

## Welcome! The Arizona Electric Vehicle Infrastructure Deployment Plan Stakeholder Workshop will begin shortly.

Take the  
stakeholder survey  
while you wait!





# AZEVPLAN

Electric Vehicle  
Infrastructure  
Deployment Plan

**ADOT**

# ADOT'S NONDISCRIMINATION NOTICE TO THE PUBLIC

The Arizona Department of Transportation (ADOT) hereby gives public notice that it is the Agency's policy to assure full compliance with Title VI of the Civil Rights Act of 1964, Title II of the Americans with Disabilities Act of 1990 (ADA), and other related authorities in all of its programs and activities.

ADOT's Title VI and ADA Programs require that no person shall, on the grounds of race, color, national origin, or disability, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity.

Any person, who believes his/her Title VI or ADA rights have been violated, may file a complaint. Any such complaint must be in writing and filed with the ADOT Civil Rights Office within one hundred eighty (180) days following the date of the alleged discriminatory occurrence. For additional information about ADOT's Civil Rights programs and the procedures to file a complaint contact ADOT Civil Rights Office via the information listed below:

**ADOT Civil Rights Office**  
**206 S. 17th Avenue, Mail Drop 155-A**  
**Phoenix, AZ 85007**  
**602.712.8946      FAX 602.239.6257**

**Krystal Smith**  
**Title VI/ADA Coordinator**  
**[KSmith2@azdot.gov](mailto:KSmith2@azdot.gov)**  
**CivilRightsOffice@azdot.gov**

# Interact with Us!

## Q&A

- Use the Q&A function throughout the presentation
- We will verbally answer questions **after** the presentation
- Time will be allotted for you to unmute your mic to ask questions and discuss verbally

## Polling

- We will have an interactive Mentimeter poll to collect your answers, thoughts, and opinions!

# Voluntary Anonymous Self-ID Survey

By completing this voluntary survey, ADOT will be able to determine who attends its public meetings and how the department can improve participation. The survey will also help ADOT fulfill federal reporting requirements.



# Agenda

- Introductions
- Project Background
- Stakeholder Engagement and Outreach
- Existing Conditions
- Early Survey Results
- Next Steps
- Q&A

# Introductions



## Arizona Department of Transportation

- Thor Anderson
- Dianne Kresich



## AECOM

- Dana AlQadi
- Jennifer Love
- Brendan Connelly
- Abby Tomlinson
- Bill Plumley





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# Project Background

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# IIJA Funding for EV and Charging Infrastructure

## \$30.7 BILLION+

### GENERAL FUNDING BY CATEGORY

- Deployment of EVs and related infrastructure | **\$7.5 BILLION**
- Deployment of clean vehicles and fueling infrastructure | **\$12.7 BILLION**
  - Grid and battery-related investments | **\$10.3 BILLION**

### MAJOR PROGRAM FUNDING

- National Electric Vehicle Infrastructure Formula Program | **\$5 BILLION**
- National Electric Vehicle Infrastructure Grant Program | **\$2.5 BILLION**
- Clean School Bus Program | **\$5 BILLION**
- Low- and No-Emission Transit Bus Program | **\$5.6 BILLION**
- Electric or Low-Emitting Ferry Pilot Program | **\$250 MILLION**

### OTHER RELATED PROGRAMS

- Surface Transportation Block Grant Program: includes EV charging and vehicle-to-grid infrastructure | **\$72 BILLION**
- Congestion Mitigation and Air Quality Improvement Program: can be spent on medium- or heavy-duty zero emission vehicles and infrastructure | **\$13.2 BILLION**
- Reducing Truck Emissions at Ports: Evaluates emissions benefits due to truck electrification and emerging technologies | **\$250 MILLION**

Source: M. Moaz Uddin. Electric Vehicle Programs in the Bipartisan Infrastructure Bill. Great Plains Institute. December 2021.

