



North Central Texas  
Council of Governments



Dallas-Fort Worth  
CLEAN CITIES

# Electric Vehicle Industry Workforce Development

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Lori Clark and Garrett Colony

March 20, 2023

NCTCOG

# OVERVIEW

- Welcome & Introductions
- Rapid-Fire Panel Presentations on Existing Efforts
  - Brief presentations to provide an overview and introduction to the work of various organizations on this topic
- Q&A and Discussion
  - Gauge interest in the two funding opportunities discussed
  - Identify potential areas of collaboration
  - Identify action items



# WHO WE ARE

Regional Planning  
Agency



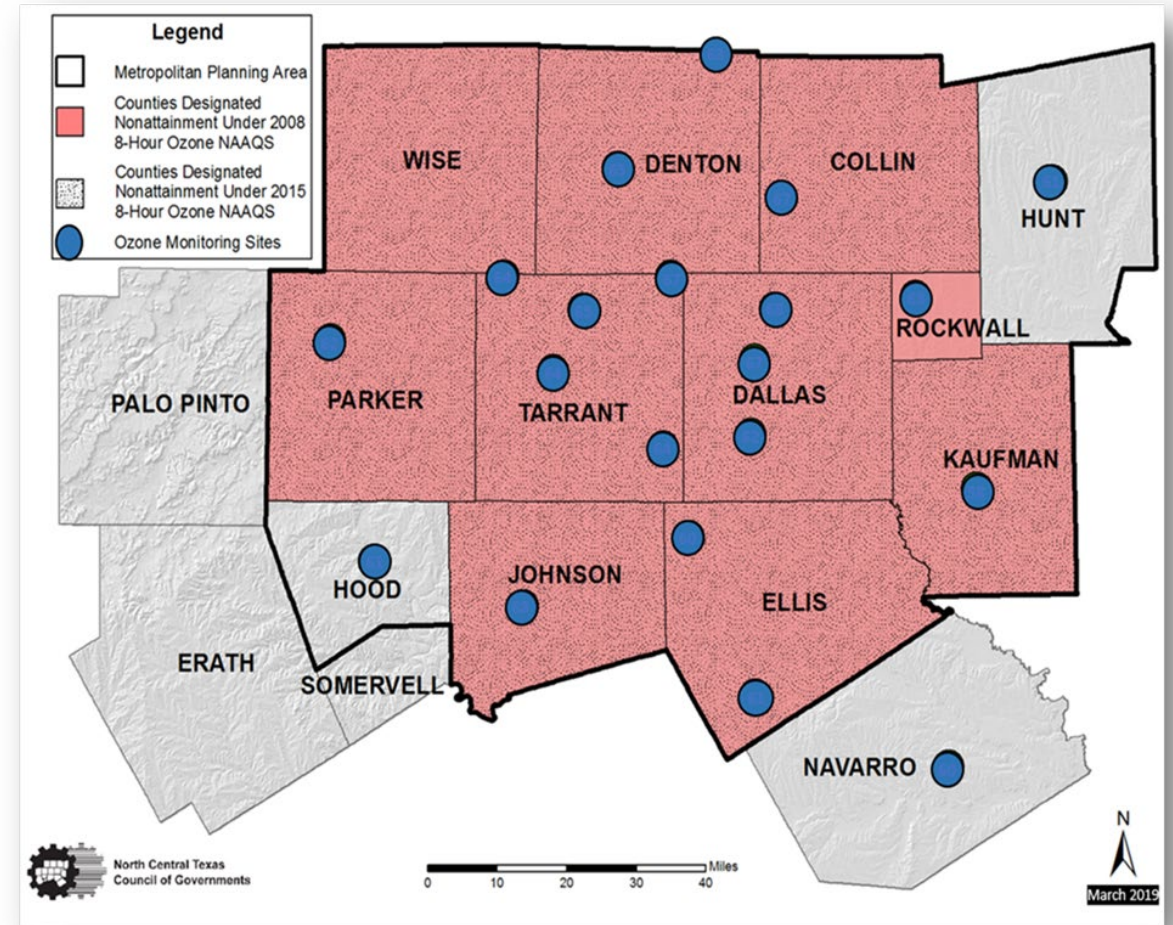
Metropolitan Planning  
Organization (MPO)



Department of Energy-  
Designated Clean Cities  
Coalition



*Sister Coalitions in Texas:*  
*Alamo Area Clean Cities (San Antonio)*  
*Houston-Galveston Clean Cities*  
*Lone Star Clean Fuels Alliance (Austin)*



