



**pennsylvania**  
DEPARTMENT OF TRANSPORTATION

# **PLANNING FOR A FUTURE WITH ELECTRIC VEHICLES**

**ACEC PA**

SEPTEMBER 12, 2023

# ABOUT ELECTRIC VEHICLES

# ELECTRIC VEHICLE BENEFITS



## **Climate Change**

- No direct greenhouse gas (GHG) emissions (tailpipe)
- 3x lower life-cycle emissions (vehicle production, fuel consumption)
- Opportunity to incorporate more renewable energy sources



## **Air Quality, Noise, Public Health and Equity**

- Significantly reduce air and noise pollution
- Improves health outcomes for communities near roadways



## **Economy**

- Save consumers money on fuel and life-cycle maintenance costs
- Electricity rates paid to electric utilities and generation companies stays in the local economy




















## **Jobs**

- Production of EVs and installation of EV charging infrastructure creates good-paying jobs in clean energy industries.



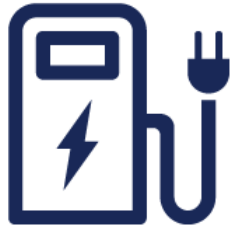
# VEHICLE TYPES

|   |   |   |  |   |
|---|---|---|--|---|
|  | <br>Conventional Gas | <br>Hybrid Electric Vehicle (HEV) | <br>Plug-in Electric Vehicle (PHEV) | <br>Battery Electric Vehicle (BEV) |
| Power Source  |                      |                                  |                                     |                                    |
| Fuel Type   |                      |                                  |                                     |                                    |
| Emissions   |                    |                                |                                   |                                  |



# EV CHARGING

## How to Charge Your EV



Charge Time



Charging Locations



EV Plug Type



Charging Cost

**Level 1**

**3.5 - 6.5 miles**  
Per Hour

Residential,  
Workplace



J1772



Tesla/NACS

\$

**Level 2**

**14 - 35 Miles**  
Per Hour

Residential,  
Workplace,  
Destinations



J1772



Tesla/NACS

\$\$

**DC Fast Charge**

**200+ miles**  
Per Hour

Highways,  
Communities,  
Destinations



CCS



CHAdeMO



Tesla/NACS

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# PARADIGM SWITCH

## How Fueling Cars is Changing with Electricity



Conventional Gas

VS.