# Program Overview

- The U.S. Departments of Transportation and Energy recently announced allocation of nearly **\$5 billion for states** under the NEVI program
- Details continue to be released about the \$2.5 billion discretionary grant program



# ADOT Electric Vehicle Infrastructure Deployment Plan

- Funds will be used to support **deployment of publicly accessible electric vehicle (EV) chargers** along alternative fuel corridors
- The goals include **reducing range anxiety, encouraging EV adoption, and advancing equity** within Arizona
- Arizona's share is **\$76.5 million** over the next five years
- To access funds, we are required to submit a deployment plan by **Aug. 1, 2022**



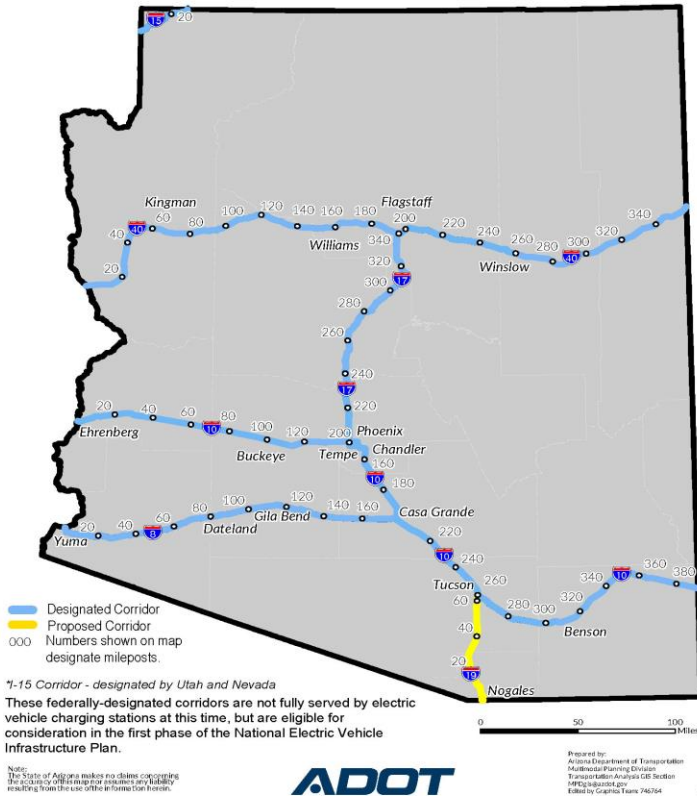
# Station Requirements

- One station every 50 miles within one mile of the freeway (exceptions can be granted)
- Minimum of four 150-kilowatt direct current fast chargers with combined charging system (CCS) ports per station
- Minimum charging capacity of 600 kilowatts per station and capability to charge four electric vehicles simultaneously



## Initial Electric Vehicle Deployment Plan Corridors

# State of Arizona Electric Vehicle Corridors



# Alternative Fuel Corridor Requirements

- Nation Highway System routes
- Corridor-ready requires a minimum of two EV charging stations that meet NEVI requirements
- For corridor-pending routes with no alternative fuel facilities, a plan and timeline for infrastructure build-out should be submitted
- Exceptions are permitted for distance from interstate exits or highway intersections and between stations along the corridor
- All designated alternative fuel corridor categories (pending or ready) are eligible for NEVI Formula funding



# NEVI Requirements

- State Agency Coordination
- Public Engagement
- Vision and Goals
- Contracting
- Existing and Future Conditions
- Funding Sources - 20% Match
- Locations of Proposed EV Installations
- FY 23-26 EV Deployments
- State Regional and Local Policy
- Implementation
  - Operations and Maintenance
  - Identification of Service Providers and Station Owners
  - Data Collection and Sharing
  - Environmental and Resilience
  - Labor, Safety, Training and Workforce Development
  - Installation Standards
- Civil Rights
- Equity
  - Justice40
  - Outreach to Disadvantaged Communities (DACs)
  - Identify, Quantify and Measure Benefits to DACs
- Cybersecurity
- Project Monitoring



