

ELECTRIC VEHICLE INFRASTRUCTURE

June 21, 2022

Agenda

1. Welcome

- Aaron Pinedo, ARDOT

2. EV 101

- Jason Willey, E&E

3. NEVI Overview

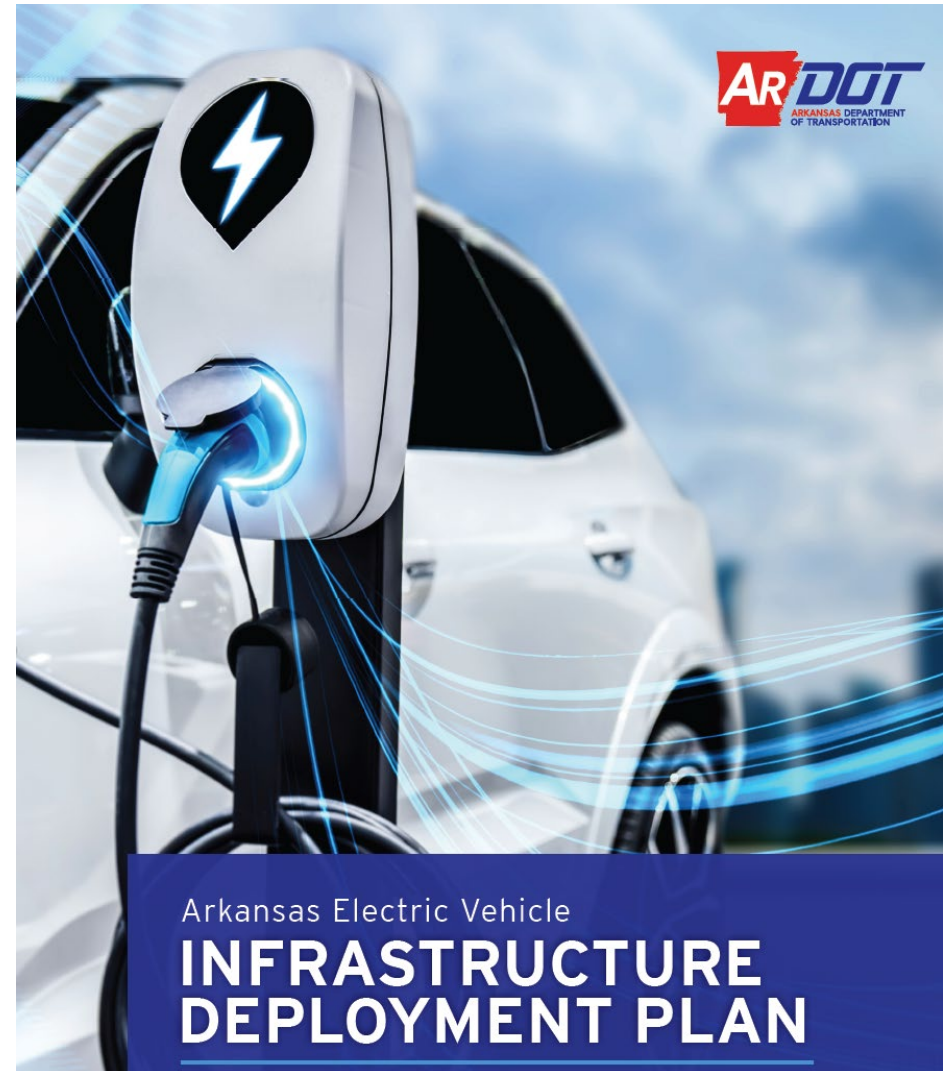
- Brad McCaleb, ARDOT

4. Arkansas Updates

- Brad McCaleb, ARDOT

5. Q&A

- ARDOT, E&E, HNTB staff



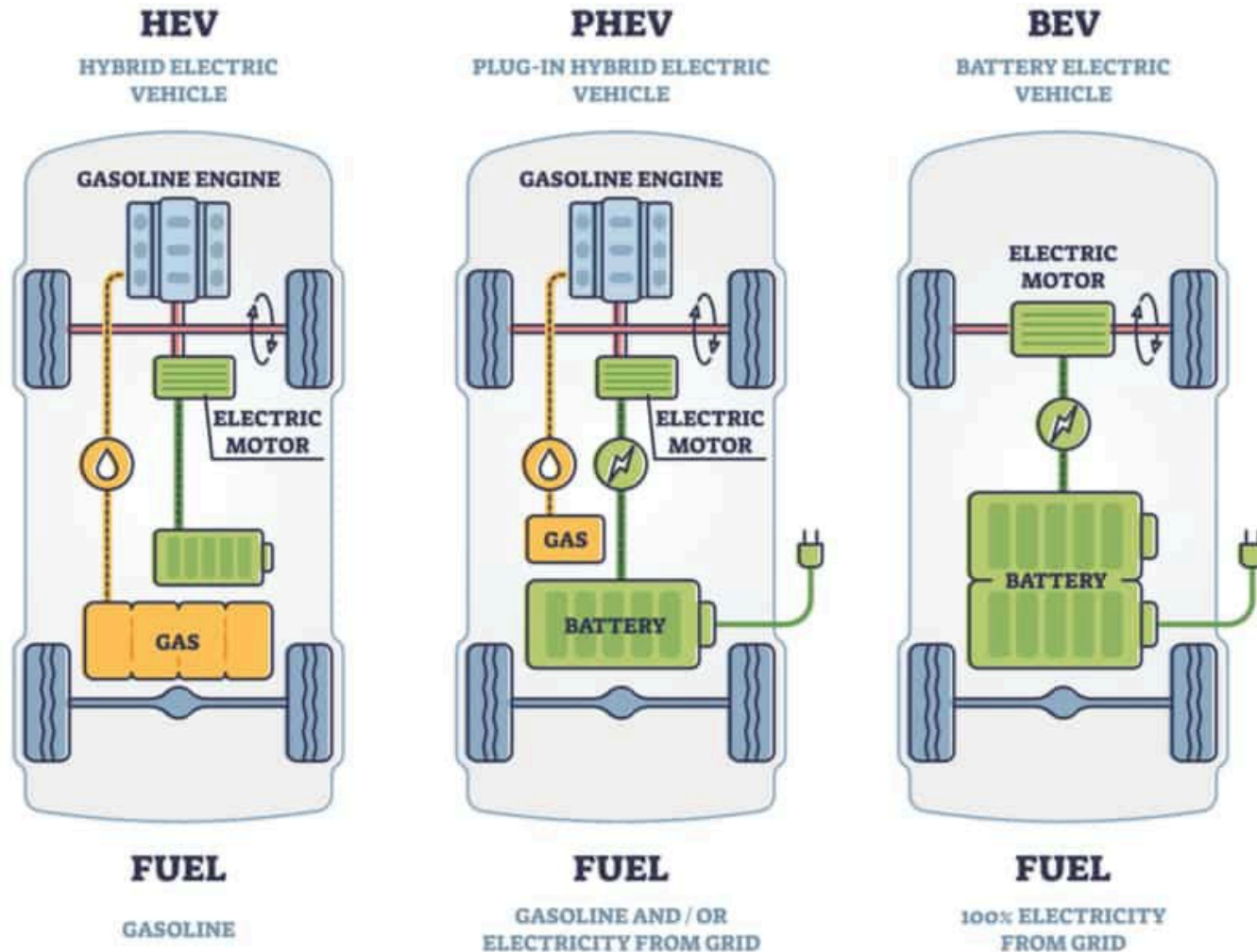
Housekeeping



1. This webinar is being recorded