# What We Do



## Funding Support

Assist with  
Navigating  
Programs and  
Developing Grant  
Applications

Administer  
Funding



## Technical Assistance

Maintain and Analyze  
Data

Hold Webinars,  
Workshops, Peer  
Exchange

Develop Best Practices  
and Template Resources



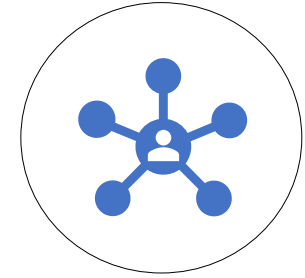
## Planning the Future

Alternative Fuel  
Corridors

Texas EV Charging  
Plan

ZEV Infrastructure

Organic Waste to RNG  
Feasibility Study



## Raising Awareness

Facilitating  
Relationships

National Drive  
Electric Week

Fleet Recognition

Success Stories and  
Community Events



# Rapid-Fire Panel Presentations on Existing Efforts

WSNCT Presentation - Brandi Harrison Trotter, WSNCT

NTXIA Presentation - Jen Sanders, NTXIA

NTCMT Presentation - Dr. Victor Fishman, NTCMT

TxEtra Presentation - Brandy O'Quinn, TxEtra

NTXAD Presentation - Roy Plumlee, NTXAD

EV Training for Automotive Technicians - Dr. Veronique Tran, Dallas College

TxDOT Presentation - Michael Chamberlain, TxDOT



# Rapid-Fire Panel Presentations on Existing Efforts

## **Workforce Solutions North Central Texas (WSNCT)**

Brandi Harrison Trotter,

Business Development Supervisor



EV Workforce Development

**EV WORKFORCE  
DEVELOPMENT  
OPPORTUNITIES:  
RESILIENCE HUB**



**NORTH TEXAS**  

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**Innovation Alliance**

# EV Workforce Programs/Funding

## White House Talent Pipeline Challenge: Supporting Employer Investments in Equitable Workforce Development for Infrastructure Jobs

- **Electrical Vehicle Infrastructure Training Program (EVITP)** has trained and certified thousands of electricians throughout the country in the installation of electric vehicle supply equipment.
- **Siemens**, which will produce one million EV chargers by 2025, is developing technical training pathways and building talent pipelines with more than 100,000 academic institutions nationwide.
- **Washington D.C. is expanding its D.C. Infrastructure Academy** with Fiscal Recovery Funds from ARP to meet the need for skilled infrastructure professionals.
- **The Department of Energy (DOE)**, in consultation with DOL, is providing \$5 million to support a national battery workforce sectoral strategy, leading to national training standards and industry-recognized credentials.



# NTXIA's Resilience Hub Concept

## Integrating Economic Development, Education, Energy Efficiency, Electrification and Equity

- **Partnerships** – model for multi-jurisdictional, multi-agency, multi-sector partnership, leveraging multiple federal funding streams to accomplish diverse range of outcomes in a single investment
- **Resiliency** – microgrid and multi-use facility providing community access to amenities and core services
- **Workforce Development** – training on advanced energy careers in partnership with programs, like Cedar Valley College's automotive program, and Inland Port employers
- **Electrification & Sustainability** – fleet conversion targets and accessibility of EV infrastructure and vehicles
- **Scalable Broadband Infrastructure & Access** – core broadband infrastructure and end points can be leveraged for operational and public use
- **Health & Transportation Equity** – equitable transportation options via shared vehicle program, partnerships with DART for GoLink service gaps, provision of additional greenspace and food production
- **Economic Development** – infrastructure investment spurs follow-on private investment and job creation for Southeast Dallas County, small business support and creation onsite
- **Revenue Generation** – public and private lease of facility creates revenue offset
- **Housing** – mix of rented and owned affordable housing on the campus