# Justice40 Initiative

- January 2021 policy goal: **40% of federal investment in climate and clean energy benefits disadvantaged communities**
- This includes investment in sustainable transportation
- For USDOT purposes, disadvantaged communities include:
  - Census tracts identified as ‘transportation disadvantaged’ under any of six categories: transportation access, health, environmental, economic, resilience, equity
  - Any tribal lands
  - US territories and possessions

# Justice40 and Our EV Plan

Potential benefits to underserved communities include:

- Improving access to clean transportation options
- Decreasing consumer costs through access to affordable charging
- Reducing exposure to fossil fuel emissions by encouraging EV adoption and use
- Promoting equitable siting and installation of EV chargers
- Improving energy resilience by decreasing reliance on fossil fuels
- Providing charging infrastructure for public transit and rideshare services



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# Stakeholder Engagement and Outreach

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# Stakeholder Engagement and Outreach

- **Engage stakeholders** to determine electrification priorities and barriers to equitable electrification access
- **Integrate findings** of engagement into technical analysis
- **Contribute to equitable and inclusive approaches** in developing ADOT's electrification plan

# Stakeholder Outreach – Government

- Metropolitan Planning Organizations and Regional Transportation Planning Organizations
- Counties and cities, including coordination with existing EV charging programs
- State departments of energy, including Clean Cities Coalitions
- State environmental protection agencies
- State economic development agencies
- State public utility commissions
- State weights and measurement agencies
- State and Federal land management agencies
- State public transportation agencies
- State manufacturing extension partnerships
- Responsible emergency/disaster preparedness functions in the State
- Public safety agencies
- Tribal governments
- Electric utilities and regulators
- Port and freight authorities

# Stakeholder Outreach – Community & Private

- Community-based organizations, small business associations, Chambers of Commerce and labor organizations
- Private sector EV charging station owners and network operators
- Investors in EV charging infrastructure
- Vehicle manufacturers
- EV Investors and other labor organizations
- Utilities
- Real estate industry groups
- Minority- and women-based organizations
- Freight industry groups
- Environmental justice, equity, and other community advocacy organizations with an interest in EV charging
- EV industry organizations and EV advocacy groups
- Gas station owners and operators
- Ride-share drivers or taxi drivers

# Tribal and Public Outreach

- **July 14, 2022** – Virtual statewide public meeting + robust survey in English and Spanish



*We need you! Please plan to share information on the public meeting and survey with your contacts via email and social!*

- **Late Summer – early Autumn** – Seven in-person meetings (one per ADOT district) + robust survey
- **Throughout** – statewide tribal consultation







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# Existing Conditions




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# How We're Identifying Locations

- Traffic Count
- Amenity Count
- Justice40 Designation
- Route
- Network Connections
- Tribal land
- Utility Capacity
- Cost
- Other Demographics

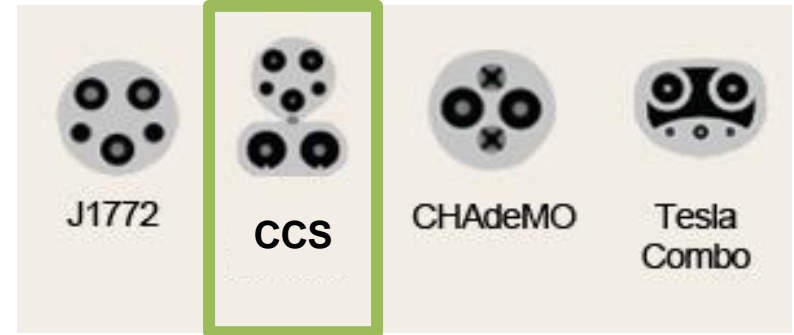
# EV Basics

- Electric Vehicles (EVs) includes:
  - Battery Electric Vehicles (BEV)
  - Plug-In Hybrid Vehicles (PHEV)
- Three charging types are available, each varies in terms of power output, recharge time, and cost

