



# National Electric Vehicle Infrastructure Funding and Electric Vehicle Growth in Iowa

APA Iowa  
June 15, 2023  
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# Agenda

- Electric Vehicle (EV) Technology
- EV Trends
- National Electric Vehicle Infrastructure (NEVI) Program and EV Deployment Plan
- What's Next?

The background features a close-up of an electric vehicle charging cable on the left. The right side shows a blurred cityscape at sunset. Overlaid on the right is a network diagram with four circular icons: a car with a lightning bolt, a battery, a charging station, and a battery with a lightning bolt. The main title 'EV Technology' is displayed in white on a teal background on the left.

# EV Technology

- Types of Electric Vehicles
- EV Charging Stations



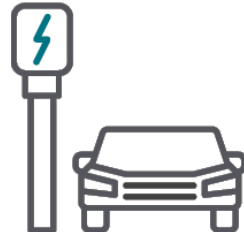
# Types of Electric Vehicles



## HEVs

Low-emission vehicles that use an electric propulsion system to assist liquid fueled engines. Cannot plug-in to charge.

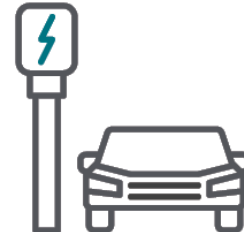
HYBRID ELECTRIC VEHICLES



## PHEVs

Similar to a hybrid, but with a larger battery and electric motor. Has a fuel tank and a charging port.

PLUG-IN HYBRID ELECTRIC VEHICLES



## BEVs

Powered solely by an electric battery, with no gas engine parts. Most BEVs are capable of faster charging and have zero tailpipe emissions.

ALL ELECTRIC OR BATTERY ELECTRIC VEHICLES



## FCEVs




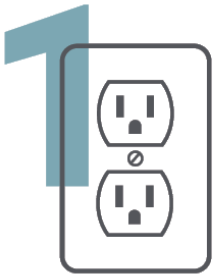
Powered by electricity using a fuel cell powered by hydrogen. FCEVs do not plug-in for charging and have zero tailpipe emissions.

FUEL CELL ELECTRIC VEHICLES






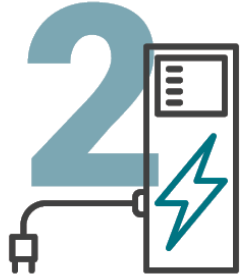
# EV Charging Stations

## LEVEL 1, LEVEL 2 & LEVEL 3







### LEVEL 1

- » Residential outlet
- » 120 volts
- » Good for overnight charging
- » 2-5 miles/charging hour
- » Billed at public utility rate
- » Charging Unit Cost: \$600+



### LEVEL 2

- » Charging stations across the U.S.
- » 240 volts
- » Good for short-range charging
- » 10-20 miles/charging hour
- » Host sets billing rate
- » Charging Unit Cost: \$7,000+



### LEVEL 3/FAST CHARGER

- » Charging stations across the U.S.
- » 480 volts
- » Good for long-range charging
- » ~30 minutes for full charge
- » Host sets billing rate
- » Charging Unit Cost: \$125K+, plus installation



# EV Trends

- Nationally
- Within Iowa

# National Trends



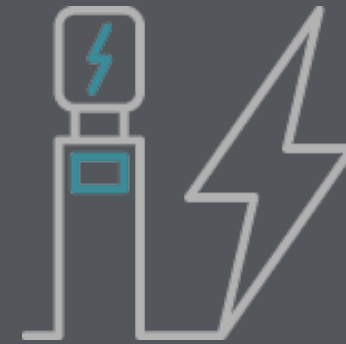
- U.S. electric car sales jumped to a record high of **over 200,000 vehicles in Q1 2022.**
- Electric vehicle (EV) sales continue to grow in the U.S. as automakers build more options and consumers drive the demand.



# EVs in Iowa Today



With statewide growing adoption, **10,710 EVs and hybrid vehicles** were registered in Iowa as of December 2022—at least one was registered in every county.