2. Select your preferred view/layout
3. You're logged in with mute locked
4. Please enter your questions in Q&A
5. We'll read questions & provide answers during the Q&A portion

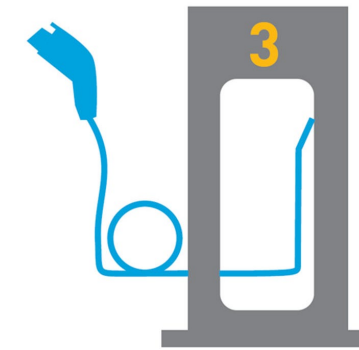
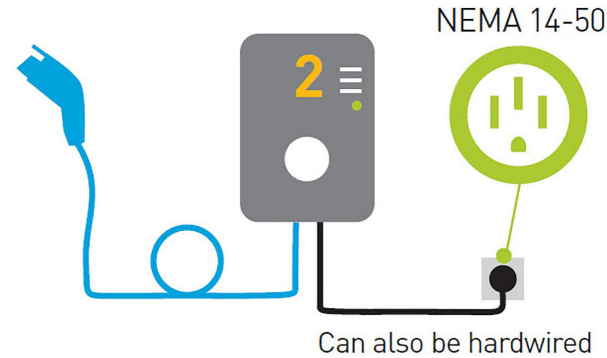
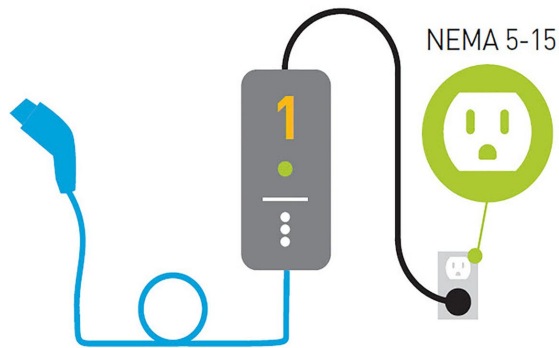
Electric Vehicle (EV) Basics

Hybrid vs Plug-Hybrid (PHEV) vs Full Electric (EV)