CHARGER TYPE	RECHARGE TIME	COST TO CHARGE	IMPACT TO GRID
DCFC	 TRAVEL (20 MIN)	\$	HIGH 200-500 VDC, UP TO 350A
LEVEL 2	 PUBLIC AND WORKPLACE (0.5-8 HOURS)	\$	MED 208/ 240VAC, 80 A
LEVEL 1	 RESIDENTIAL (8 HOURS)	\$	LOW 120 VAC, 12-16 A

# EV Basics

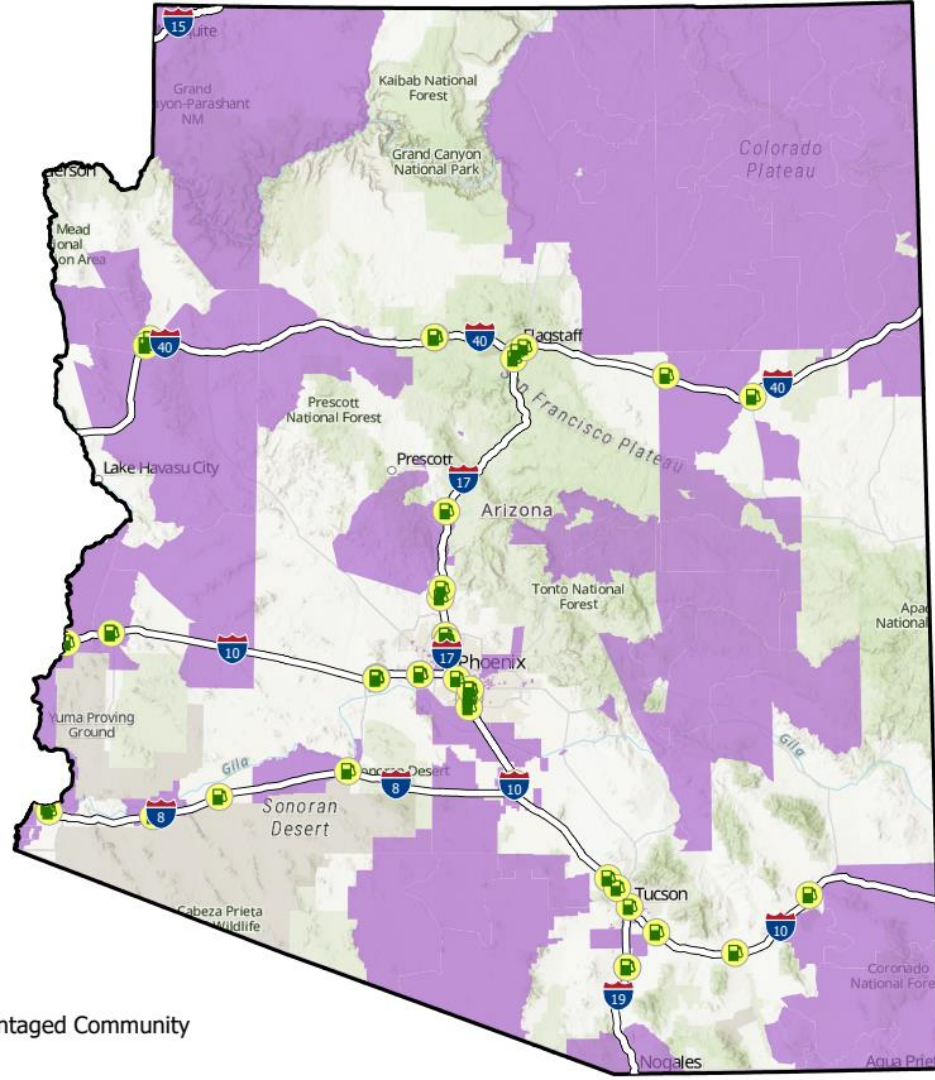
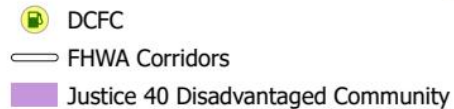
- Four main charger connector types
- DCFC are becoming the prominent public charging technology and is required by NEVI
- Tesla DCFC are designed solely for Tesla users
- CCS connectors are becoming the universal connector and is required by NEVI**



