

# The webinar meeting will begin shortly...

- Please mute your computer microphone or phone speaker whenever you are not speaking
- If you need assistance please type in Question box

# Arizona Interstate/Infrastructure Collaborative Advisory Group Meeting

## **I-10 Alternative Fuels Corridor Deployment Plan**

October 16, 2020

**Dustin Fitzpatrick**

Air Quality Planning Coordinator





## FHWA AFCDP Grant Partners:

- Pima Association of Governments (PAG), Arizona Department of Transportation (ADOT), Valley of the Sun Clean Cities Coalition (VSCCC)

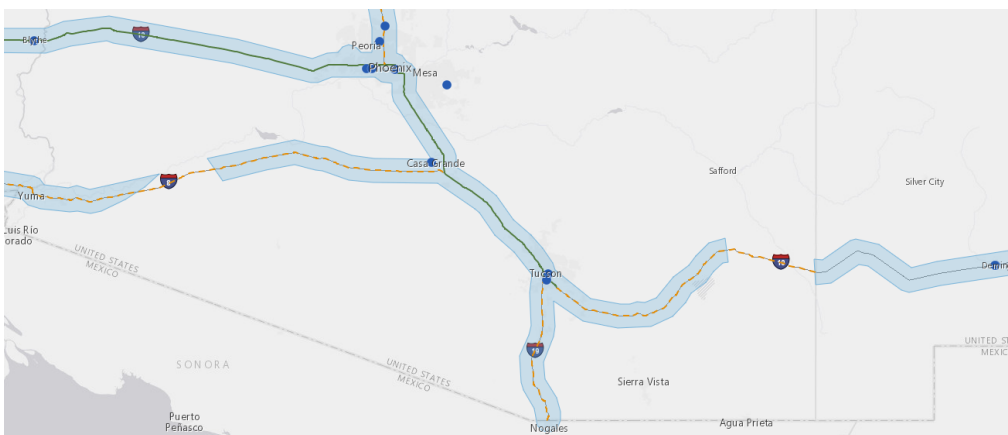
## AIIC Advisory Group Invited Partners:

- Sulphur Springs Valley Electric Cooperative (SSVEC), Arizona Electric Power Cooperative (AEPC), Tucson Electric Power Co. (TEP), Arizona Public Service (APS), Salt River Project (SRP), Southwest Gas Corp. (SWG), ChargePoint, Electrify America, Greenlots, Trillium CNG, CNG Services of Arizona, Willcox Truck Stop Plaza, TA Travel Centers of America, 4K Truck Stop (Petroleum Wholesale), Pilot Co., Nikola Motor Co., Arizona Trucking Association (ATA), Arizona State University (ASU), Arizona Department of Environmental Quality (ADEQ), Arizona Department of Administration (ADOA) - Arizona Governor's Office, FHWA - AZ Division