Source:
www.mechanicbase.com/electric/electric-vs-hybrid-vs-plug-in-differences

Electric Vehicle Supply Equipment (EVSE) Chargers



LEVEL 1 CHARGING

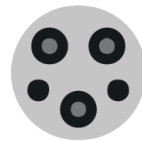
Approximately 5 miles of range per 1 hour of charging



J1772
Connector

LEVEL 2 CHARGING

Approximately 25 miles of range per 1 hour of charging



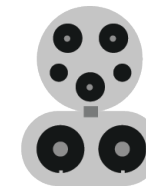
J1772
Connector



Tesla
Connector

DC FAST CHARGING

Approximately 100 to 200+ miles of range per 30 min. of charging



CCS
Connector

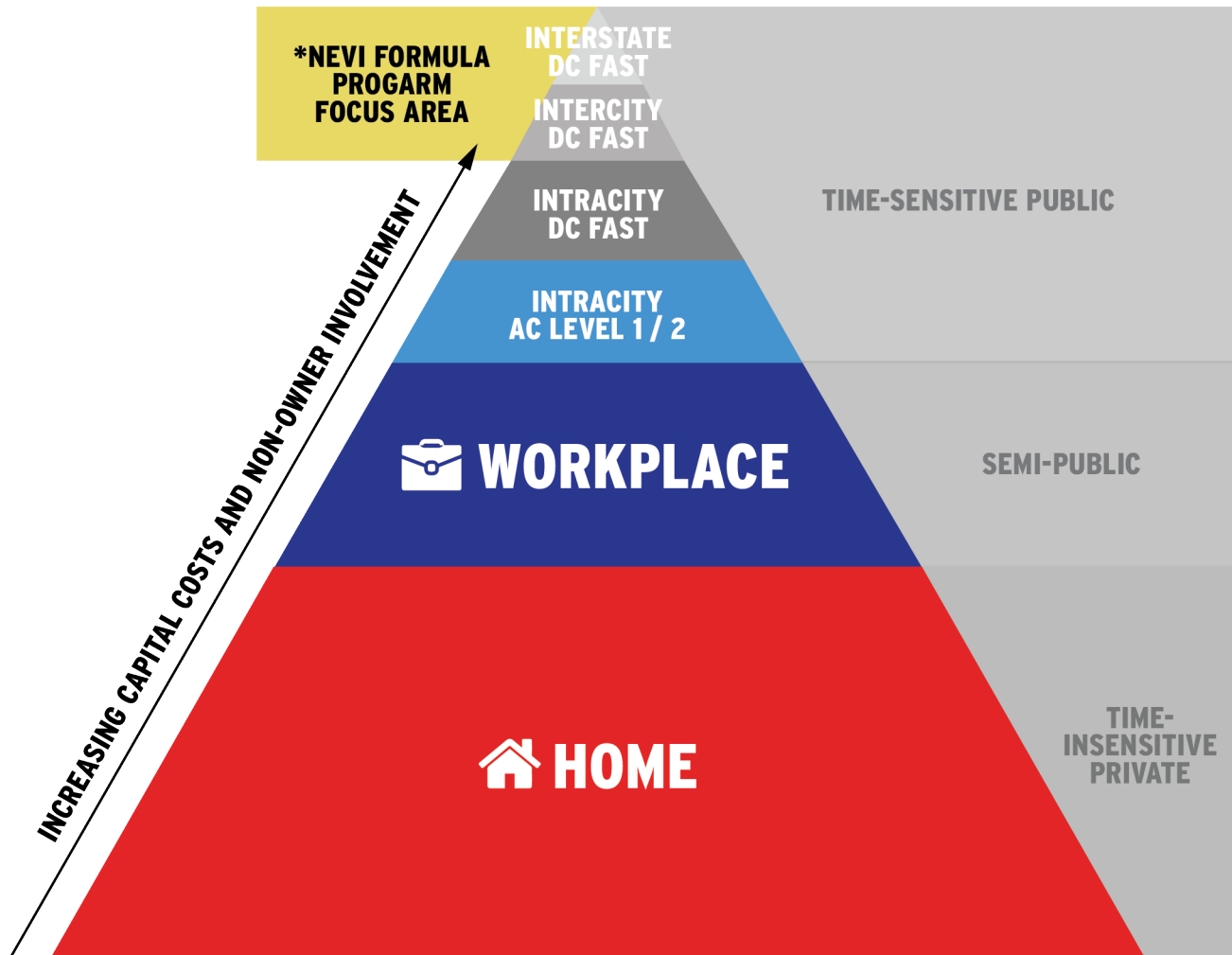


CHAdeMO
Connector



Tesla
Connector

Where Do Most EVs Charge?