Level 1	X	X	X	X
Level 2		X	X	X
Level 3 (DCFC)		X		X

# Existing Conditions

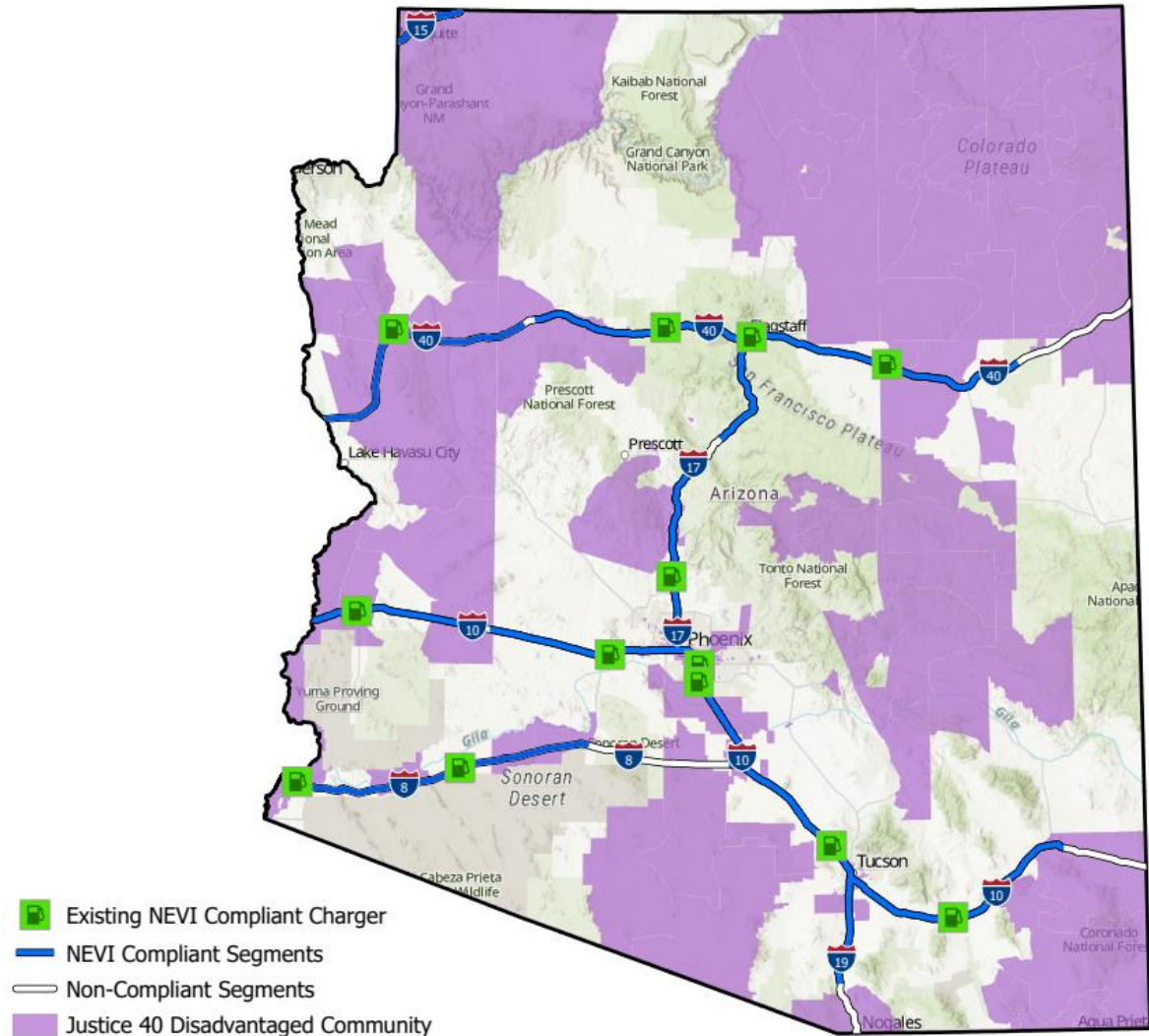
- Map displays all DCFC in Arizona within one mile of the corridor