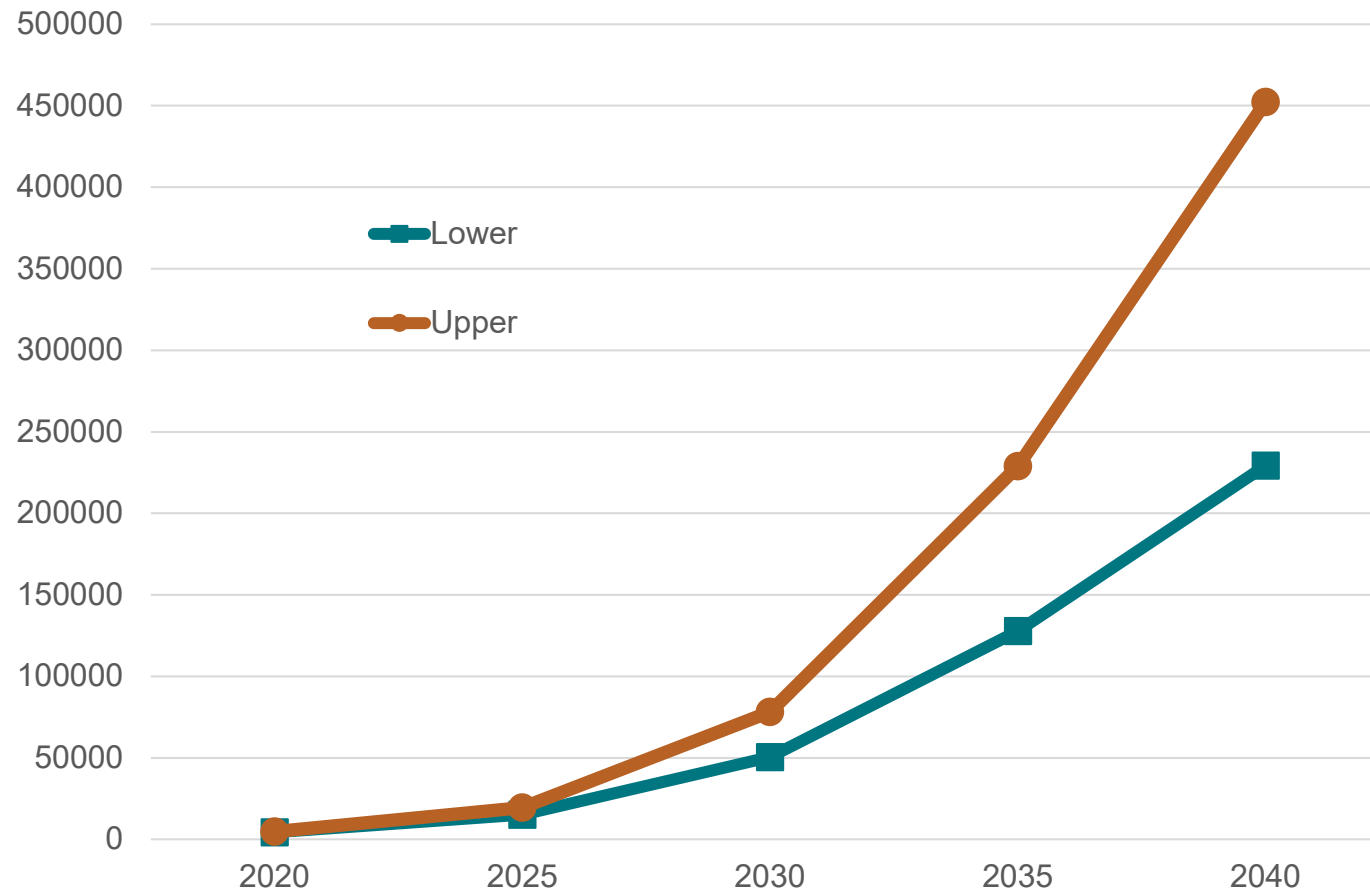
To support this growth, Iowa has **272 EV charging locations** (Level 2 and 3) across the state for public use.


|               | Battery Electric Vehicles | Plug-In Hybrid Electric Vehicles |
|---------------|---------------------------|----------------------------------|
| April 2017    | 400                       |                                  |
| June 2018     | 700                       | 1,750                            |
| June 2019     | 1,340                     | 2,400                            |
| June 2021     | 3,200                     | 3,180                            |
| June 2022     | 5,740                     | 4,610                            |
| December 2022 | 5,990                     | 4,720                            |





# Projected EVs on the Road in Iowa





# National Electric Vehicle Infrastructure (NEVI) Program

- Infrastructure Investment & Jobs Act (IIJA)
- NEVI Program



# IIJA and the NEVI Program

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- The 2021 Infrastructure Investment and Jobs Act (IIJA), authorized \$7.5 billion in federal funds to support electric vehicle (EV) chargers.
  - \$5 billion in formula funds; \$2.5 billion discretionary grant program
- In February 2022, guidance was issued for the NEVI Program, which provides federal funds for EV charging infrastructure. (Revised June 2023)
- To receive funds, states developed plans to create a charging network along major corridors.