## Electric Vehicle (DCFC) Charging



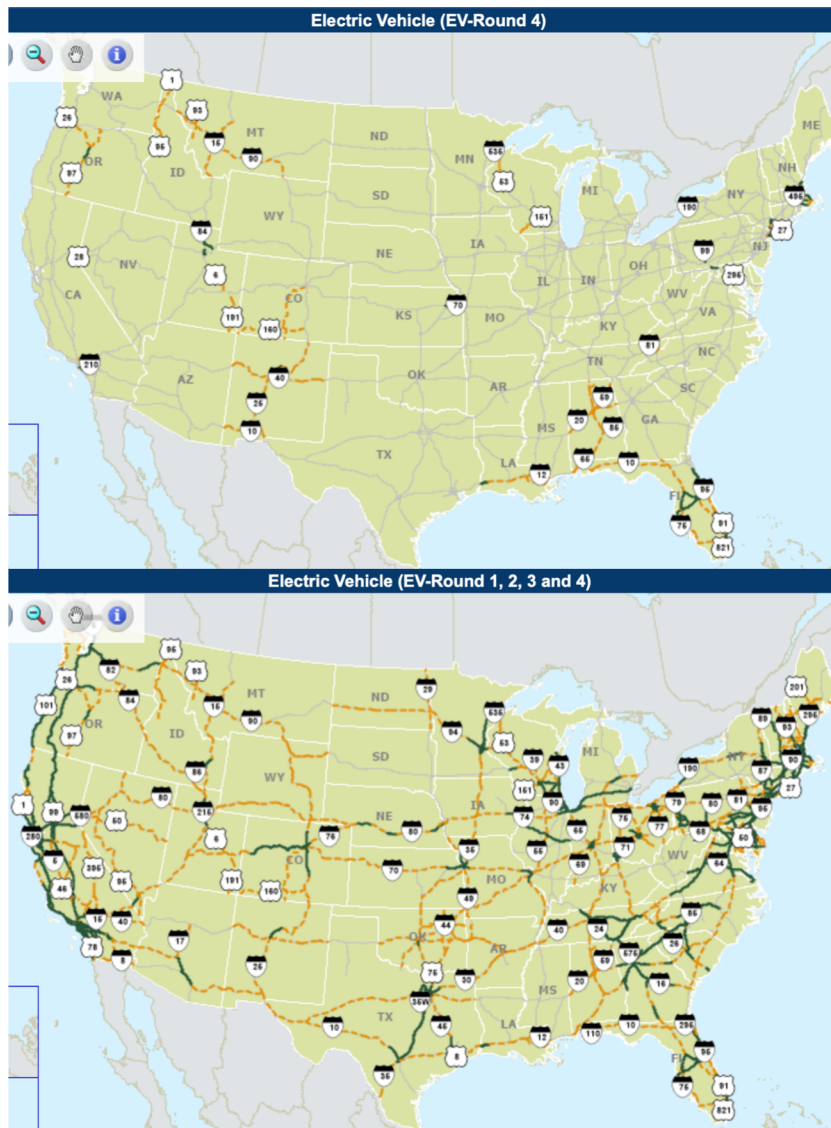
## Compressed Natural Gas (CNG) Fueling



US DOE, AFDC Station Data

## I-10 Arizona AFCDP Goals & Objectives:

- Transition Phoenix to California section from EV Pending to EV Ready with 2 additional DCFC sites
- Transition Tucson to New Mexico section from EV Pending to EV Ready with 2 additional DCFC sites
- Transition Tucson to New Mexico section from CNG Pending to CNG Ready with 1 additional fast fill site
- Consider REVWEST voluntary minimum station standards for the Intermountain West EV Corridor
- Develop Final Deployment Plan by November 30, 2020



U.S. Department of Transportation  
Federal Highway Administration

## Alternative Fuel Corridors





## Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite

This tool provides a simple way to estimate how much electric vehicle charging you might need at a city- and state-level.

How Much Electric  
Vehicle Charging Do I  
Need in My Area?

State

Vehicles

Results

Start Over

## Your Results

In Arizona, to support 570,000 plug-in electric vehicles you would need:

**18,478** Workplace Level 2 Charging Plugs

**12,194** Public Level 2 Charging Plugs  
*There are currently 1,108 plugs with an average of 2.6 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).*

**2,387** Public DC Fast Charging Plugs  
*There are currently 326 plugs with an average of 4.9 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).*

## Where Do I Start?

Planners may want to prioritize installation of fast charging infrastructure above Level 2 charging.

**Build DC Fast First:** Establishing fast charging networks that enable long-distance travel, serve as charging safety nets, and provide charging for drivers without home charging is critical to support all-electric vehicles that have no other alternative for quickly extending their driving range.

**Build Level 2 Second:** EVI-Pro typically simulates the majority of Level 2 charging demand coming from plug-in hybrid electric vehicles, which have the ability to use gasoline as necessary for quickly extending driving range.

### Change Assumptions

Plug-in Electric Vehicles (as of 2016): 9,000

Light Duty Vehicles (as of 2016): 5,768,500

Number of vehicles to support

Vehicle Mix	Plug-in Hybrids 20-mile electric range	<input type="text" value="15"/> %
	Plug-in Hybrids 50-mile electric range	<input type="text" value="35"/> %
	All-Electric Vehicles 100-mile electric range	<input type="text" value="15"/> %
	All-Electric Vehicles 250-mile electric range	<input type="text" value="35"/> %
	<b>Total</b>	<b>100%</b>

How much support do you want to provide for plug-in hybrid electric vehicles (PHEVs)?