# NEVI Compliant Chargers






- DCFC that did not meet NEVI requirements were filtered out
- Still need confirmation on the existing charger power and capability to charge simultaneously to determine if upgrades needed
- Identified gaps in network. Believed that sites in neighboring states will meet NEVI requirements

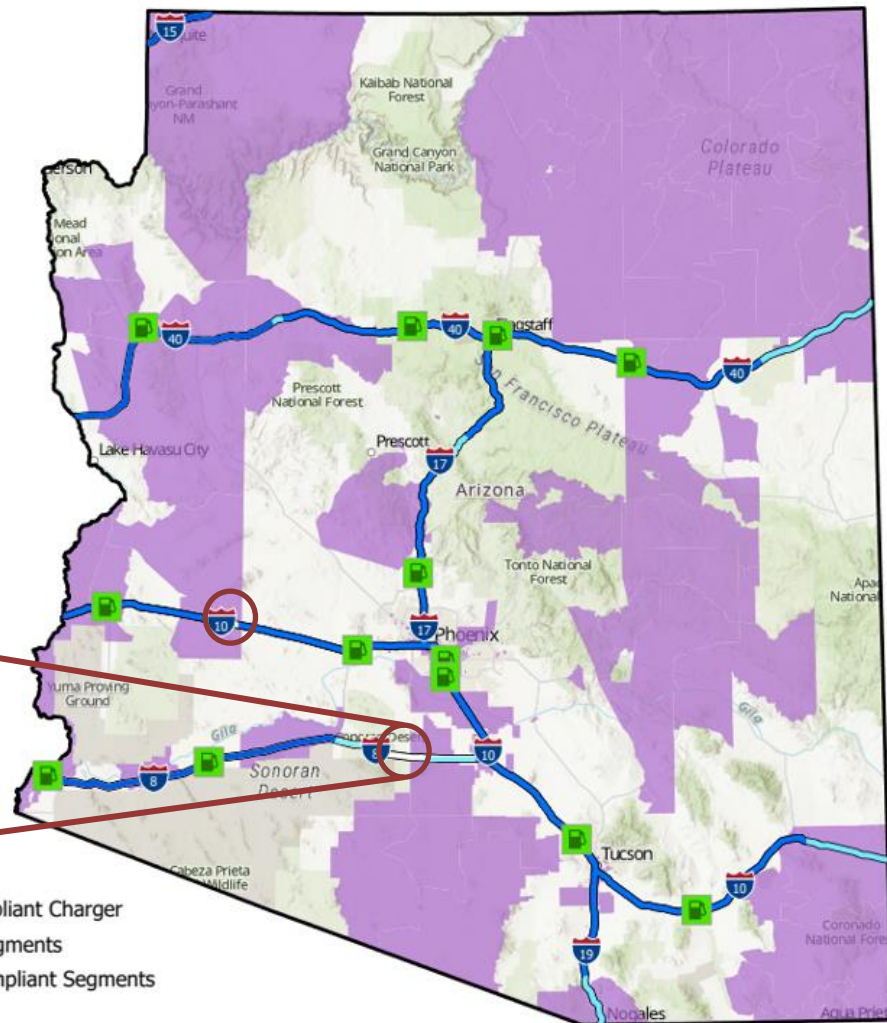


# Potential Roll-out Plan

- Identified potential locations that would meet NEVI requirements
- To meet NEVI guidelines in some areas of the state, the only available sites are off-ramps with minimal infrastructure (circled in red)



-  Existing NEVI Compliant Charger
-  NEVI Compliant Segments
-  Proposed NEVI Compliant Segments
-  Potential Gaps
-  Justice 40 Disadvantaged Community







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# Survey

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# Preliminary Results

- Thank you to everyone who has taken the survey already!
- For everyone who hasn't had the chance yet, the survey will run through July 7.