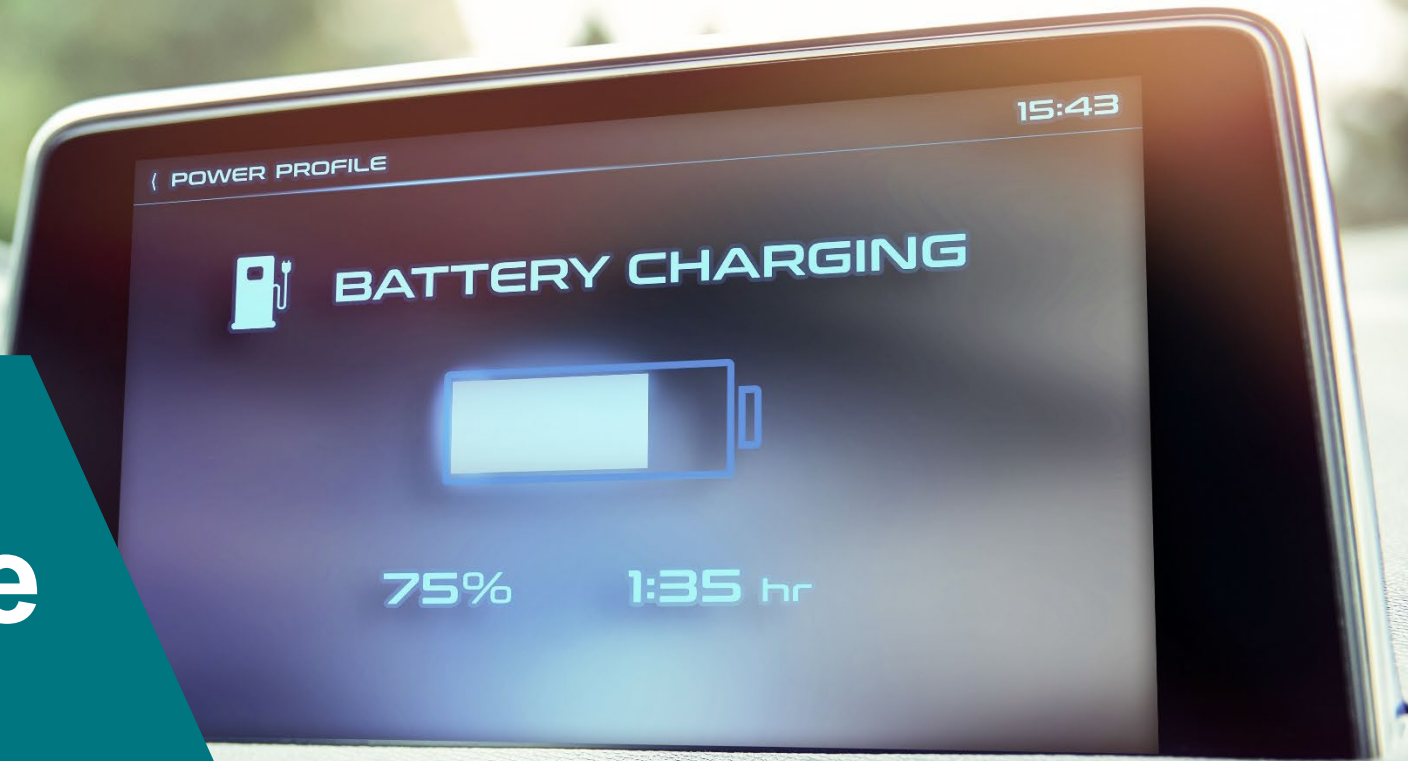
# Iowa's Approach



Iowa DOT partnered with the Iowa Economic Development Authority (IEDA) to oversee development of an EV Infrastructure Deployment Plan that supports the transportation electrification efforts for Iowa.



