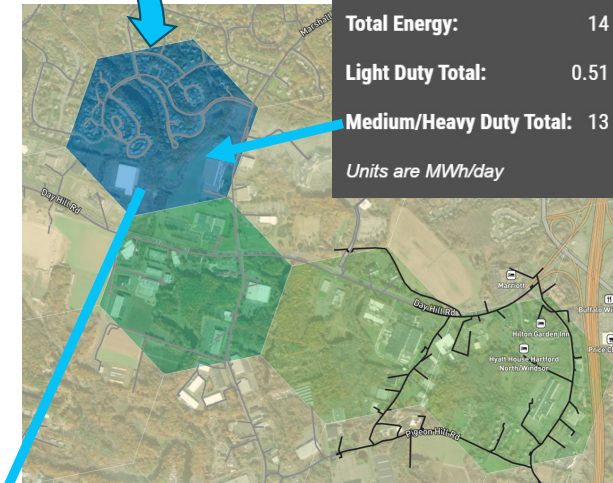
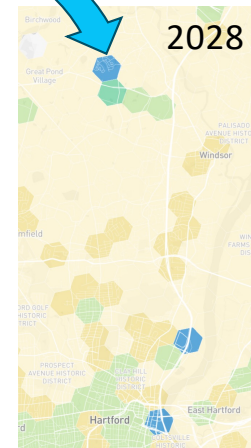
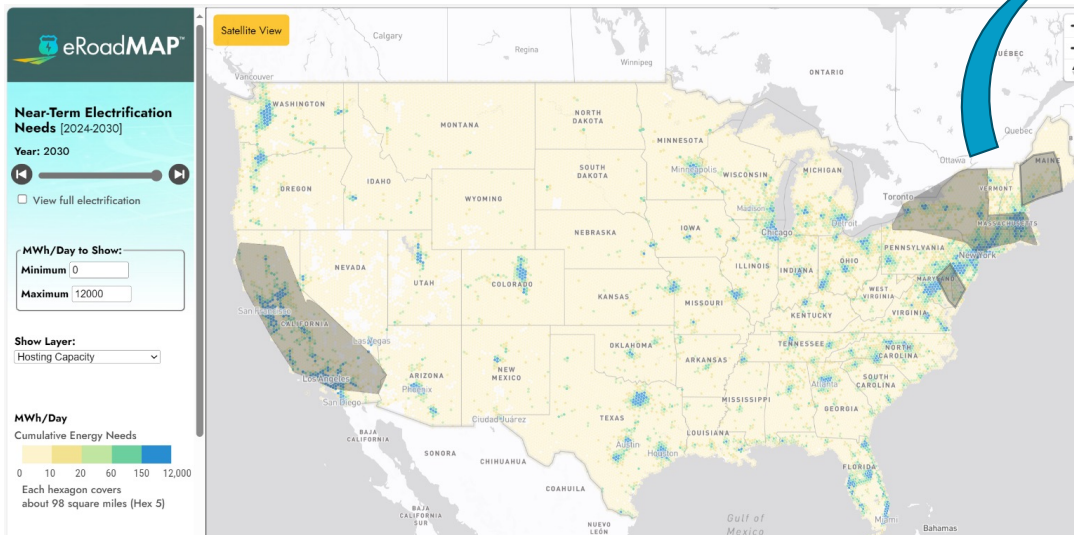
# eRoadMAP | Grid Hosting Capacity Maps



## Load Capacity Maps from 14 Utilities include:

- **California:** PG&E, SCE, LADWP
- **Connecticut:** [Eversource](#), United Illuminating
- **Delaware:** Pepco Holdings
- **Maine:** Central Maine Power
- **Massachusetts:** National Grid
- **Maryland:** Pepco Holdings
- **New York:** National Grid, ConEd, Orange & Rockland, Central Hudson, NYSEG, and Rochester G&E
- **New Jersey:** Orange & Rockland
- **Rhode Island:** Rhode Island Energy