## ADOT EV Infrastructure Deployment Plan - Stakeholder Survey

### Introduction

Take some time to get familiar with the program before continuing.

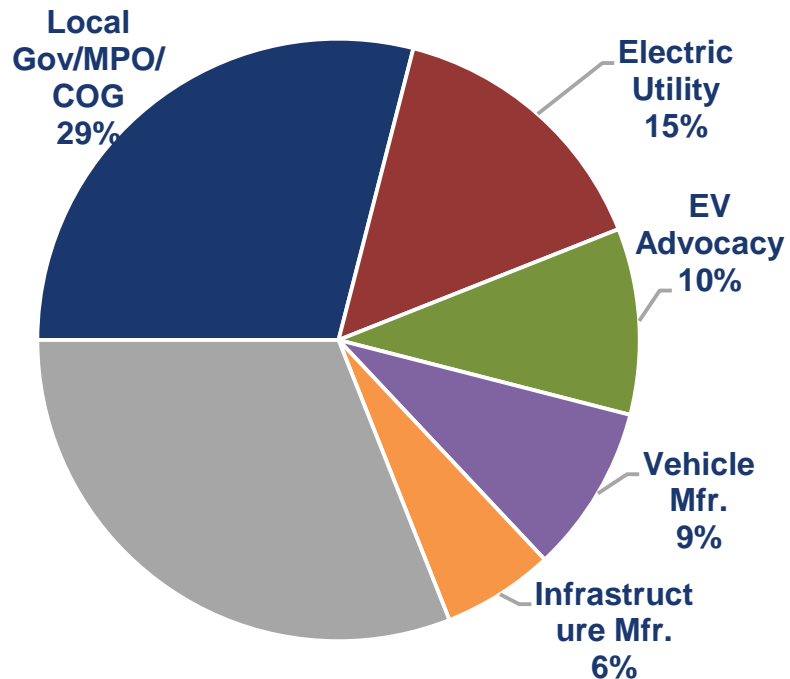


### Expanding Arizona's EV Infrastructure

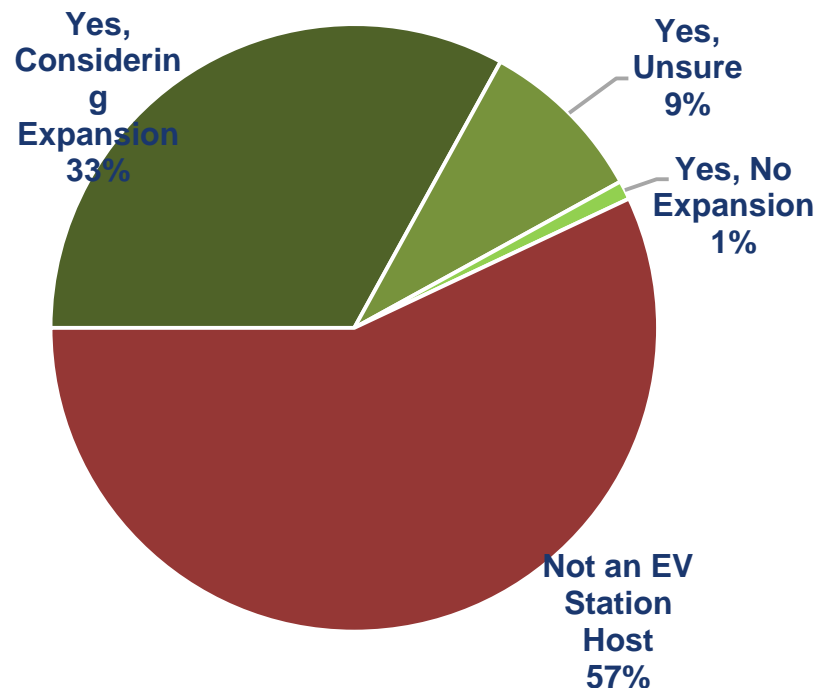
As more and more Arizona drivers get behind the wheel of an electric vehicle, the Arizona Department of Transportation is taking advantage of new federal funding sources and developing a long-range plan