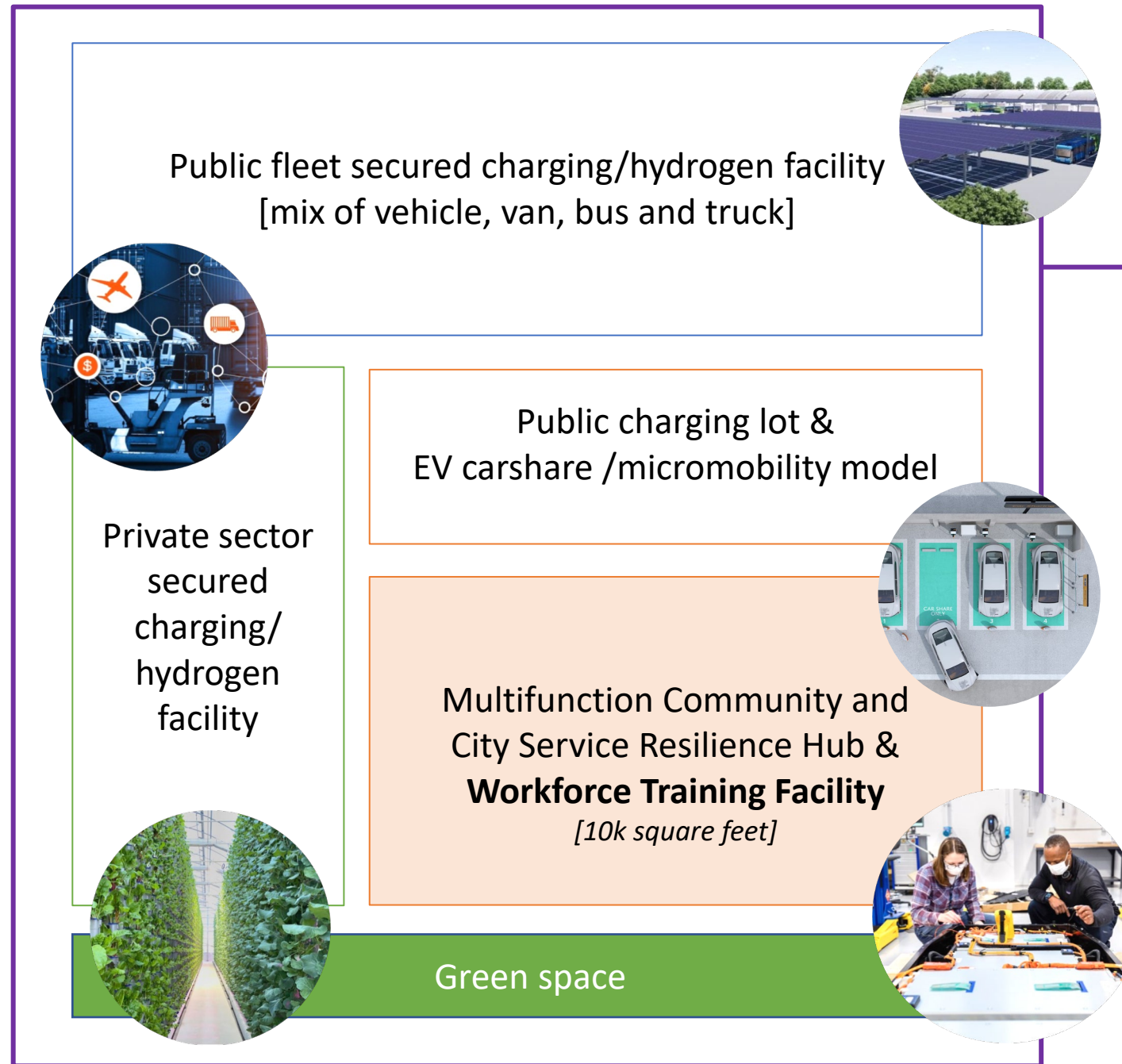
# Resilience Hub Concept

- Public fleet use
- Public benefit/  
Private investment
- Revenue generation  
opportunity
- Microgrid

*\*Surrounding perimeter  
includes vertical farm,  
refrigeration, housing  
and solar production  
capabilities*

Microgrid footprint

Oncor Substation



## Workforce Development Components

- Accelerating pipeline for in-demand skills in automotive, logistics and sustainability
- Research & innovation in emerging technology and infrastructure via test-bed environment
- Direct experiential learning and employment connections via internships and apprenticeships

DART next-gen  
Go-Link stop



**Join the next  
Resilience Hub Conversation  
on April 3<sup>rd</sup> 1-2pm**

**Jennifer Sanders**

Executive Director, Co-founder  
North Texas Innovation Alliance

**[jsanders@ntxia.org](mailto:jsanders@ntxia.org)  
(214) 909-0400**

***Texas Research Alliance***



***“Connecting Research  
& Innovation in  
Dallas-Fort Worth”***

**NCTCOG EV Workforce  
Development Stakeholder  
Discussion**

**March 20, 2023**

**Victor A. Fishman, Ph.D.  
Executive Director**



**Building research partnerships between industry,  
municipalities, public, agencies and our universities**

**North Texas Center for Mobility Technologies**

# EV Workforce



- Convene industry Compression Planning workshops to define key workforce capability requirements (Dallas College).
- Pursue grants and proposals supporting workforce development. e.g. NSF Texoma Innovation Engines proposal and NSF STEM proposals.
- Fund university research projects supporting the development of students trained in EV/AV technology development (NTCMT).