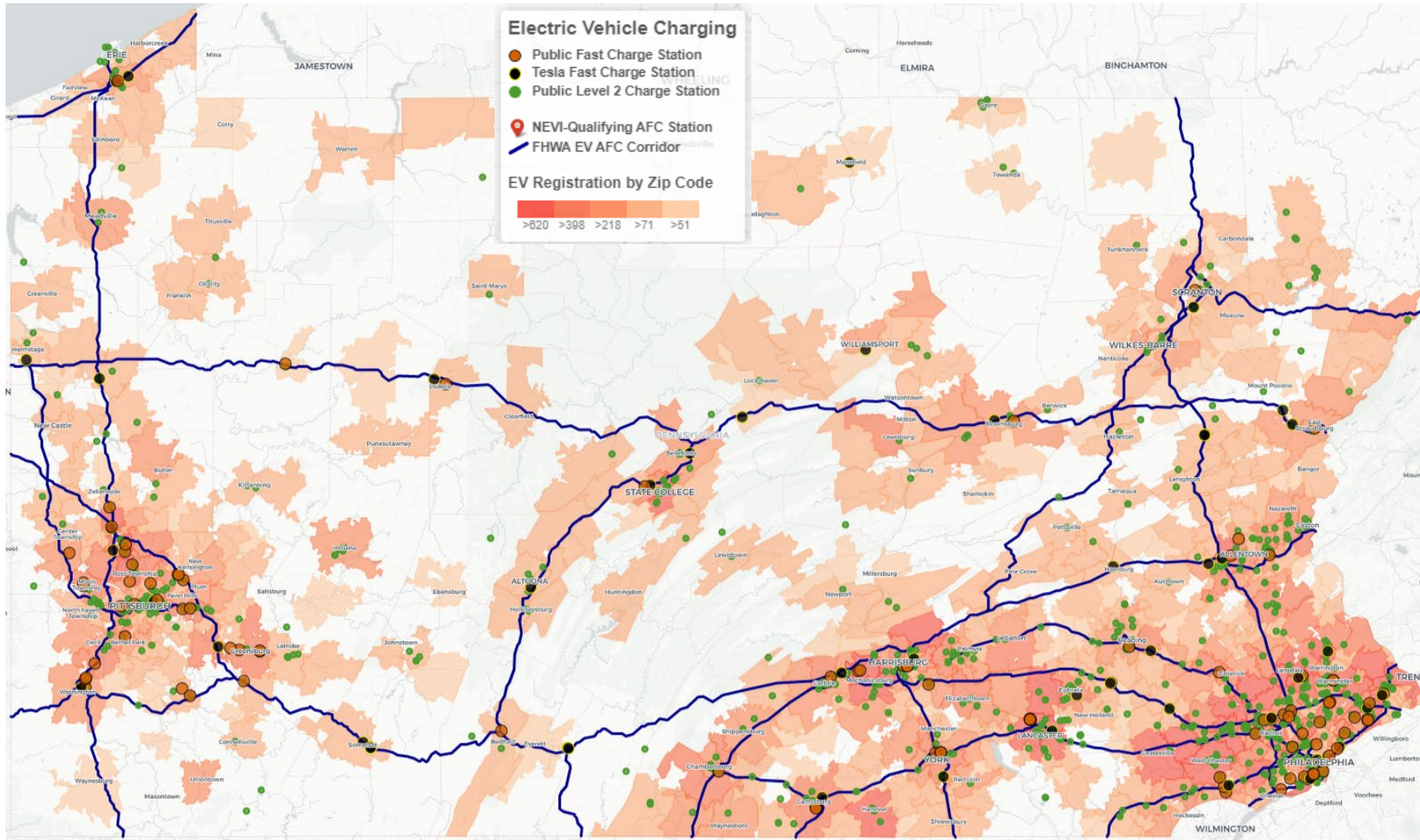


Electric Vehicles





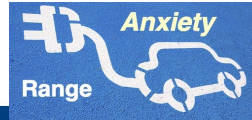
# PUBLIC CHARGING STATIONS



- Resources:
  - [Penndot.pa.gov/EV](https://penndot.pa.gov/EV)
  - 511PA.com and App
  - Alternative Fuel Data Center (AFDC)
  - PlugShare
  - ChargeHub
  - In-vehicle support
- Websites
- Apps
- Trip Planners

**Over 3,800 public plugs at over 1,500 locations**

# WHY FUNDING & INCENTIVES FOR EV CHARGING?



Invest in strategies to  
address climate  
change and air quality

To spur future EV sales  
by ensuring that  
buyers feel confident  
in travelling longer  
distances

Create good-paying  
job opportunities  
across EV  
manufacturing,  
installation and  
operation

Help address EV  
charging gaps and  
needs in  
disadvantaged and  
rural communities

Catalyze private  
sector investments  
that support the  
build-out of a national  
EV charging network





# **NATIONAL ELECTRIC VEHICLE INFRASTRUCTURE (NEVI)**

# OVERVIEW OF PA'S NEVI FORMULA PROGRAM



- Provides PA \$171.5 million over next 5 years for electric vehicle (EV) infrastructure
  - Federal Fiscal Year 2022 - \$25.4 million
  - Federal Fiscal Years 2023-2026 - \$36.5 million annually
- Pre-announcement of Pennsylvania Program – Oct. 12, 2022
- Pennsylvania Program Document Released – January 6, 2023
  - Round 1 Conditional Awards Announced – August 14, 2023
- PennDOT submitted state plan update on August 1, 2023
- The plan is an evolving document updated annually
- Current plan supports allocation of federal funds for federal fiscal year (FFY) 2024

# YEARS 1-2 CHARGING FOCUS

DC Fast Charging

Public

4 ports

CCS Connectors

At least 150kw power per port  
(600kw total)

Within 1-mile of highway, 50 miles  
of the next station

## How to Charge Your EV



Charge Time



Charging Locations

**Level 1**

**3.5 - 6.5 miles**  
Per Hour

Residential,  
Workplace

**Level 2**

**14 - 35 Miles**  
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Residential,  
Workplace,  
Destinations

**DC Fast  
Charge**

**200+ miles**  
Per Hour

Highways,  
Communities,  
Destinations



# ALTERNATIVE FUEL CORRIDORS



- PennDOT has nominated corridors over 7 rounds - includes interstates and portions of US 30, US 15, Route 1, Route 422, and Interstate 180 - over 1,800 miles of roadway
- NEVI funding must be applied to AFCs until a “**Build-Out**” certification by FHWA