There's No Place Like Home: Residential Parking, Electrical Access, and Implications for the Future of Electric Vehicle Charging Infrastructure

Yanbo Ge, Christina Simeone, Andrew Duvall,
and Eric Wood

National Renewable Energy Laboratory

NREL is a national laboratory of the U.S. Department of Energy
Office of Energy Efficiency & Renewable Energy
Operated by the Alliance for Sustainable Energy, LLC

This report is available at no cost from the National Renewable Energy
Laboratory (NREL) at www.nrel.gov/publications.

Contract No. DE-AC36-08GO28308

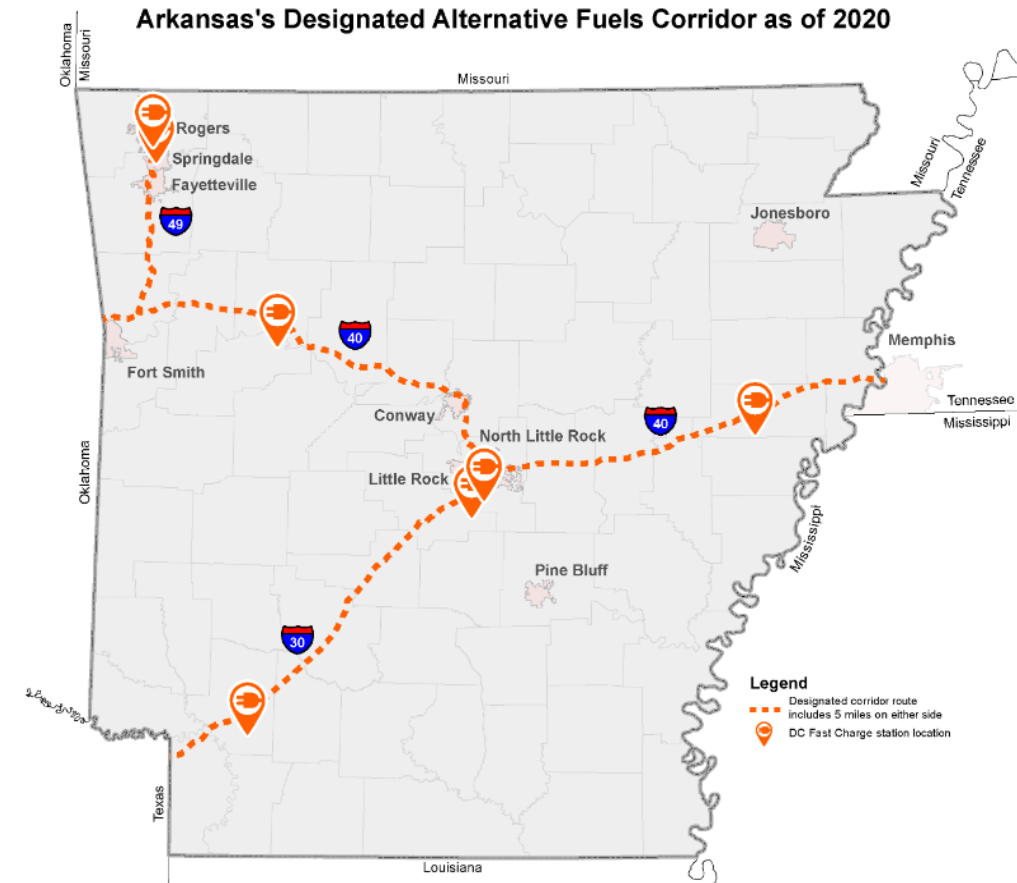
Technical Report
NREL/TP-5400-81065
October 2021

Arkansas VW EVSE Grant Program

DC Fast Charge (DCFC)

Financial Assistance Program

- Up to 75 percent of project costs, with a cap of \$350,000—for the installation of approximately three 150-kilowatt DC Fast Charge stations.
- Received more than 60 applications – in the final review and selection process.
- ❖ E&E also intends to apply for additional Federal Grants for EVSE Charging Stations as they become available.



National Electric Vehicle Infrastructure (NEVI) Program

NEVI Overview

NEVI Formula Program Overview

\$7.5B in BIL Funding for Charging Infrastructure

- \$5B National EV Infrastructure (NEVI) Formula Program
 - \$54.1M to Arkansas over five years
 - Becomes discretionary once Alternative Fuel Corridors (AFCs) are fully built out
- \$2.5B in Competitive Grants
 - \$1.25 for Corridor Charging/Fueling
 - \$1.25 for Community Charging/Fueling
 - For EV, hydrogen, propane, and natural gas fueling station infrastructure