# Rapid-Fire Panel Presentations on Existing Efforts

## **Texas Electric Transportation Resources Alliance (TxETRA)**

Brandy O'Quinn,

North Texas Program Manager



EV Workforce Development

# Rapid-Fire Panel Presentations on Existing Efforts

## **North Texas Auto Dealers (NTXAD)**

Roy Plumlee,

Industry and Education Partnership Manager



EV Workforce Development

# Rapid-Fire Panel Presentations on Existing Efforts

## **EV Training for Automotive Technicians**

Dr. Veronique Tran,

Vice Provost, School of Manufacturing and Industrial Technology,

Dallas College

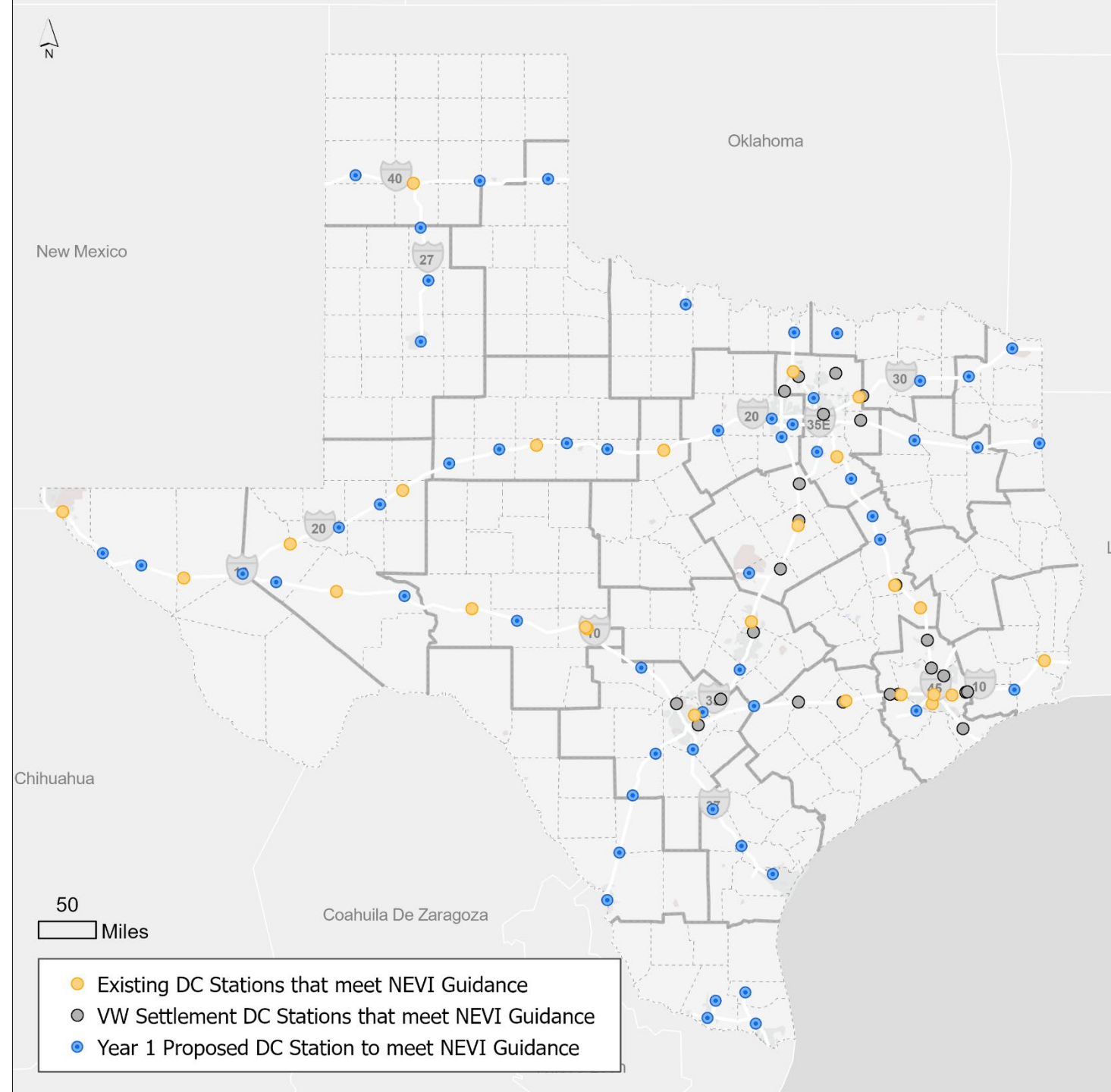


EV Workforce Development

# Texas Electric Vehicle Infrastructure - Plan

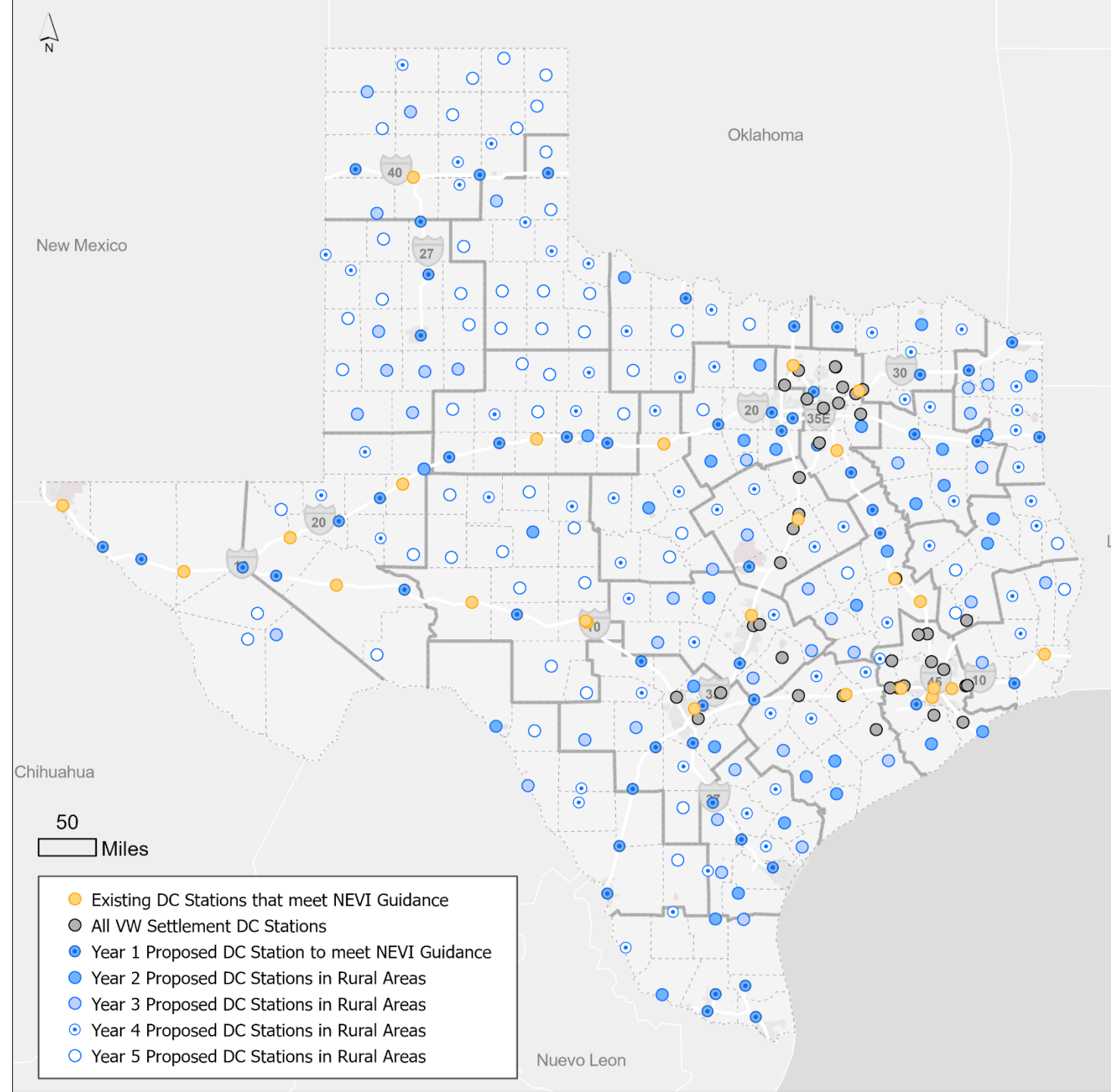
# Texas Electric Vehicle Infrastructure Plan

- Federal - \$408M over 5 years (funds available until spent)
- Private - \$102M
- Network will support 1 Million + Electric Vehicles
- 312 DC Fast Chargers every 50 miles along Interstate Highways
- Alternative Fuel Corridors first