# Electrical Vehicle Infrastructure Deployment Plan



- NEVI Requirements
- Engagement
- Goals/strategy



# NEVI Requirements for State EV Plans

- Prioritize EV charging stations along designated corridors
- Address needs for EV charging infrastructure in rural corridors and under-served or disadvantaged communities
- Provide long-term operation and maintenance
- Include existing EV charging infrastructure programs and incentives
- Catalyze additional private investment
- Consider consumer protection, cyber-security, domestic manufacturing, emergency evacuation planning, environmental permitting, resilience, and terrain related issues



# EV Deployment Plan Engagement

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- Significant. At least 15,000 individuals visited the plan website. More than 1,600 completed the online survey.
- Stakeholder outreach to utilities, other state agencies, private business, workforce, neighboring states, etc.



# EV Deployment Plan Goals

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1. A fast charging system that supports regional & interstate travel.
2. A local system that promotes equity and mobility.
3. A charging network that provides a variety of options.
4. A transportation system that reduces emissions.
5. A sustainable transportation and energy system that can adapt to economic, technological, & environmental changes.
6. A charging network that supports long-term EV station success & maximizes economic benefits to consumers.
7. A growing network of chargers that fosters innovation.



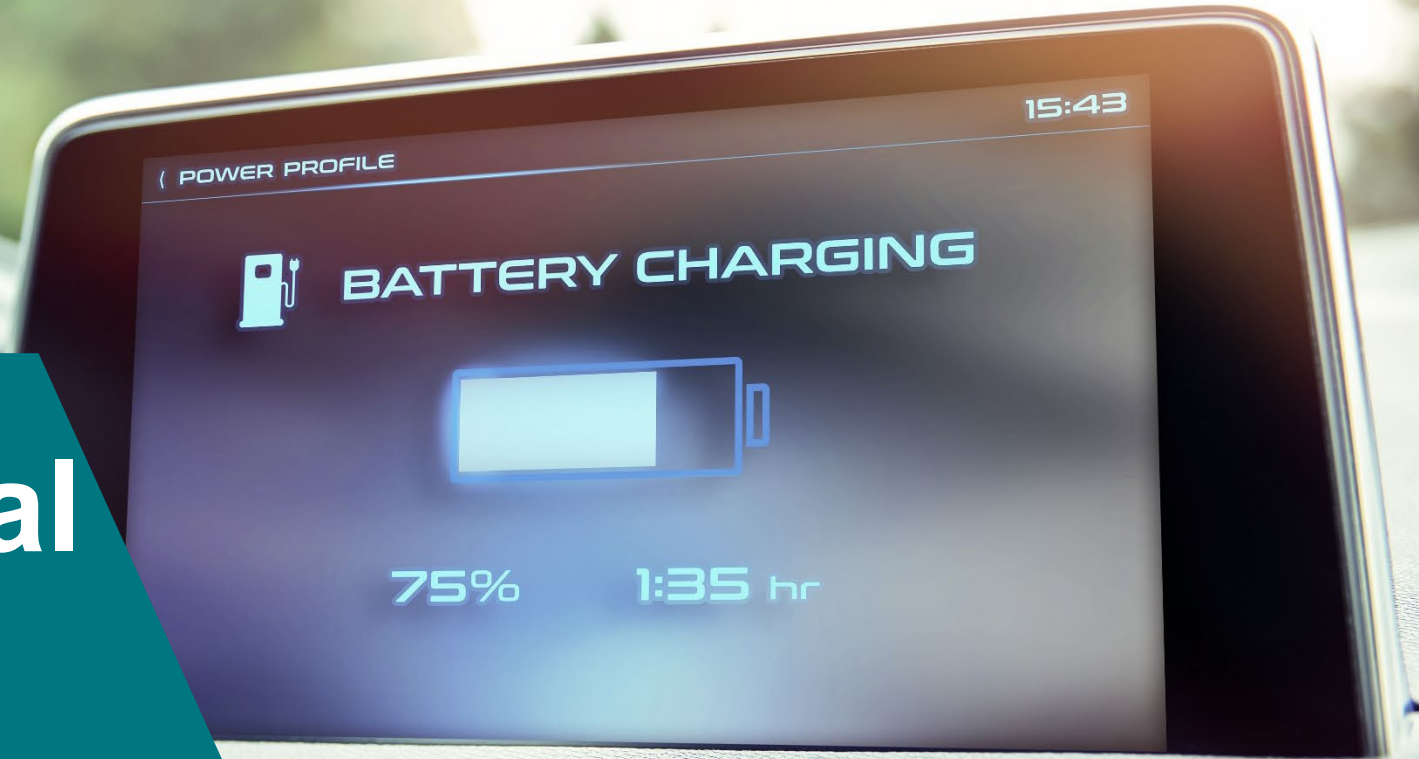


# EV Deployment Plan Strategy

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- Comply with NEVI program requirements
- Identify gap areas
- Balance site suitability (amenities, available three-phase power) with site priority (location, distance from other sites)
- Maximize federal funds