Federal Highway Approved Alternative Fuel Corridor Signage

NEVI Program Requirements



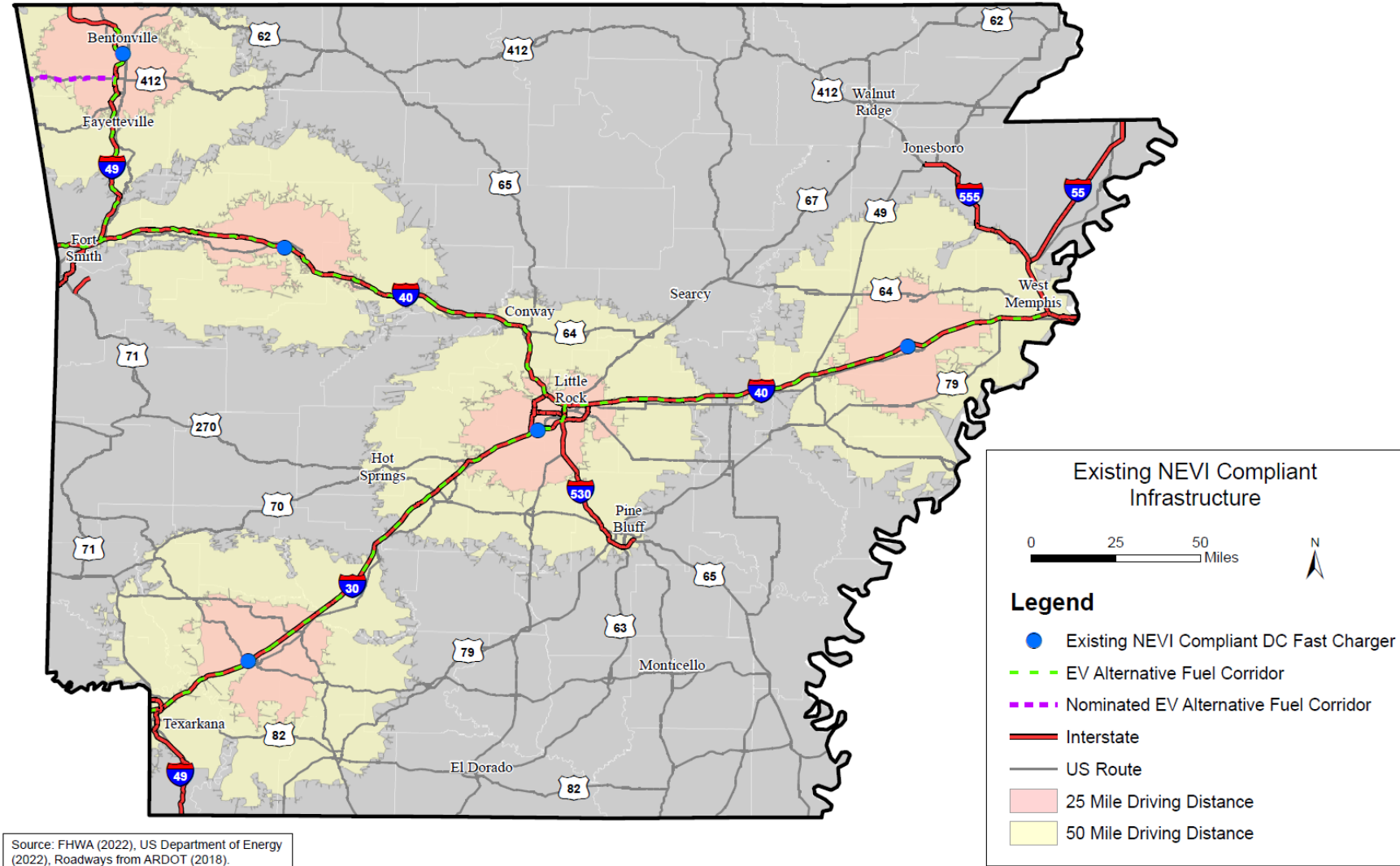
Electrify America Charging Stations at Walmart

- First, Interstate Highways & AFCs must be “fully built out” to the following standard:
 - Charging Stations installed **every 50 miles**
 - Charging Stations **within 1 travel mile of exits**
- Must be publicly accessible DC Fast Charging Stations with:
 - At least **Four 150kW DC Fast Chargers**
 - Must have Combined Charging System (**CCS**) **ports**
 - Must simultaneously DC fast charge four EVs at **150kW continuously for 600kW total power**