# **PENNDOT NEVI ROUND 1 CONDITIONAL AWARDS**

# ROUND 1 SELECTION PROCESS

## Project selections were based on:

- Build-out AFC network (gaps less than 50 miles and no farther than 1 mile from exit)
- Good customer experience for charging users, including safety
- Consistent reliable charging network
- Variety of funding recipients
- Positive impacts on local economy and workforce opportunities
- Equity/J40 – which includes a welcoming environment safe and accessible for all



- Total Requested Amount: \$165 Million
  - \$56 million for AFC build out, spread across 2 rounds.
  - Average cost ask~ \$650K
- Total Unique Submissions: 271
  - Not Eligible: 3
  - Organizations: 30





# ROUND 1 SELECTION - PRELIMINARY

| Preliminary Selections               |           |
|--------------------------------------|-----------|
| Recipient                            | Total     |
| Tesla                                | 12        |
| Sheetz                               | 6         |
| Electrify America                    | 4         |
| TA Operating LLC                     | 4         |
| Wawa                                 | 4         |
| Francis Energy                       | 3         |
| Love's Travel Stops and County Store | 3         |
| Pilot Travel Centers                 | 3         |
| Raceway Management Company           | 3         |
| BP Products North American           | 2         |
| 6406 Truck Plaza LLC                 | 1         |
| Alnajuk, LLC                         | 1         |
| America Truck Plazas, LLC            | 1         |
| Applegreen                           | 1         |
| Blink Network LLC                    | 1         |
| ChargePoint                          | 1         |
| Liberty Truck Center (i.e. Raceway)  | 1         |
| Mirabito Holdings, Inc.              | 1         |
| TH Minit Markets LLC                 | 1         |
| Universal EV LLC                     | 1         |
| <b>Total Count</b>                   | <b>54</b> |

| Preliminary Selections                 |       |
|--|-------|
| Site Host                              | Total |
| Fueling Station/Convenience Store      | 30    |
| Travel Center/Truck Stop/Service Plaza | 17    |
| Shopping/Box Store                     | 3     |
| Restaurant/Fast Food                   | 2     |
| Grocery Store                          | 1     |
| Hotel                                  | 1     |

- Number of project selections: 54
- Number of unique recipients: 20
- Total funding award: \$33,803,375
  - Leaves ~\$22 million for Round 1A
- 22 projects within Disadvantaged Communities