# eRoadMAP | Grid Hosting Capacity Maps



## Totals for this Hexagon

<b>Total Energy:</b>	14
<b>Light Duty Total:</b>	0.51
<b>Medium/Heavy Duty Total:</b>	13
<i>Units are MWh/day</i>	

## Line Capacity

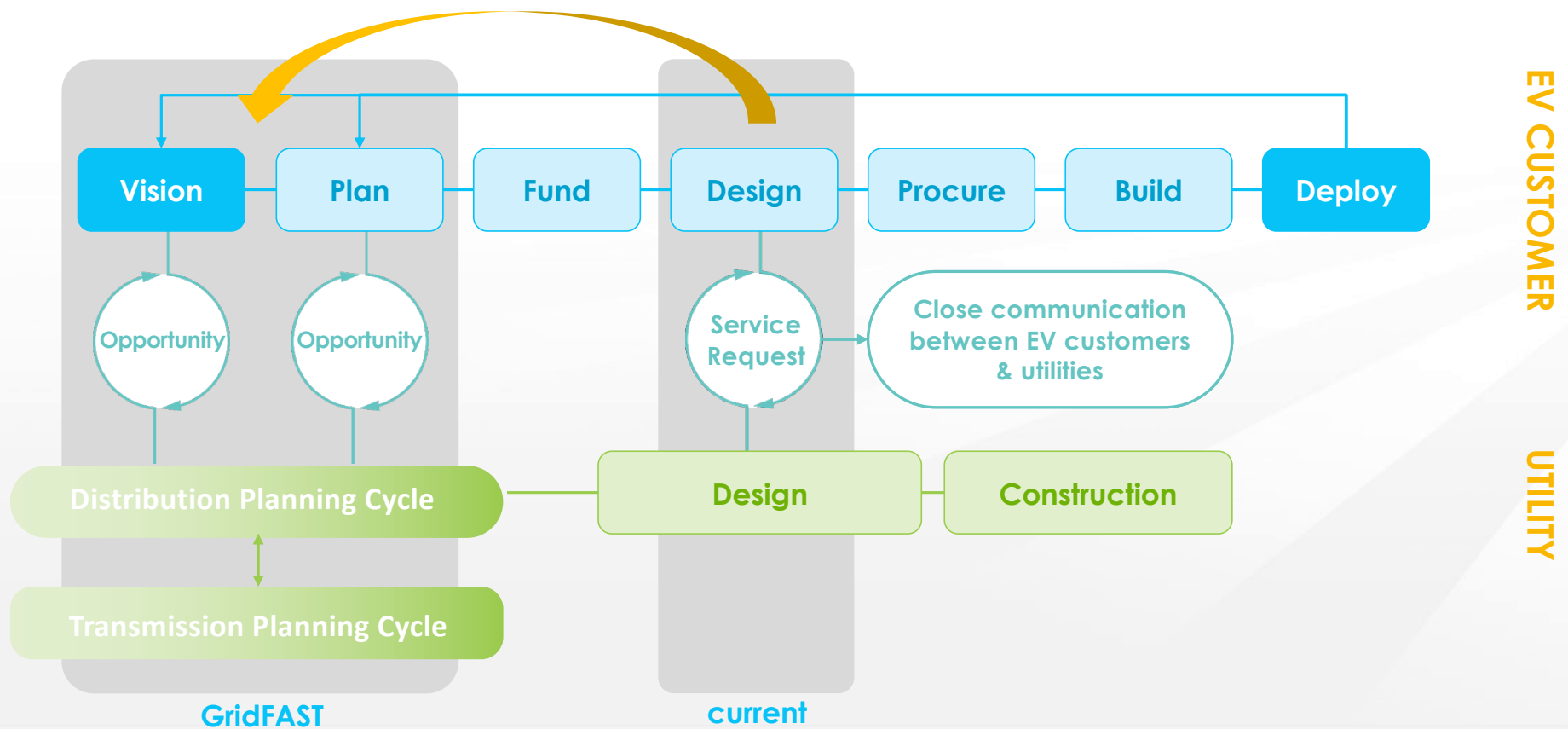
<b>Circuit:</b>	3B02, Substation: BLOOMFIELD
<b>Load Capacity (MW):</b>	0.4
<b>Data Source:</b>	Eversource Connecticut
<b>Updated by Utility:</b>	Unknown
<b>Retrieved by EPRI:</b>	May 13, 2024