National Electric Vehicle Infrastructure (NEVI) Funding

AR NEVI Formula Funds

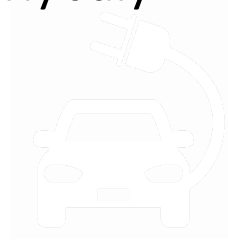
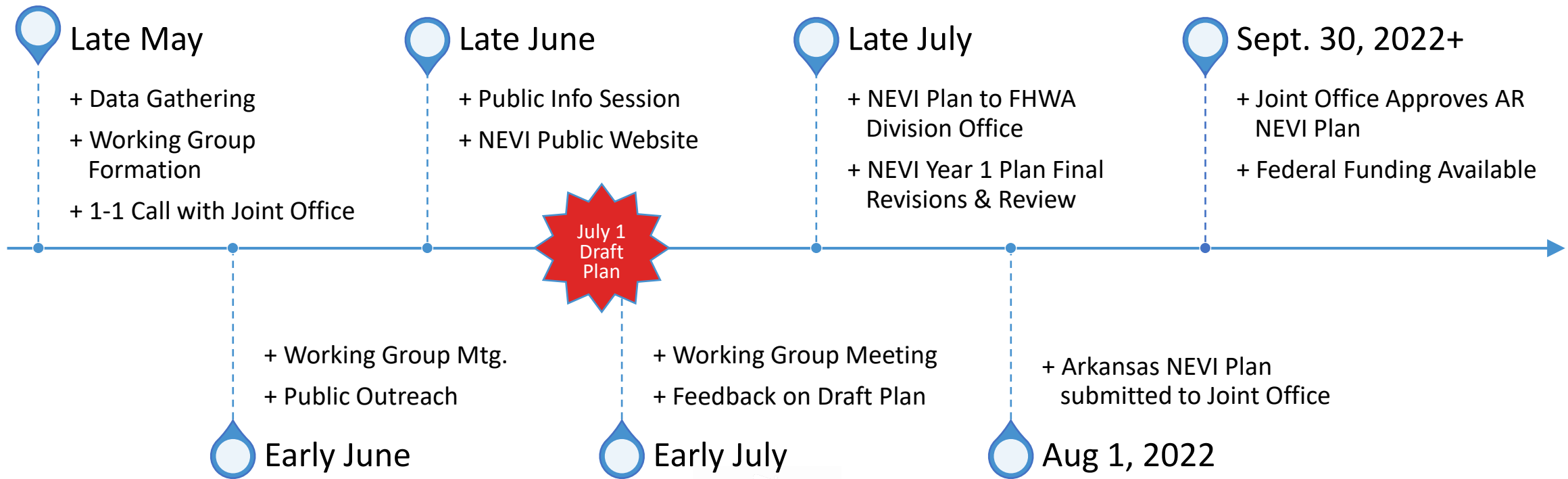
- \$54.1M to Arkansas over 5 years
- Limited to Interstates & AFCs till Fully Built Out



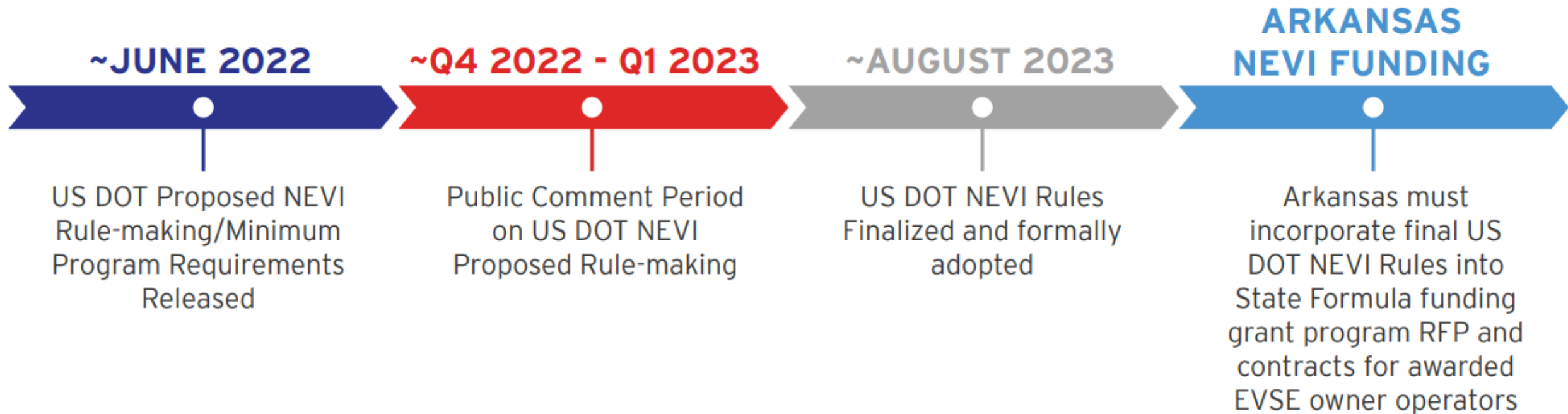
NEVI State Plan Due Aug. 1, 2022

- Introduction
- State Agency Coordination
- Public Engagement
- Plan Vision & Goals
- Contracting
- Existing & Future Condition Analysis
- EV Charging Infrastructure Deployment
- Implementation
- Civil Rights
- Equity Considerations
- Labor & Workforce Considerations
- Cybersecurity
- Program Evaluation
- Discretionary Exceptions