# National Electrical Vehicle Infrastructure (NEVI) Funding



- NEVI Requirements
- Alternative Fuel Corridors

# Program Background

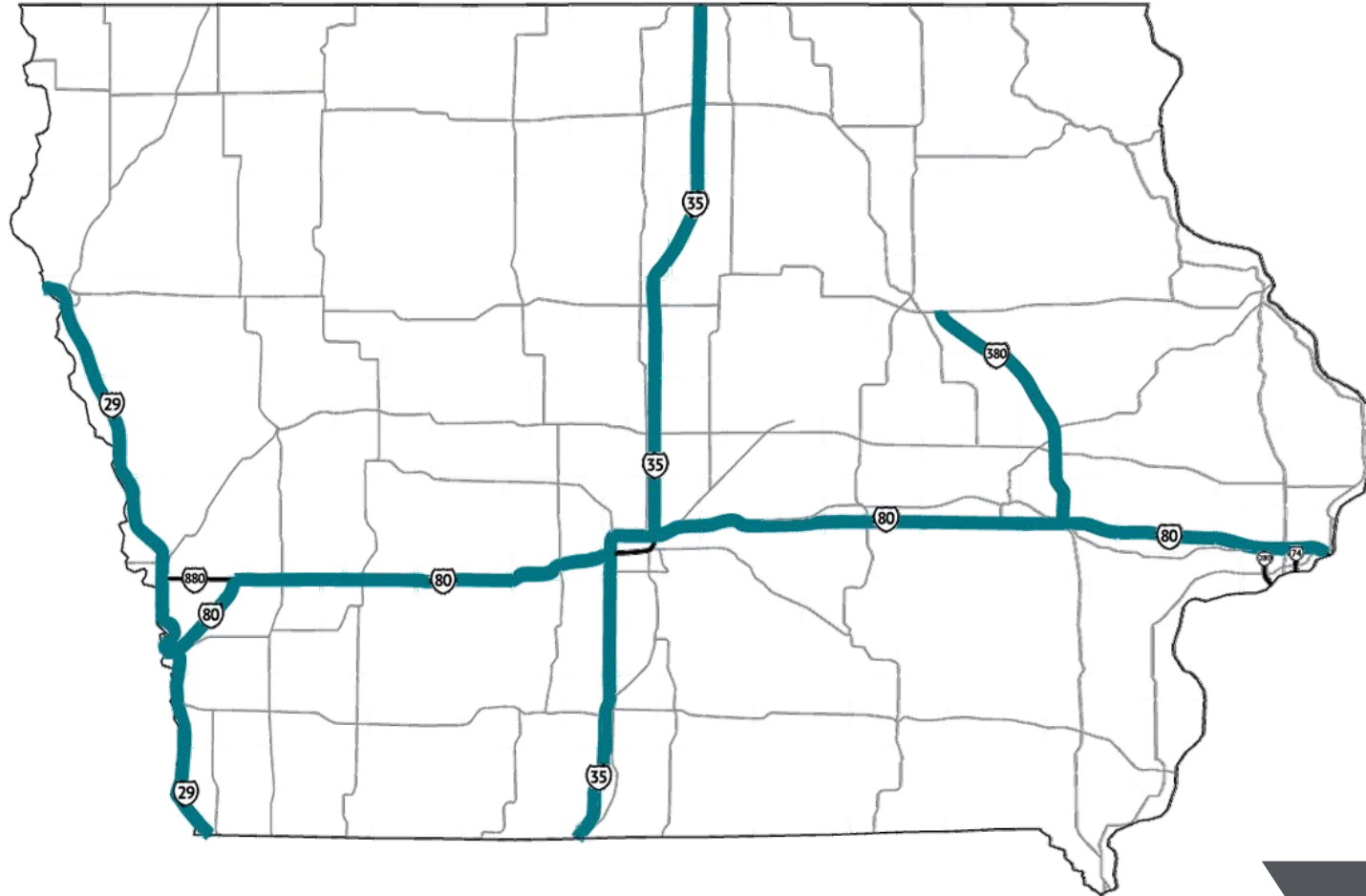
- Iowa DOT Electric Vehicle Infrastructure Deployment Plan
  - Approved September 2022
- Iowa DOT now establishing an EV Charging Grant Program
  - In compliance with federal regulations

