

BEGIN

ALTERNATIVE
FUELS
CORRIDOR



Alternative Fuel Corridors

NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS

NATIONAL ENERGY POLICY AND PROGRAM INSTITUTE

JUNE 18, 2019

WASHINGTON, DC

BERNADETTE DUPONT | U.S. DEPARTMENT OF TRANSPORTATION

National Alternative Fuel Corridors



To improve the mobility of alternative fuel vehicles, the U.S. Department of Transportation (DOT) has designated national corridors in strategic locations along major highways for:

- Plug-in electric vehicle charging
- Hydrogen fueling
- Propane (LPG) fueling
- Natural gas (CNG, LNG) fueling

Benefits of a National System

ALTERNATIVE FUELS CORRIDOR

- Allows for inter-city, regional, and national travel using clean-burning fuels
- Addresses range anxiety
- Integrates with existing transportation planning processes
- Accelerates public interest and awareness of alternative fuel availability

Corridor-Ready Criteria

EV	CNG	LNG	Hydrogen	Propane
DCFC only	150 miles between stations	200 miles between stations	100 miles between stations	150 miles between stations
50 miles between stations	5 miles from highway			5 miles from highway
5 miles from highway	Public stations only	5 miles from highway	5 miles from highway	Public stations only
Public stations only (no Tesla)	Fast fill, 3,600 psi	Public stations only	Public stations only	Primary stations only

Combined Results

Rounds 1-3

- Designations....
 - **79** nominations
 - Includes portions/segments of **100** Interstates, along with **76** US highways/state roads
 - Comprise **46 states plus D.C.**
 - Covers **over 135,000** miles of the National Highway System (all fuels combined)



Federal Highway Administration Regional Alternative Fuel Corridor Convenings

3 Regional Convenings to Date

- Team to hold 5 regional convenings:
 - To Date: Midwest (MN), Southeast (SC) and South Central (TX)
 - Next Up: Northeast/Mid-Atlantic (RI) and REV West (Salt Lake City)
- Strengthen coordination b/w states, public and private partners
- Evaluate regional priorities & needs, programs, and resources to expand corridors
- Identify critical infrastructure gaps
- Discuss a regional strategy to promote clean vehicle adoption and corridor growth
- Foster partnership development

<http://altfueltoolkit.org/>

Midwest AFC
St. Paul, MN
June 12, 2018



Southeast AFC
Charleston, SC
September 25, 2018

**South Central
AFC Arlington, TX**
April 9, 2019



Highway Signage

➤ MUTCD Memorandum – Signing for Designated Corridors

- ✓ Provides guidance to State DOTs
- ✓ First corridor signs installed on I-94 and I-26
- ✓ FHWA developed FAQs to address commonly asked questions (see AFC website)

I-94 (Minnesota)



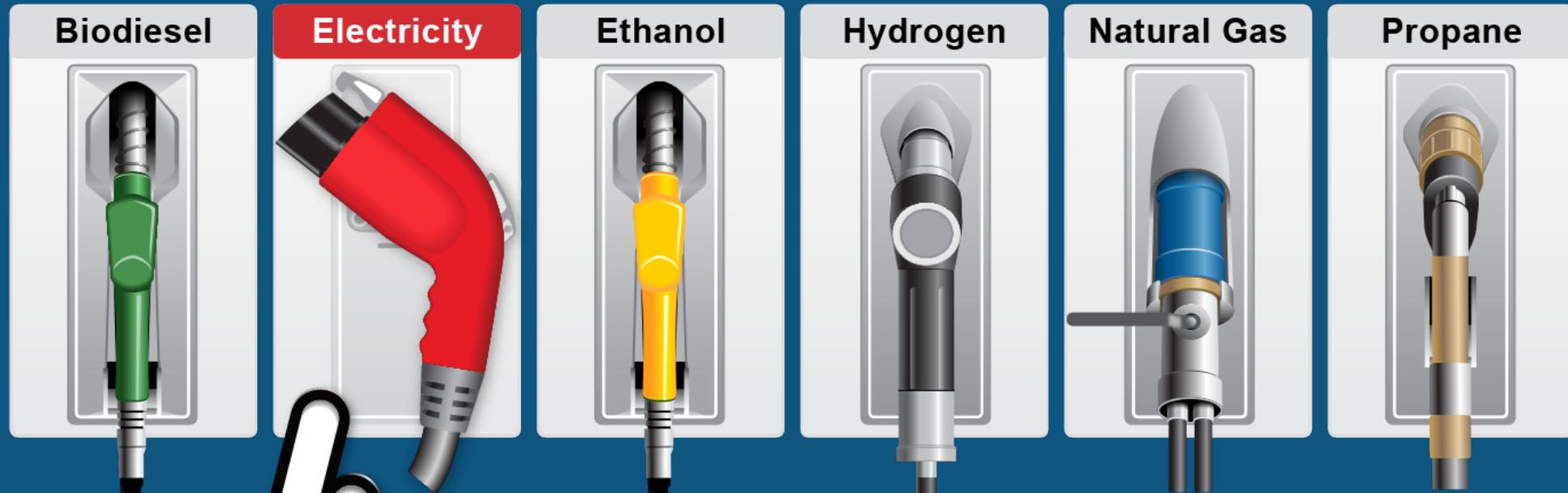
Pictured from left, Louisiana Department of Natural Resources Secretary Tom Harris, Louisiana Department of Transportation and Development (DOTD) Secretary Shawn Wilson, Gov. John Bel Edwards and [#LDEQ](#) Secretary Chuck Carr Brown.