Arkansas NEVI Planning Timeline



Tentative Federal NEVI Timeline



Arkansas NEVI Updates

Arkansas NEVI Update Points

Arkansas NEVI Plan Process



Arkansas Public Engagement

- State Agency Coordination
 - Dept. of Energy & Environment, Public Service Commission, etc.
- Planning Partner Engagement
 - Metropolitan Planning Organizations, Transportation Planners, etc.
- Technical Partner Engagement
 - Utilities, EV Station Vendors, etc.
- Stakeholder Organization Engagement
 - Local Govts, Businesses, Electricians, Member Associations, etc.
- General Public Engagement
 - First Info Session June 21, 2022

Arkansas NEVI Planning Partners

Arkansas Electrification Working Group



Arkansas Governor's Office



Arkansas Public Service Commission

Arkansas Metropolitan Planning Organizations

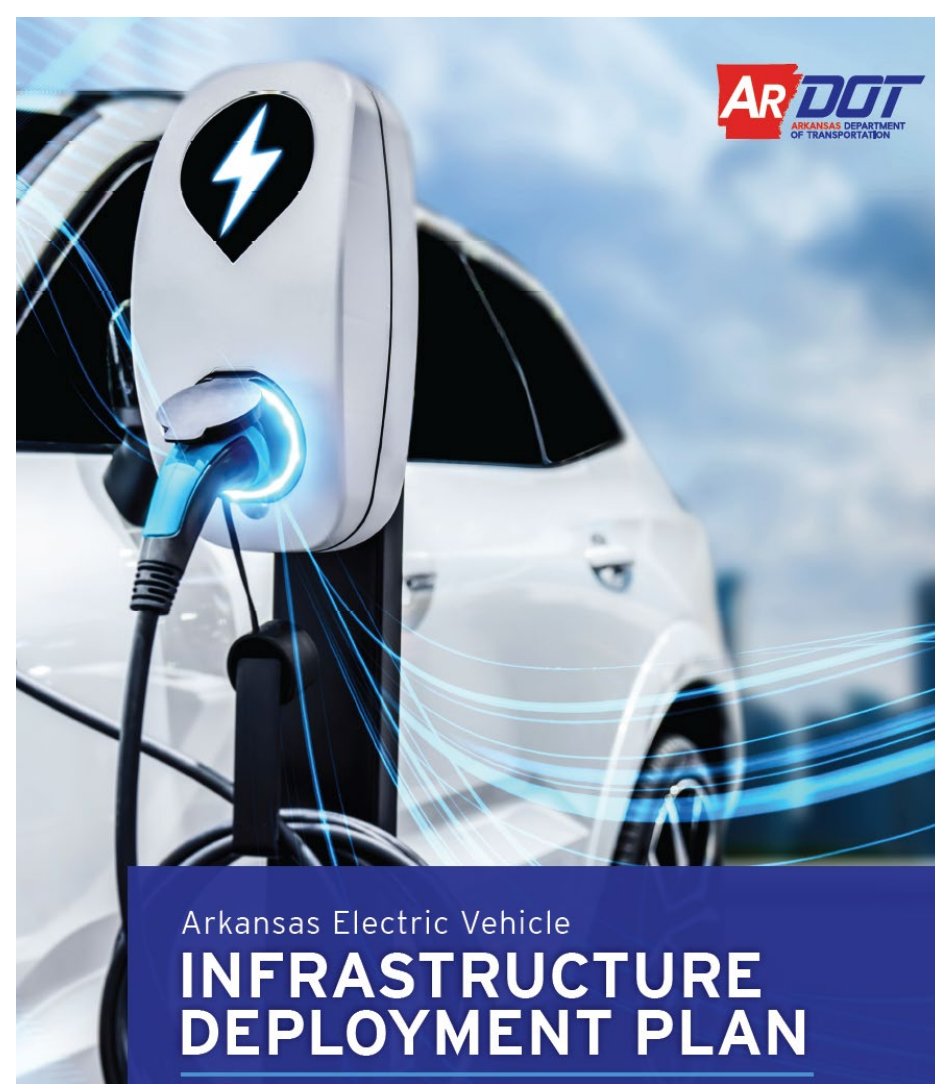


Electric Cooperatives of Arkansas



Municipal Utilities

Arkansas NEVI Objective & Strategy



- Objective: 100% of Arkansas Interstate and AFCs built to NEVI Program standards.
- Arkansas NEVI Strategy:
 - Spur local market investments in EVSE charging stations.
 - Competitive grant program that awards NEVI funds to owner operators.

Arkansas NEVI Updates

EVSE Owner Operators:

1. NEVI funds will be awarded to local owner operators on a competitive basis, including:
 - Private sites / partners
 - Public sites / partners
 - Public Private Partnerships
2. Station owner operators required to provide at least 20% non-federal match.
3. ARDOT will not own, operate, or site EV charging stations on its own property



Arkansas NEVI Updates



NEVI Competitive Grant Program:

1. ARDOT will build on federal grant process experience and E&E's VW experience to create a competitive grant program and request applications.
2. Selection criteria will be based on minimum NEVI requirements
3. May include other ranked criteria or considerations.