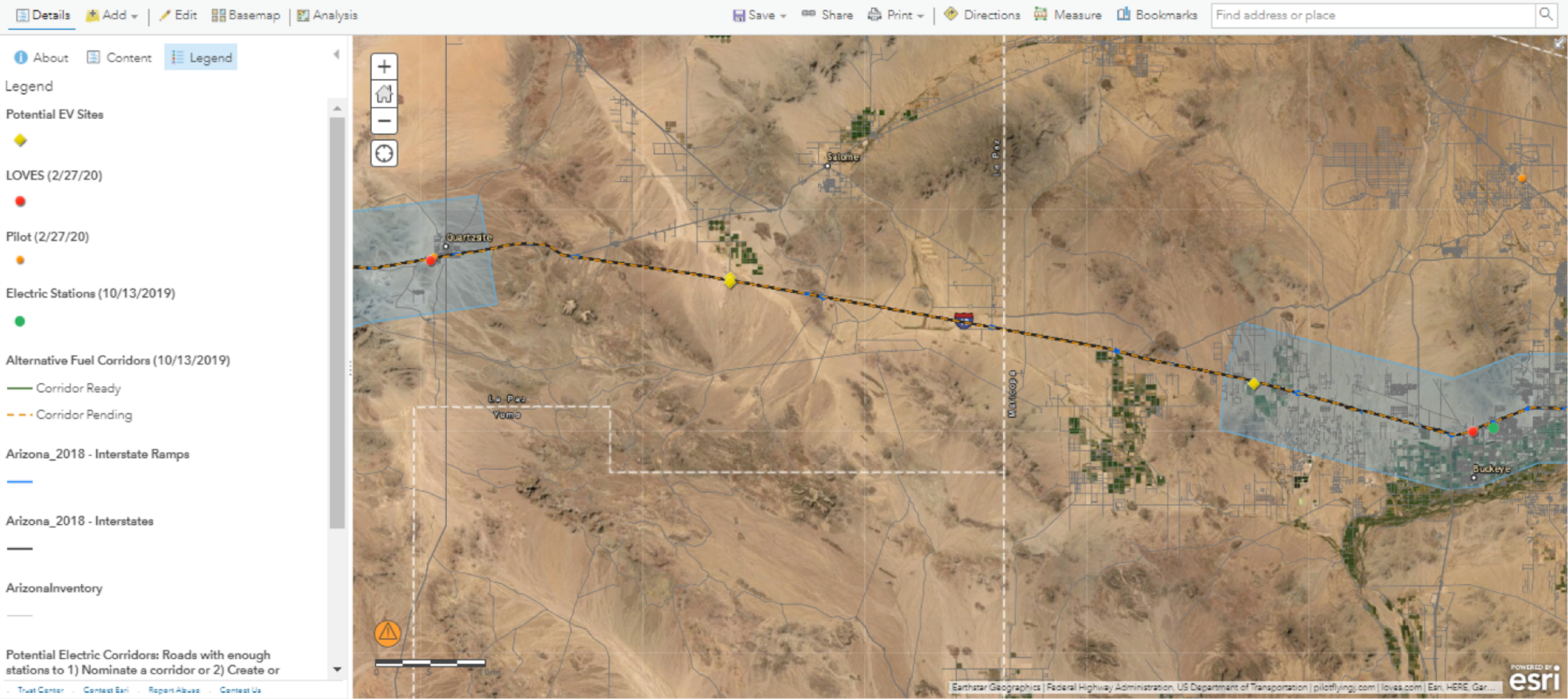
- ☐ **Full Support**  
*Most PHEV drivers wouldn't need to use gasoline on a typical day.*
- ☒ **Partial Support**  
*Calculate using half of full support assumption.*
- ☐ **Do not count PHEVs in charging demand estimates.**