I-26 (South Carolina)

Alternative Fuels Data Center

afdc.energy.gov



*The premier information resource for
alternative fuels and advanced vehicles*

Embeddable Application

afdc.energy.gov/corridors

The screenshot shows the 'Alternative Fuels Data Center' website. The header includes the U.S. Department of Energy logo and navigation links. The main navigation bar has tabs for 'FUELS & VEHICLES', 'CONSERVE FUEL', 'LOCATE STATIONS' (which is highlighted), and 'LAWS & INCENTIVES'. Below this, there are links for 'Maps & Data', 'Case Studies', 'Publications', 'Tools', 'About', and 'Home'. The page title is 'Alternative Fueling Station Locator'. A search bar is present with the text 'Search the AFDC'. Below the search bar, there are three tabs: 'Find Public Stations', 'Analyze & Download Data', and 'Explore Fuel Corridors'. The 'Explore Fuel Corridors' tab is active. The main content area shows a map of the United States with various colored lines representing fuel corridors. A legend indicates 'Complete Corridor' (solid black line) and 'Planned Corridor' (dashed red line). A scale bar shows 500 miles. At the bottom, there are links for 'Developer APIs', 'Embed Tool', and 'About the Data'.

1

Alternative Fuels Data Center

The corridor mapping tool will be available as a third tab on the Alternative Fueling Station Locator.

The screenshot shows the 'Alternative Fuel Corridors' interface on the Federal Highway Administration website. The header includes the U.S. Department of Transportation logo and navigation links. The main navigation bar has tabs for 'Planning', 'Environment', 'Real Estate', 'HEP', 'Events', 'Guidance', 'Publications', 'Glossary', 'Awards', and 'Contacts'. The page title is 'Alternative Fuel Corridors'. Below the title, there is a decorative graphic of a road and a landscape. The main content area shows a map of the United States with various colored lines representing fuel corridors. A legend indicates 'Complete Corridor' (solid black line) and 'Planned Corridor' (dashed red line). A scale bar shows 500 miles. At the bottom, there are links for 'Developer APIs', 'Embed Tool', and 'About the Data'.

2

Federal Highway Administration

The corridor mapping tool can be embedded as a standalone application on the FHWA website or any other website.

Resources for Nominating Corridors

afdc.energy.gov/corridors

Alternative Fuels Data Center

FUELS & VEHICLES

CONSERVE FUEL

LOCATE STATIONS

LAWS & INCENTIVES

Maps & Data

Case Studies

Publications

Tools

About

Home

Search the AFDC

SEARCH

EERE > AFDC > Tools

Printable Version

Share

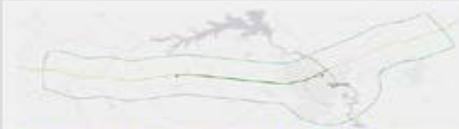
Station Data for Nominating Alternative Fuel Corridors

The table below provides station data and shapefiles by state and fuel type. These datasets include public stations with the following filters applied to meet the criteria for nominating alternative fuel corridors:

- **EV charging** – only DC fast electric vehicle (EV) charging stations, excluding Tesla
- **Hydrogen** – only retail stations (Non-retail stations may be used in corridor nominations if the stations are compliant with SAE J2601 standards and meet all of the criteria for a hydrogen corridor.)
- **Propane** – only "primary" liquefied petroleum gas (LPG) stations, which have fuel for vehicles and vehicle-specific fueling services that are consistently offered during business hours
- **CNG** – only fast-fill compressed natural gas (CNG) stations that offer a fill pressure of 3,600 psi
- **LNG** – all liquefied natural gas (LNG) stations

The data downloads are CSVs with current station data pulled automatically from the [Alternative Fueling Station Locator](#). The shapefiles are ZIP downloads with a static snapshot of the stations as of Sept. 5, 2018, including stations outside state borders within 25 miles.