# Texas Electric Vehicle Infrastructure Plan

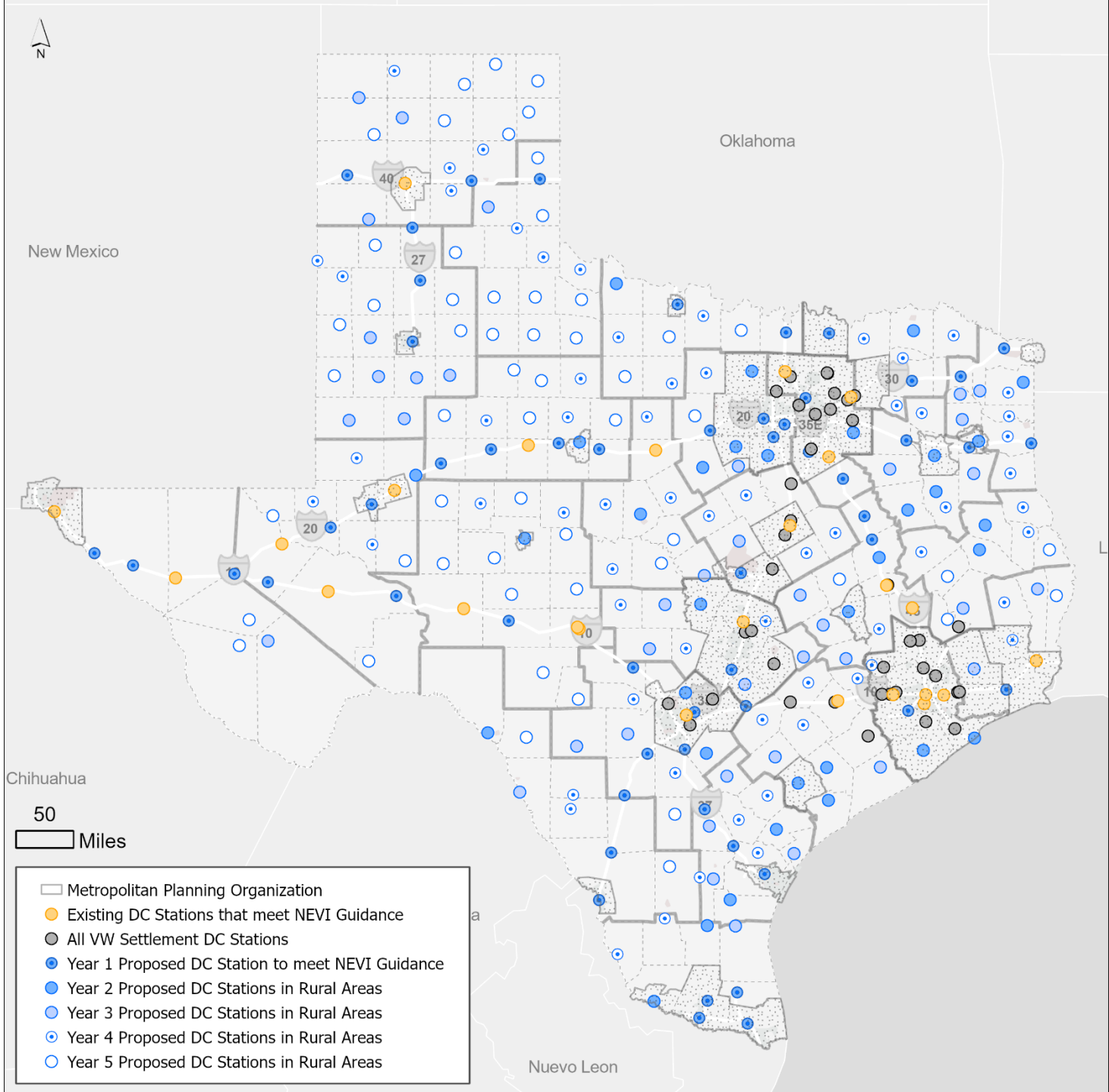
- 1,014 DC Fast Chargers at or near County Seats
- 20K+ DC and Level II chargers inside MPOs and urban areas
- Theoretical max electric demand 667MW





# Texas Electric Vehicle Infrastructure Plan

MPO Name	Allocation (Fed + Private)	5 YR Operations & Maintenance
Abilene MPO	\$765,303	\$191,326
Alamo Area MPO	\$18,672,318	\$4,668,079
Amarillo MPO	\$1,452,407	\$363,102
Bryan-CS MPO	\$1,200,824	\$300,206
CAMPO	\$18,342,083	\$4,585,521
Corpus Christi MPO	\$1,775,402	\$443,850
El Paso MPO	\$5,941,734	\$1,485,434
Grayson County MPO	\$1,224,867	\$306,217
HGAC	\$53,588,122	\$13,397,030
Killeen-Temple MPO	\$2,324,076	\$581,019
Laredo/Webb MPO	\$1,063,244	\$265,811
Longview MPO	\$794,230	\$198,557
Lubbock MPO	\$1,486,663	\$371,666
NCTCOG	\$64,497,274	\$16,124,319
Permian Basin MPO	\$1,915,692	\$478,923
Rio Grande Valley MPO	\$6,325,223	\$1,588,056
San Angelo MPO	\$548,860	\$137,215
South East Texas RPC	\$2,502,701	\$625,675
Texarkana MPO	\$389,114	\$97,279
Tyler MPO	\$1,453,176	\$363,294
Victoria MPO	\$719,299	\$179,825
Waco MPO	\$1,846,634	\$461,658
Wichita Falls MPO	\$593,756	\$148,439