Percent of drivers with  
access to home charging  %

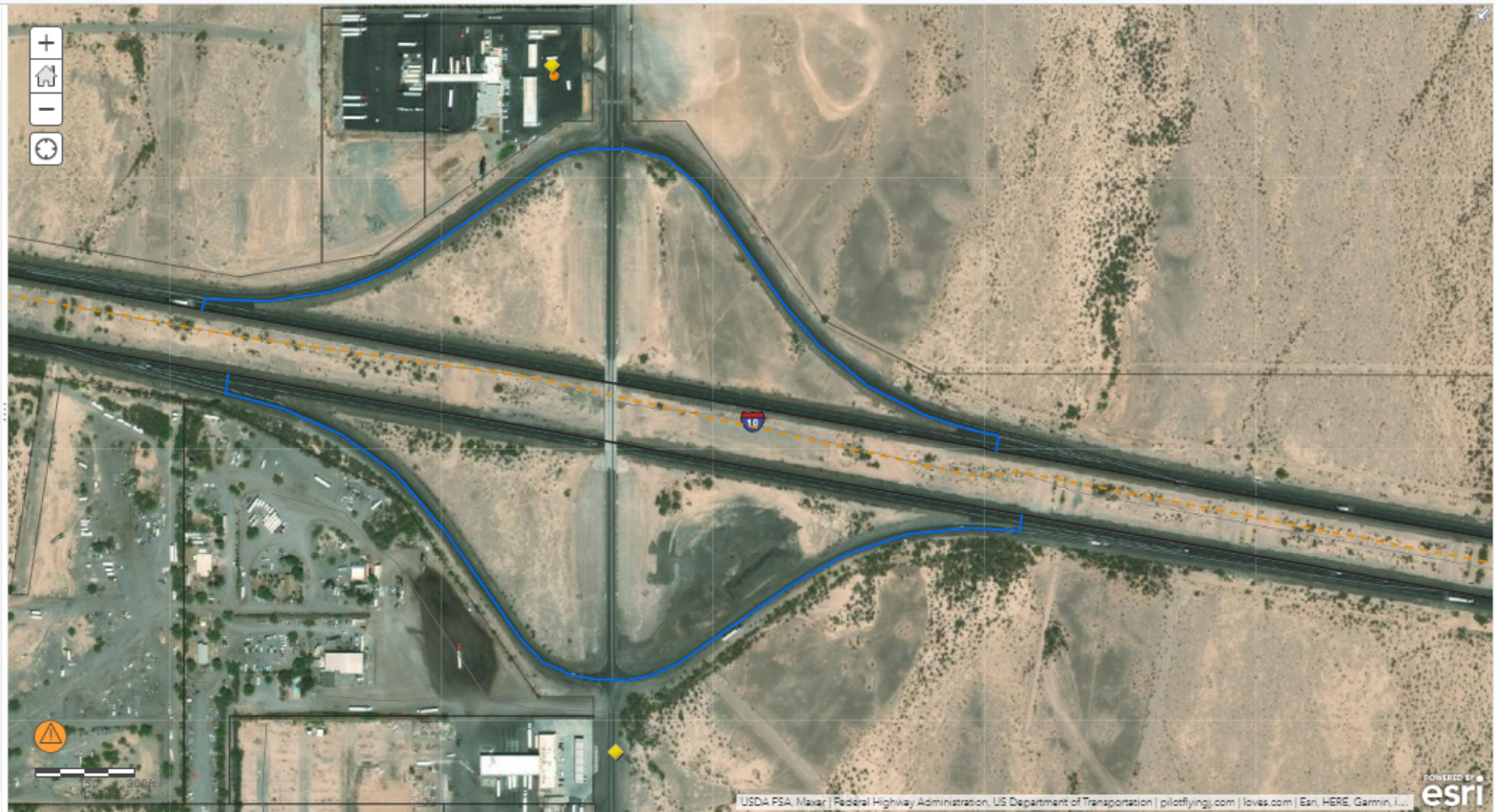
Recalculate

See all assumptions.









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About

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Legend

Legend

Potential EV Sites

LOVES (2/27/20)

Pilot (2/27/20)

Electric Stations (10/13/2019)

Alternative Fuel Corridors (10/13/2019)

Arizona\_2018 - Interstate Ramps

Arizona\_2018 - Interstates

ArizonaInventory

LaPaz County Parcels

+

Home

-

Refresh

Zoom to

Edit

Get Directions

ParcelData08172020: 30359006C

Name

30359006C

Account\_Nu

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5.00

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ZIP TRAVEL CENTER

Situs

48286 VICKSBURG ROAD

Legal

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Range: 15W PTN OF  
THE SE4 NE4 SEC 2  
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USDA PSA, Maxar | Federal Highway Administration, US Department of Transportation | pilotflying.com | loves.com | Esri, HERE, Garmin, ...

esri



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AboutContentLegend

Legend

Potential EV Sites

LOVES (2/27/20)

Pilot (2/27/20)

Electric Stations (10/13/2019)

Alternative Fuel Corridors (10/13/2019)

Corridor Ready

Corridor Pending

Arizona\_2018 - Interstate Ramps

Arizona\_2018 - Interstates

ArizonaInventory

LaPaz County Parcels

Trust CenterContact EmailReport AbuseContact Us

Save ▾SharePrint ▾DirectionsMeasureBookmarksFind address or place

+

Home

-

Refresh

Warning

Scale

ParcelData08172020: 30359005B

Name30359005B

Account\_NuR0017936

Account\_FI

Parcel\_Siz10.25

Business\_NPRIDE TRUCK STOP

Situs48710 VICKSBURG ROAD

LegalSection: 2 Township: 3N  
Range: 15W SE2 T-3N R-  
15W PT E2SE4 BEG  
1190.22 FT N AND  
59.36 FT W OF SE COR  
TH N 400 FT; W 1089  
FT; S 400 FT; E 1089 FT

Zoom to

Edit

Get Directions

USDA PSA, Maxar | Federal Highway Administration, US Department of Transportation | pilotflying.com | loves.com | Esri, HERE, Garmin, ...

POWERED BY  
esri



# Example ArcGIS Survey123 Form

AltFuelsCorridorTest

Test Survey for Alt Fuels Corridor project

Site Name\*

Please enter the station site name.