Learn more about corridor designations from the [Federal Highway Administration](#).



Explore Potential Corridors

Use the prototype mapping tool to explore potential corridors by fuel:

- [EV charging](#)
- [Hydrogen](#)
- [Propane](#)
- [CNG](#)
- [LNG](#)

Stations by State and Fuel Type

State	EV Charging	Hydrogen	Propane	CNG	LNG
Alabama	 data shapefile	 data shapefile	 data shapefile	 data shapefile	 data shapefile
Alaska	 data shapefile	 data shapefile	 data shapefile	 data shapefile	 data shapefile
Arizona	 data shapefile	 data shapefile	 data shapefile	 data shapefile	 data shapefile
Arkansas	 data shapefile	 data shapefile	 data shapefile	 data shapefile	 data shapefile
California	 data shapefile	 data shapefile	 data shapefile	 data shapefile	 data shapefile
Colorado	 data shapefile	 data shapefile	 data shapefile	 data shapefile	 data shapefile
Connecticut	 data shapefile	 data shapefile	 data shapefile	 data shapefile	 data shapefile

- Shapefiles
- Interactive maps
- CSV downloads

Interactive Map

afdc.energy.gov/corridors

ArcGIS ▼ Electric Corridor Map Modify Map ⊞ Sign In

Details | Basemap | Share | Print | Measure |

About | Content | Legend

Legend

Designated Corridors (06/12/2018)

- Signage Ready
- - - Signage Pending

Potential Electric Corridors - Areas with enough stations to nominate new corridors or where a single station would lead to an extension of an existing corridor or a new corridor.

0 300 600mi

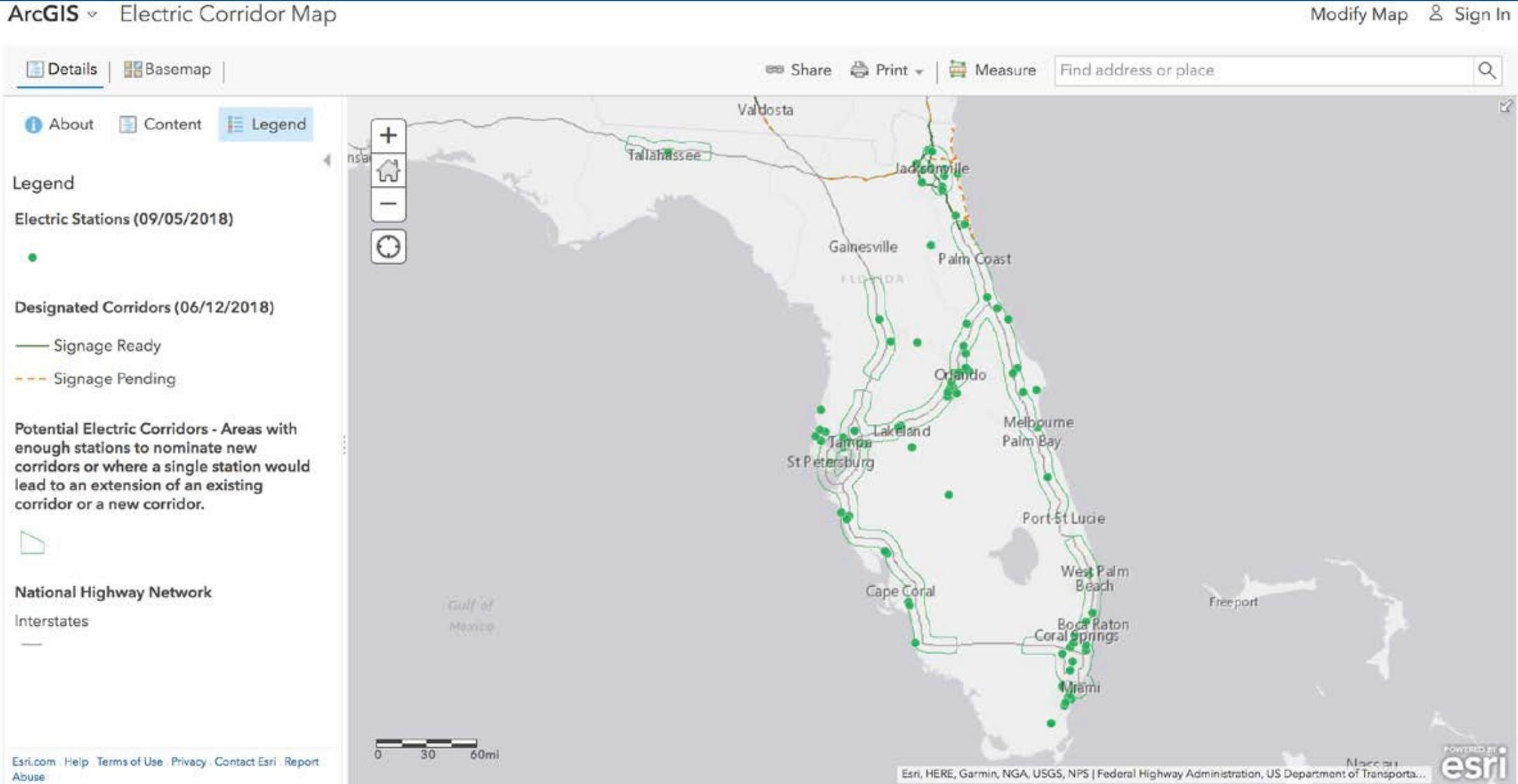
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Stations Layer - FL