## NEVI Formula Funds and Matching Funds (Millions)

| FEDERAL FISCAL YEAR   | FORECASTED NEVI FUNDS (80%) | MINIMUM NON-FEDERAL MATCH FUNDS (MIN. 20%) | TOTAL (100%)    |
|-----------------------|-----------------------------|--|-----------------|
| 2022                  | \$7.6 M                     | \$1.9 M                                    | \$9.5 M         |
| 2023                  | \$10.95 M                   | \$2.75 M                                   | \$13.7 M        |
| 2024                  | \$10.95 M                   | \$2.75 M                                   | \$13.7 M        |
| 2025                  | \$10.95 M                   | \$2.75 M                                   | \$13.7 M        |
| 2026                  | \$10.95 M                   | \$2.75 M                                   | \$13.7 M        |
| <b>Total (5 Year)</b> | <b>\$51.4 M</b>             | <b>\$12.9 M</b>                            | <b>\$64.3 M</b> |

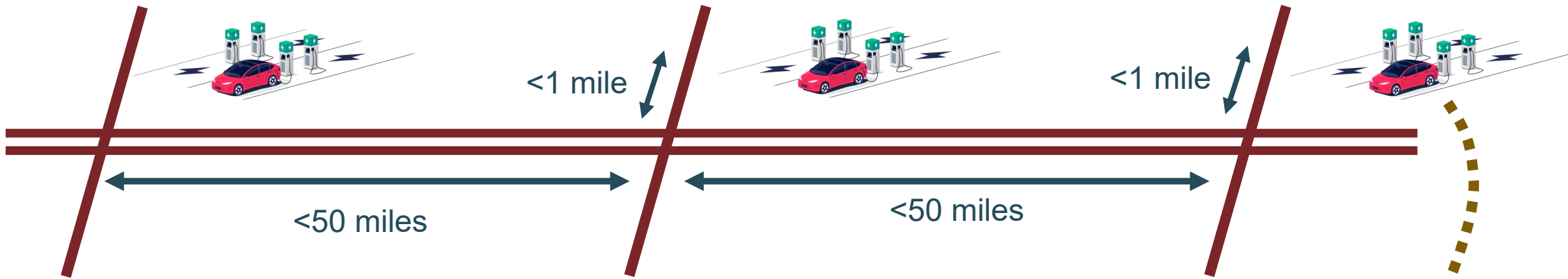


# Iowa's EV Alternative Fuel Corridors

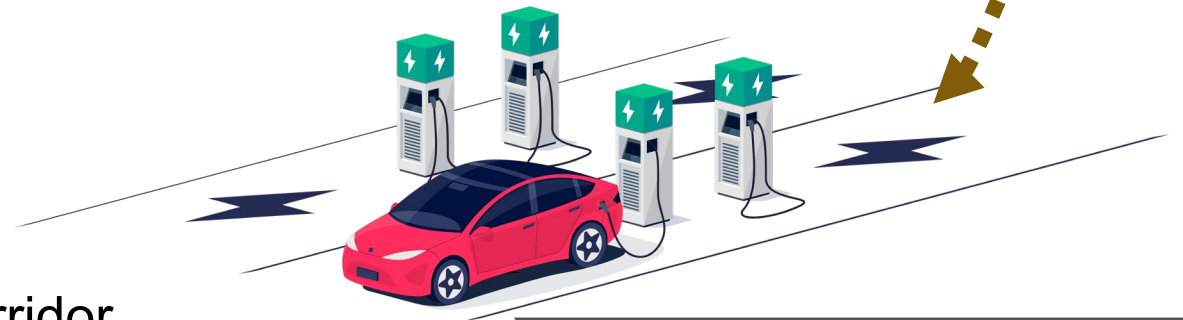




# NEVI Requirements for Charging Stations

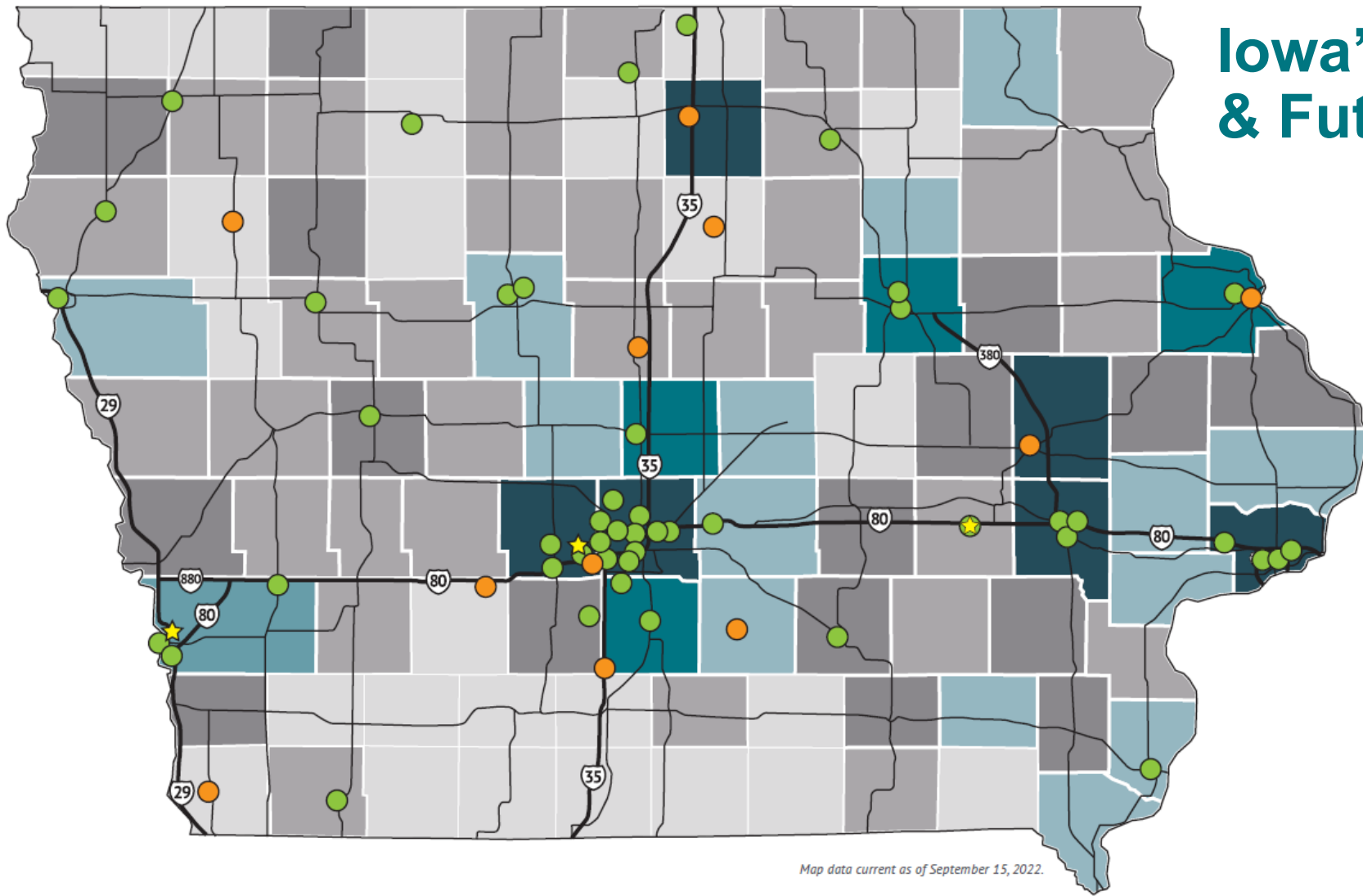


- ✓ Along Alternative Fuel Corridors
  - <50 mile spacing; <1 mile away
- ✓ At least four 150 kW DC Fast Charging ports
- ✓ Open to general public (not proprietary)
- ✓ Need to build out corridors before going off-corridor





# Iowa's Existing & Future Stations



## LEGEND

- Interstate
- Roadway

**Type of Charger**  
*(Does not include stations exclusive to Tesla vehicles.)*

- Level 3/Fast Charging
- Pending Charging Stations
- ★ NEVI Compliant Station

## Registered EVs by County

|       |          |
|-------|----------|
| 1-10  | 51-100   |
| 11-25 | 101-200  |
| 26-50 | 201- 500 |
|       | 501+     |

Map data current as of September 15, 2022.