# Preliminary Results – Who's Responding?

## Type of Organization



## Host EV Stations? Considering Expanding?



# Preliminary Results – What We’re Hearing



## Most Important Goals

Resilient, Equitable,  
Accessible, Reliable Network

**4.4** out of 5

Reducing ‘Range Anxiety’

**4.3** out of 5



## Equity Considerations

**77%** Rural, tribal, and  
disadvantaged community access

**47%** Improving air quality in  
areas with high pollution

**46%** Opportunities for small and  
disadvantaged businesses



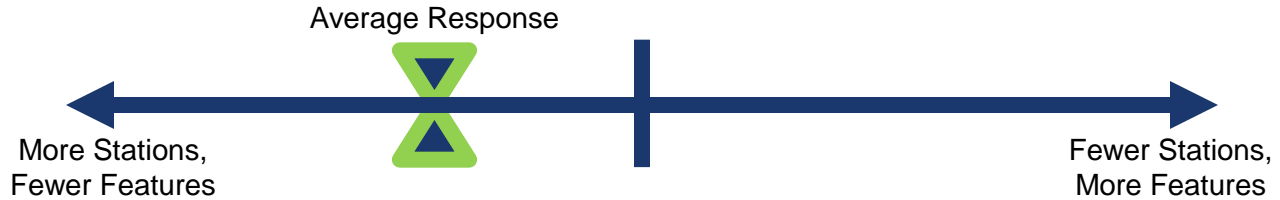
## Concerns for Development

**59%** Feasibility in areas  
without existing infrastructure

**54%** Impacts to electrical  
grid and sustainability

**52%** Rural/remote access  
to interstate stations

# Preliminary Results – What We’re Hearing



## Important Features



**65%** Upgrades for expansion

**50%** Shade structures

**49%** Additional chargers

**47%** Solar power, battery back-up

## Location Types

**70%** Gas stations and truck stops

**68%** Retail, theaters, restaurants



## Priority Corridors

I-10, California to Phoenix

I-10, Phoenix to Tucson





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# Next Steps

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# Expected Timeline

**through August**

Plan development and refinement

**August 1**

Initial plan submission

**into 2023**

Plan implementation

**throughout**

Statewide tribal consultation

**June**

**July**

**August**

**September**

**October**

**November**

**June 30**

Virtual stakeholder workshop + robust survey

**July 14**

Virtual statewide public meeting + robust survey in English and Spanish

**late summer - early autumn**

Seven in-person meetings (one per ADOT District) + robust survey





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# Mentimeter and Question-and-Answer

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**Thank you!**

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# ARIZONA TRANSPORTATION ELECTRIFICATION FORUM

Virtual Event | July 6th, 2022  
9:00 A.M. - 1:00 P.M. (PDT/AZTime)

Register Here: [www.azteforum.com](http://www.azteforum.com)

Join policymakers, city managers, fleet operators, private industry, environmental and consumer advocates, and private citizens to discuss how Arizona can best utilize the historical levels of federal stimulus dollars available for electric vehicle infrastructure.

# Stay Connected and Spread the Word



←  
Complete the  
Stakeholder  
Survey



←  
Complete the  
one-question self-  
ID Survey



Share information about  
our **July 14** virtual public  
meeting with your network



Visit the website at  
**[azdot.gov/EVplan](https://azdot.gov/EVplan)** and  
sign up for the mailing list



Contact us via email at **[AZEVPPlan@azdot.gov](mailto:AZEVPPlan@azdot.gov)**