In 2028, 13 MWh (energy) forecast north of Hartford, CT; Eversource showing estimated 0.4MW (power) available. Note, major logistics provider in this area.



# Grid Interconnection Problem Statement

How might we help EV customers and utilities get actionable information earlier?





## GRIDFAST: SIMPLIFY AND ACCELERATE EV INFRASTRUCTURE ENERGIZATION WITH SEAMLESS *COMMUNICATION*



*Scaling electric vehicles (EVs) requires building strong relationships and trust between two industries that need to work together for such an important and pressing issue.*

- Exchange information in a standardized and secure way
- Maintain full control over fleet and other strategic data
- Quickly connect with utility contact responsible for moving infrastructure energization projects forward
- Streamline EV infrastructure energization with GridFAST intuitive platform and personalized project guidance





# GridFAST | Addressing 15 Pain Points in Grid Interconnection



## Vision & Strategy

Provide tools to educate fleets and **make the case for electrification**

Help fleets forecast where/when to electrify (beyond 2 years) to **drive more certainty in fleet plans**

- ✓ Create a standard practice (across utilities) to gather fleet plans early so **utilities can incorporate into D&T planning**
- ✓ **Validate fleet plans** so utilities can confidently invest in costly grid upgrades
- ✓ **Help smaller utilities** establish EV processes so they can better support EV projects

## Plan & Forecast

✓ Kickstart fleet communications with the right utility/POC to **eliminate nonvalue-added fleet efforts**

Educate fleets on electricity and utility processes and programs to **eliminate nonvalue-added utility efforts**

✓ Help fleets gain more accurate insights into grid capacity, upgrade timelines and costs, so they can **select more viable locations**

Help utilities provide real-time, updated feeder capacity data so fleets can **select more viable sites before submitting a formal request**

Help fleets model and calculate charging and power scenarios to **minimize costly and potentially unnecessary grid upgrades**

Provide fleets with smart, interactive tools to alleviate utility bottlenecks (e.g., staff shortages) **without having to wait for a utility engineer**

## Funding

Help fleets understand how to qualify/apply for grant and incentive programs so they have **full transparency into the process ahead of time**

## Design & Engineering

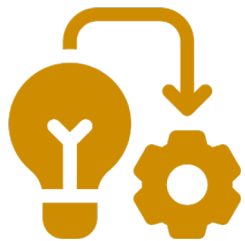
✓ **Create a standardized process for service requests across the utility industry to minimize time-consuming and repetitive workload**

Help utilities provide more timeline transparency to fleets (e.g. supply chain delays, resourcing, permits, easements) so **fleets can account for it in their project planning**

## Approvals & Procurement

✓ Set a standard for fleet x utility best practices to **minimize back and forth and timeline delays**

# How GridFAST works



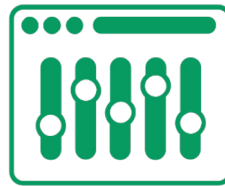
## Project Input

EV customers enter their project concepts into GridFAST, and can view hosting capacity maps, if available



## Utility Match

GridFAST matches EV projects to the relevant utility to start the exchange based on vetted information



## Capacity Information Exchange

GridFAST is an easy and secure system for utilities to provide program and processes info to EV customers



## Preparation of Service Request

EV customers finalize project details



## Service Request

EV customer information in GridFAST submitted to utility when they're ready to move forward

# EVs2Scale 2030



Thank You