View the map at: [iowadot.gov/iowaEVPlan](http://iowadot.gov/iowaEVPlan)





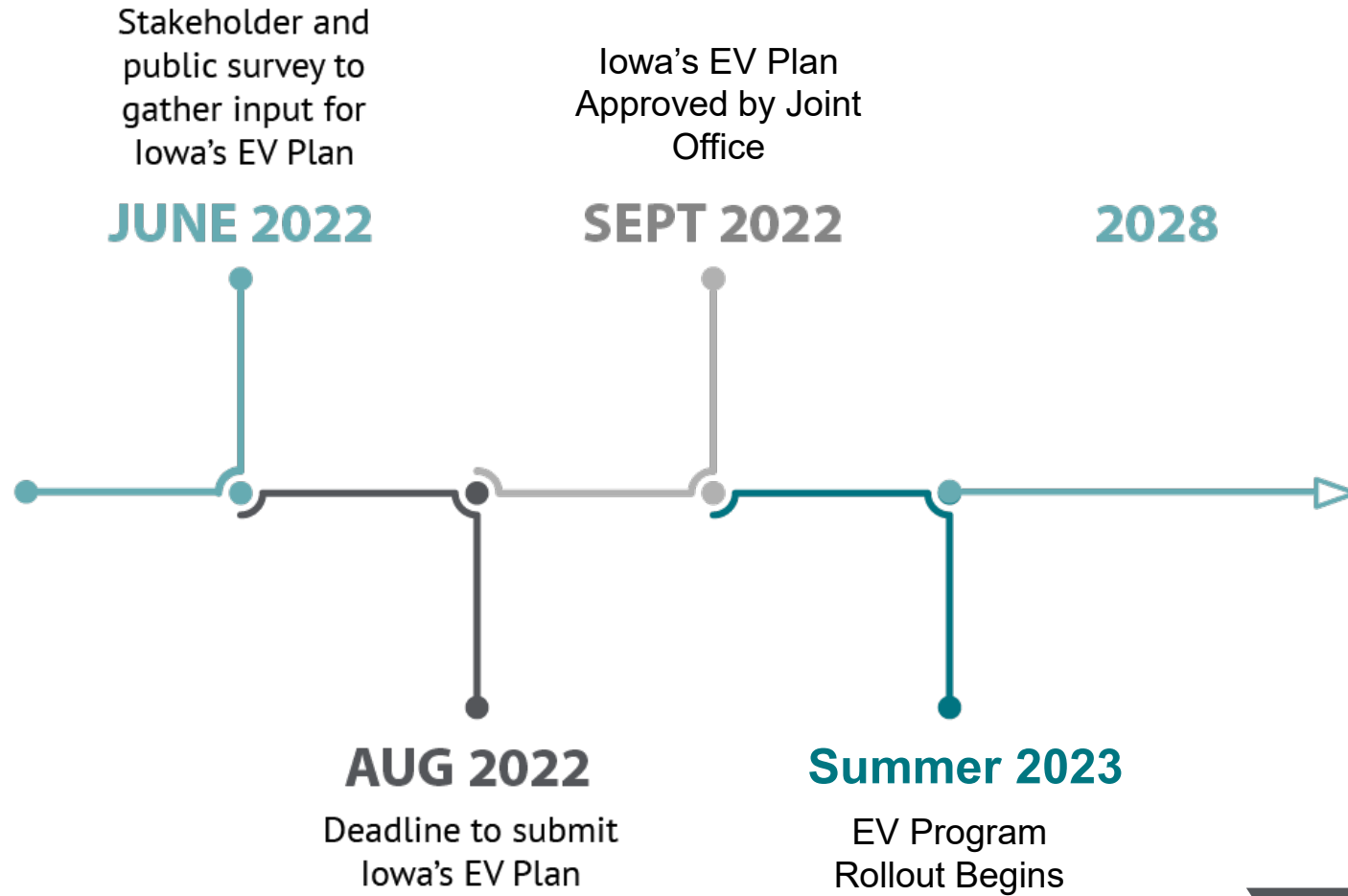
# What's Next?

- Schedule
- Stay Informed



## EV INFRASTRUCTURE DEPLOYMENT PLAN

# Schedule







# Stay Informed

- Visit the website:  
[iowadot.gov/lowaEVPlan](https://iowadot.gov/lowaEVPlan)
- Understand the grant cycle and when funding is expected to be available
- Start conversations with your peers and communities
- This is just the beginning of a five-year process
- [Iowa.EvPlan@iowadot.us](mailto:Iowa.EvPlan@iowadot.us)