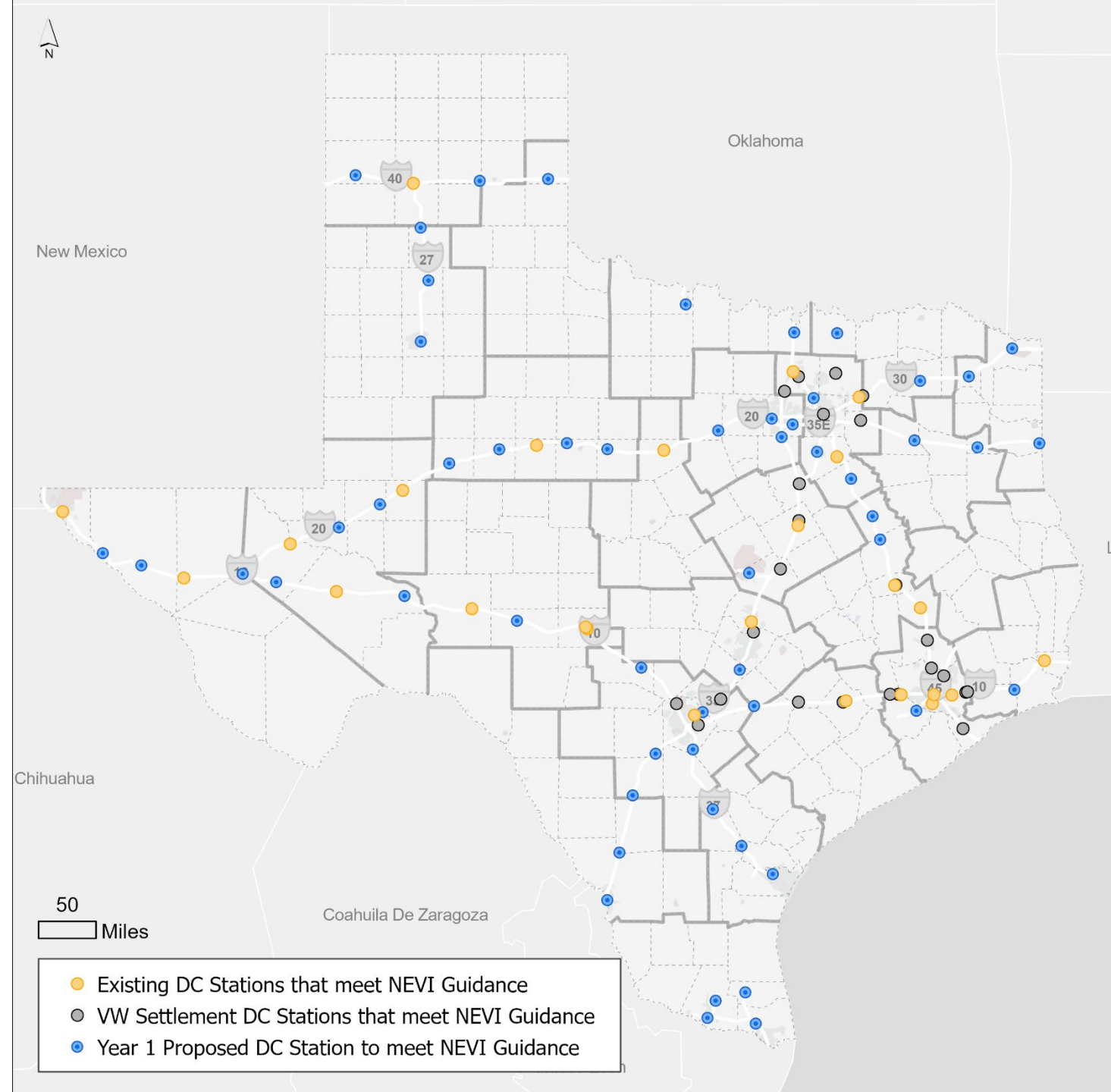


# Texas Electric Vehicle Infrastructure - Implementation

# Texas Electric Vehicle Infrastructure - Implementation

- Competitive Grant Program
- Phase 1 - Alternative Fuel Corridors
- 56 locations, 312 plugs
- Min power per connector 150kW
- Min 4 connectors per location
- Theoretical power draw estimated at 46MW if all connectors in use at max rate at the same time

For comparison, bitcoin mining draws around 1,500MW in Texas in 2022.