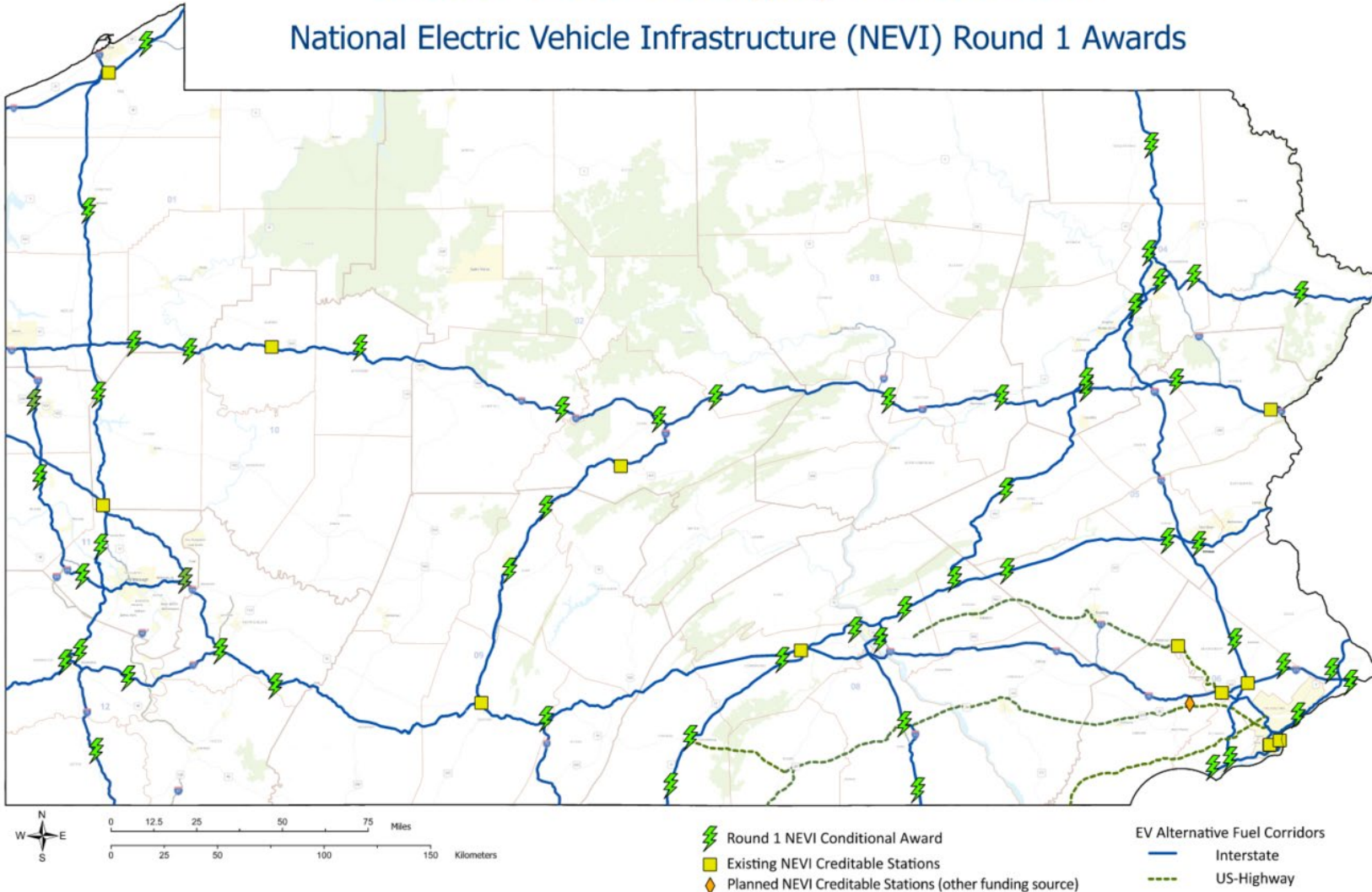


# ROUND 1 CONDITIONAL AWARDS



## Electric Vehicle Charging Stations 2023

### National Electric Vehicle Infrastructure (NEVI) Round 1 Awards



- 54 projects within 35 counties
- \$33.8 million
- 22 projects in or within ½ mile of a Disadvantaged Community
- Average Utility Time:
  - 9-10 months
- NEPA ~60 Days



# WHAT'S NEXT

| Date                    | Item   |
|-------------------------|--|
| January 6, 2023         | Round 1 NEVI Funding Opportunity program document released   |
| March 13, 2023          | Round 1 revised Funding Opportunity released to match updated Federal Minimum Standards Final Rule |
| March 24, 2023          | Round 1 technical question period ended  |
| March 27, 2023          | Round 1 submission period began  |
| May 5, 2023             | Round 1 submission period ended  |
| May – July 2023         | Round 1 PennDOT Submission review period   |
| August 14, 2023         | Round 1 conditional award announcement and denial notifications sent                               |
| August – September 2023 | Round 1 PennDOT Contractor Kick-off meetings & NEPA Process begins                                 |
| September-October 2023  | Round 1 final award approval and denial notifications  |
| October – November 2023 | Round 1 agreement execution; Notice to Proceed   |
| Fall 2023               | Start Round 1A Funding Opportunity to continue towards fully built out AFC status                  |



# WHAT'S NEXT

- Continued public outreach
- Coordinate with stakeholders on Round 1 gaps
- Support and oversee Round 1 projects
- Round 1A - anticipating about 20-25 sites
  - Gaps remain from Round 1
  - \$22 million remaining from FFY 23 funds
- FFY24-26 : \$110 million for community deployments



# QUESTIONS?

# RESOURCES

- [Electric Vehicles and Alternative Fuels \(pa.gov\)](#)
- [National Electric Vehicle Infrastructure \(NEVI\) Formula Program \(pa.gov\)](#)
- [EV Mobility Plan \(pa.gov\)](#)
- [Drive Electric PA Coalition](#)
- [Electric Vehicles in PA](#)
- [PA EV Roadmap](#)
- [Alternative Fuels Incentive Grant](#)
- [Driving PA Forward](#)
- [PennDOT Interactive NEVI Map](#)



# CONTACT INFORMATION

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