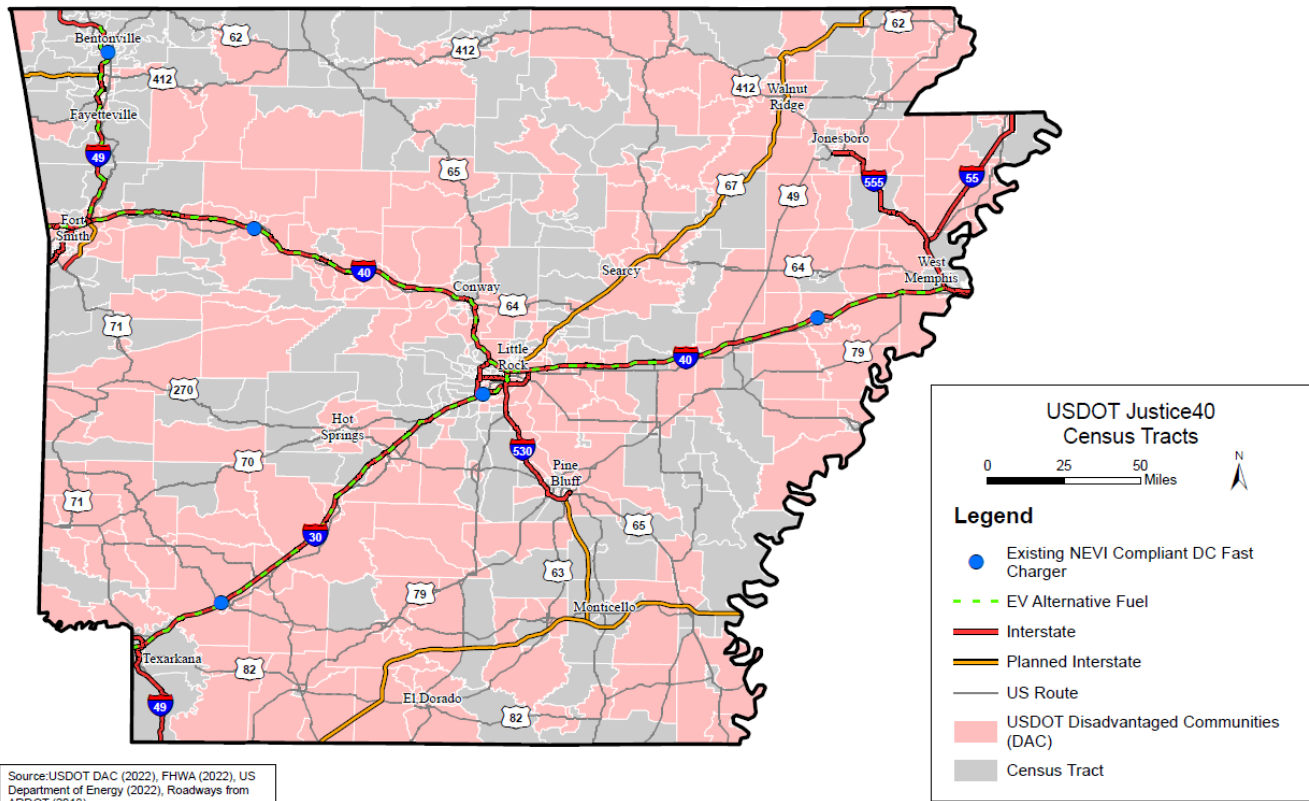
Arkansas NEVI Updates

Route and Site Prioritization:

1. Interstates & FHWA EV Alternative Fuel Corridors (EV AFCs) required by NEVI guidance will be prioritized.
2. Once AFCs certified built out, ARDOT gains discretionary authority for “right sizing” EVSE with remaining funding
3. ARDOT will seek to build right sized EVSE on US & State Highway routes



Arkansas NEVI Updates



Equity Considerations:

1. NEVI requires 40 percent of Federal benefits are targeted toward disadvantaged communities.
2. Within Arkansas, more than 40% of AFC roadways transverse through federally recognized disadvantaged communities
3. Additional Equity considerations may also include final EVSE locations and number of jobs from installation and maintenance based on available data.

Discussion

Q&A

Q&A Instructions

Let us know your questions!

- Not the end...it's just the beginning for Outreach & Planning
- **Please enter questions in the Q&A pane – please focus on NEVI**
- We will group questions by similar themes
- We will follow up with a written FAQ document and post it on our ardot.gov/evplan website

Joining Us for the Q&A



- Brad McCaleb
- Aaron Pinedo
- Andrew Warren



- Larry Bengal
- Mitchell Simpson
- Jason Willey



- Andrew Conley

For More Information

Website: www.ardot.gov/evplan

Email: ardot_nevi@ardot.gov