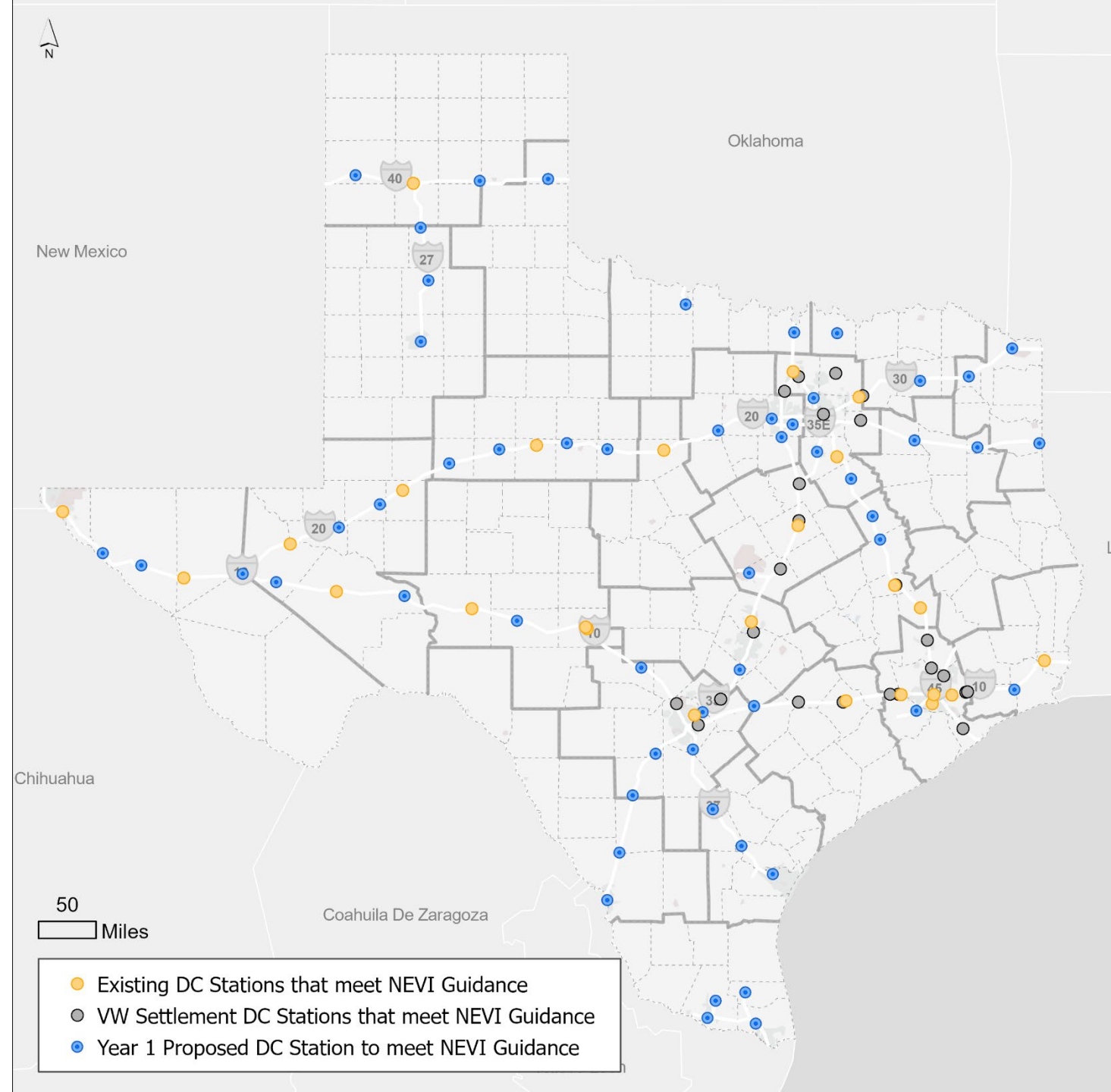


# Texas Electric Vehicle Infrastructure - Implementation

## Program Documents

- Request for Grant Application (RFGA)
- Application
- Scoring Worksheet
- Site Hosting Form
- Environmental Clearance Form

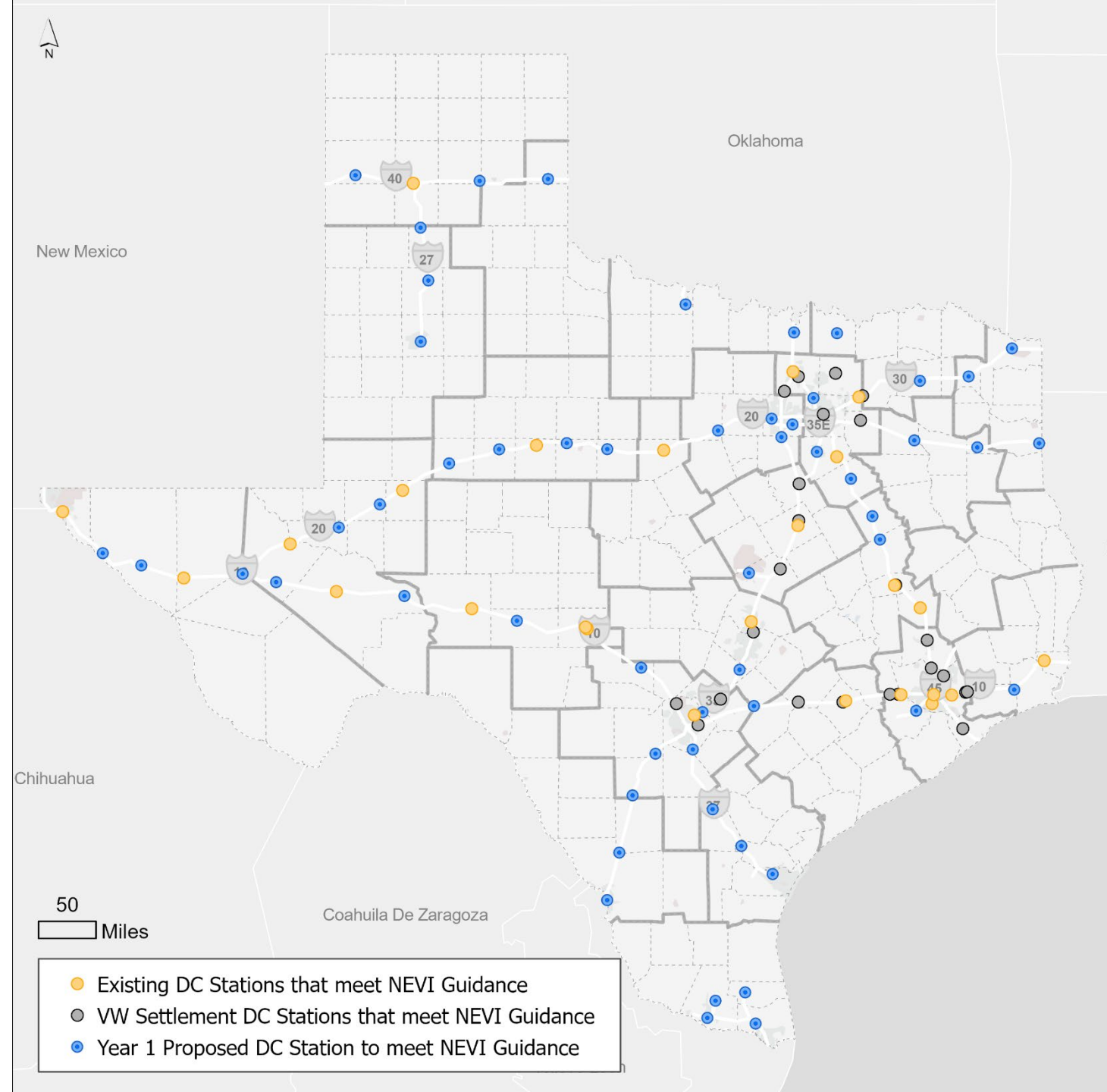
Documents posted for comment until  
Dec. 16, 2022 on the [EV Landing page](#)