Site Name

Site Address\*

Please enter street address, prefix or suffix direction, city, state, and zip code.

1 E Broadway Bl, Tucson, AZ 85701

Site Requirements

EV Charging Station Site Requirements\*

Please check all requirements this site meets.

☐ DCFC only: Minimum 1 CHAdeMo and 1 CCS

☒ 50 Miles between Stations

☒ 5 Miles from Highway

☐ Public Stations Only (no Tesla)

CNG Fueling Station Site Requirements\*

Please check all requirements this site meets.

☐ 150 Miles between Stations

☐ 5 Miles from Highway

☐ Public Stations Only

☐ Fast Fill, 3,600 psi

CNG Fueling Station Site Requirements\*

Please check all requirements this site meets.

☐ 150 Miles between Stations

☐ 5 Miles from Highway

☐ Public Stations Only

☐ Fast Fill, 3,600 psi

Station Site Standards

Please select whether or not this site meets each standard.

	Yes	No	Unknown
Public Access 24 hours/day, 365 days/year*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ADA-Compliant Wheelchair Accessibility*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to Drinking Fountains, Bathrooms, and Food or Vending*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security Cameras, Adequate Lighting, and an Emergency Shelter*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Within Walking Distance of Full-Service Amenities such as food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## America's Transportation Infrastructure Act

America's Transportation Infrastructure Act of 2019 is the largest amount of funding provided for highway reauthorization legislation in history. The bill authorizes \$287 billion from the Highway Trust Fund over five years in investments to maintain and repair America's roads and bridges and to keep our economy moving. The legislation includes provisions to improve road safety, accelerate project delivery, improve resiliency to disasters, reduce highway emissions, and grow the economy. Below are a few of the highlights of the bill.

### ***Competitive Grants for Alternative Fuel Infrastructure***

In preparation for the expected increase of alternative fuel vehicles, the bill establishes a competitive grant program funded at \$1 billion over 5 years, for states and localities to build hydrogen, natural gas, and electric vehicle fueling infrastructure along designated highway corridors, which lack such infrastructure.

# THE INVEST IN AMERICA ACT

FOR THE PEOPLE

## Fact Sheet

The Investing in a New Vision for the Environment and Surface Transportation in America (INVEST in America) Act is a 5-year, \$494 billion investment to get our existing infrastructure working again and fund new, transformative projects that will create millions of jobs and support American manufacturing and ingenuity while reducing carbon pollution, dramatically improving safety, and spurring economic activity. It's investing in infrastructure that is **smarter, safer, and made to last.**

### Highways Investments: \$319 Billion

- Dramatically increases funding for development of charging stations and other alternative fueling options for electric and zero-emissions vehicles.



July 31, 2020

## General Motors and EVgo Aim to Accelerate Widespread EV Adoption by Adding Fast Chargers Nationwide

*More than 2,700 new EV charging plugs will triple the size of the nation's largest public fast charging network*

**DETROIT** and **LOS ANGELES** – General Motors and EVgo plan to triple the size of the nation's largest public fast charging network by adding more than 2,700 new fast chargers over the next five years, a move set to help accelerate widespread electric vehicle adoption.





# Our investment plan



## Project Development for Cycles 3 Through 4

As noted above, Electrify America will establish ZEV Investment Plans for two additional 30-month cycles. Developing new investment plans offers the opportunity to revisit past assumptions, update analytical models, monitor new technology and public policy developments, and consider evolving consumer expectations. Electrify America is a data-driven company and will use all available information to identify the ZEV investments most likely to assure economic sustainability.

To submit a comment, idea, or suggestion, please go [here](#).



Nissan

## **Cheerio, CHAdeMO: Nissan adopts CCS fast-charging with new Ariya electric SUV**

The CHAdeMO fast charging protocol suffers a major hit with Nissan choosing a competing standard for its new electric SUV in the US and Europe.

## EV Charging Discussion:

**APS, SRP, ChargePoint, Electrify America,  
Greenlots, Nikola Motor Co., ASU, ADOA,  
ADEQ**

- Arizona Transportation Electrification Plan Phase II
- EV market share: current and projected
- Charging site annual use: current and projected
- DCFC station power levels, # chargers, types, upgradability
- Onsite energy storage (ES) option / capacity
- Funding opportunities



# Potential Host Site Discussion:

## Pilot Travel Centers, Arizona Trucking Association

- Additional customer base, potential revenues
- Owning / leasing / hybrid operational models
- Parking space / charging station logistics





# Roundtable – Questions and Comments

Email correspondence to: [Dfitzpatrick@PAGregion.com](mailto:Dfitzpatrick@PAGregion.com)