# Texas Electric Vehicle Infrastructure - Implementation

## 2023 Events

- Federal rulemaking finalized
- Program Approval from FHWA
- Applications, scoring, and selection
- Add first 56 locations to the STIP
- Environmental clearance
- Begin working with MPOs and County Seats for Phase 2
- Performance management contract to support for Phase 2



# Program Resources

- [EV Program Landing Page](#)
- [Texas Electric Vehicle Plan](#)
- Program Email Address – [TxDOT NEVI@txdot.gov](mailto:TxDOT_NEVI@txdot.gov)



# Existing Training - Electric Vehicle Infrastructure Training Program (EVITP)

## Specialized EVSE Electrician Certification

- Training for licensed electricians to become certified in the installation of electric vehicle supply equipment (EVSE)
- Program curriculum designed by industry partners
- Comprehensive training prepares electricians for the installation and maintenance of EVSE, ensures they understand all related standards, requirements, and regulations
- National Electric Vehicle Infrastructure (NEVI) Program requirement

## About EVITP

- Industry partners include manufacturers, utilities, universities, and many more
  - GM, BMW, PG&E, Ameren, UC Davis, etc.
- \$275, 20-hour online training course available for licensed electricians
- More information on this program can be found on [evitp.org](https://evitp.org)



# Existing Training - Electric Vehicles

## Curriculum Materials from [Advanced Transportation and Logistics](#) (California Community Colleges)

- Electric and Hybrid Training Materials
  - K-12 and College Level Content
  - Certifications and Degrees
- Point of Contact Jannet Malig, [jmalig@Cerritos.edu](mailto:jmalig@Cerritos.edu)



# EV Industry Workforce Development

## NCTCOG Role

- Connections with local governments, statewide organizations, and schools
  - Independent School Districts may be valuable to this conversation as well as institutions of higher ed
- Workforce Solutions North Central Texas
- Funding opportunities
  - Monitoring for relevant opportunities
  - Assisting on application development
  - Providing support on projects for grants awarded
- Coordination on cross-sector projects
  - Projects involving workforce development as it relates to transportation and/or air quality



# Funding Opportunities

<b>Fiscal Year 2023 Vehicle Technologies Office Program Wide Funding Opportunity Announcement DE-FOA-0002893</b> <a href="https://driveelectric.gov/funding-opportunities/">https://driveelectric.gov/funding-opportunities/</a>	<b>Joint Office of Energy and Transportation Ride and Drive Electric, Fiscal Year 2023 Funding Opportunity Announcement DE-FOA-0002880</b> <a href="https://driveelectric.gov/funding-opportunities/">https://driveelectric.gov/funding-opportunities/</a>
<b>AOI 7: Modeling, Analyzing, and Addressing Knowledge Gaps in the Workforce Supporting EVs and the Related Supply Chain</b> Demonstrate ability to map plausible supply chain paths and characterize workforce impacts	<b>AOI 1: Enhancing EV Charging Resilience</b> Establish and fund a cohort of teams from across the country to develop and share resilience plans for EV charging, identify, and potentially implement technology pilots and demonstrations
<b>AOI 9: Reducing Soft Costs of EV Infrastructure to Enable Widespread Deployment</b> Develop strategies, resources, and tools to reduce soft costs that present barriers to widespread charging station deployment, both residential and non-residential applications	<b>AOI 2a: Community-Driven Models for EV Charging Deployment</b> Determine how investments in EV charging can benefit the community, including business models for creating community benefits that may incorporate novel financing and funding; and/or (1) explore methods for siting, (2) demonstrate community-driven approaches to planning; (3) determine how to measure, track, and validate benefits to exceed Justice40 goals; (4) identify what transportation and/or mobility services need to be made available, (5) identify and address accessibility barriers
<b>AOI 10: Addressing Critical Workforce Training Needs for Transportation Electrification</b> Collaborate with communities transitioning from automotive/powertrain or energy jobs local economy to equip the workforce with skills to participate in the transportation electrification workforce	<b>AOI 2b: Workforce Development</b> Develop and implement strategies that will develop and diversity a high- quality workforce within the electrified transportation industry to support producing, installing, operating, and maintaining EV infrastructure

# Discussion

**What gaps still remain in workforce development between the existing resources presented today?**

**Who is best equipped to fill those gaps?**

**Do we need funding to support development of new programming? If so, who is the best lead organization(s)?**

**What else do we need to understand?**



# CONTACT US



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