afdc.energy.gov/corridors

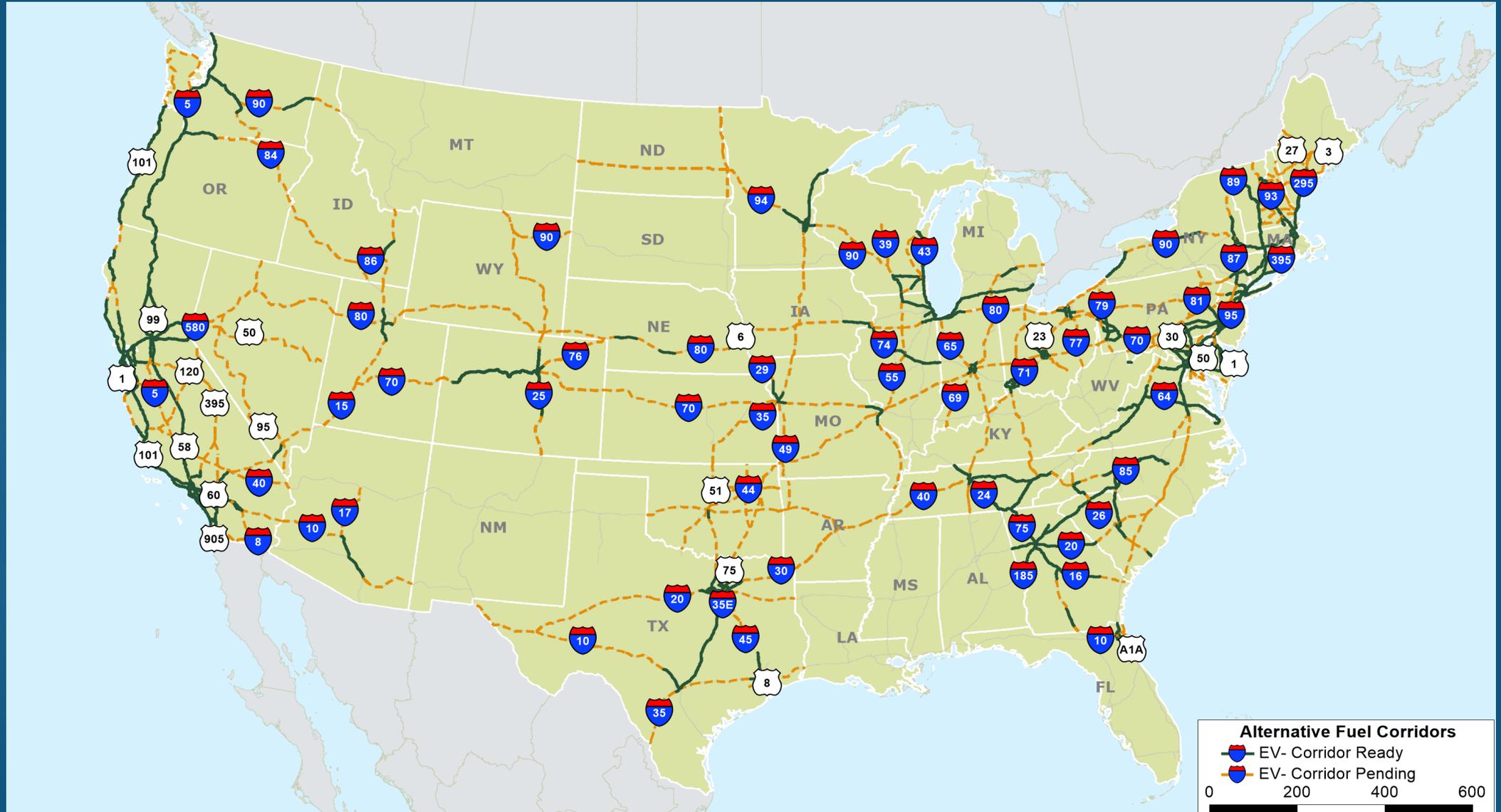


Future of AFC Program

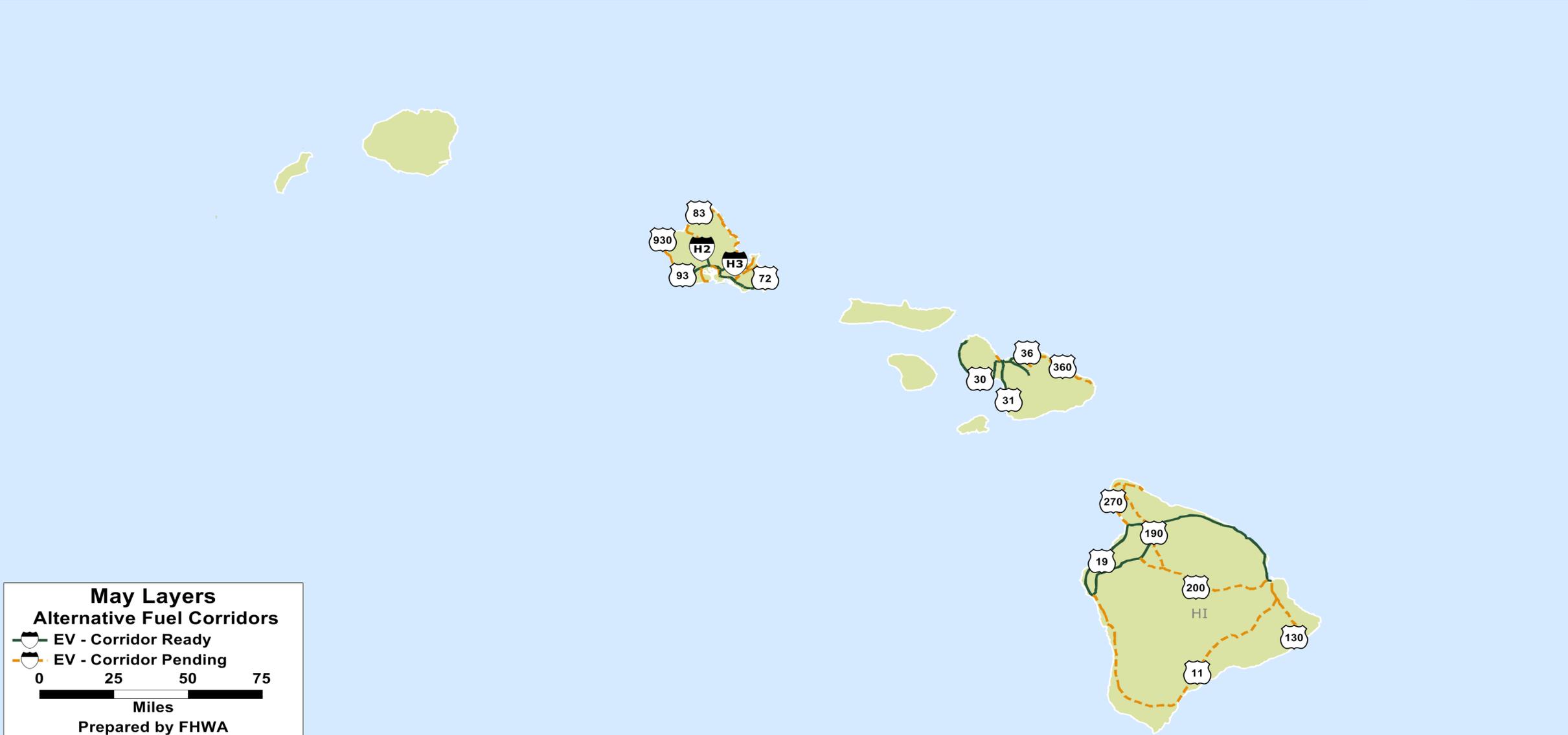
- Request for Nominations on an annual basis under life of FAST Act
- Possible inclusion in the next transportation reauthorization bill or other legislation
- Enhanced coordination efforts with Clean Cities Program/NREL
- Enhanced collaboration with stakeholders including industry



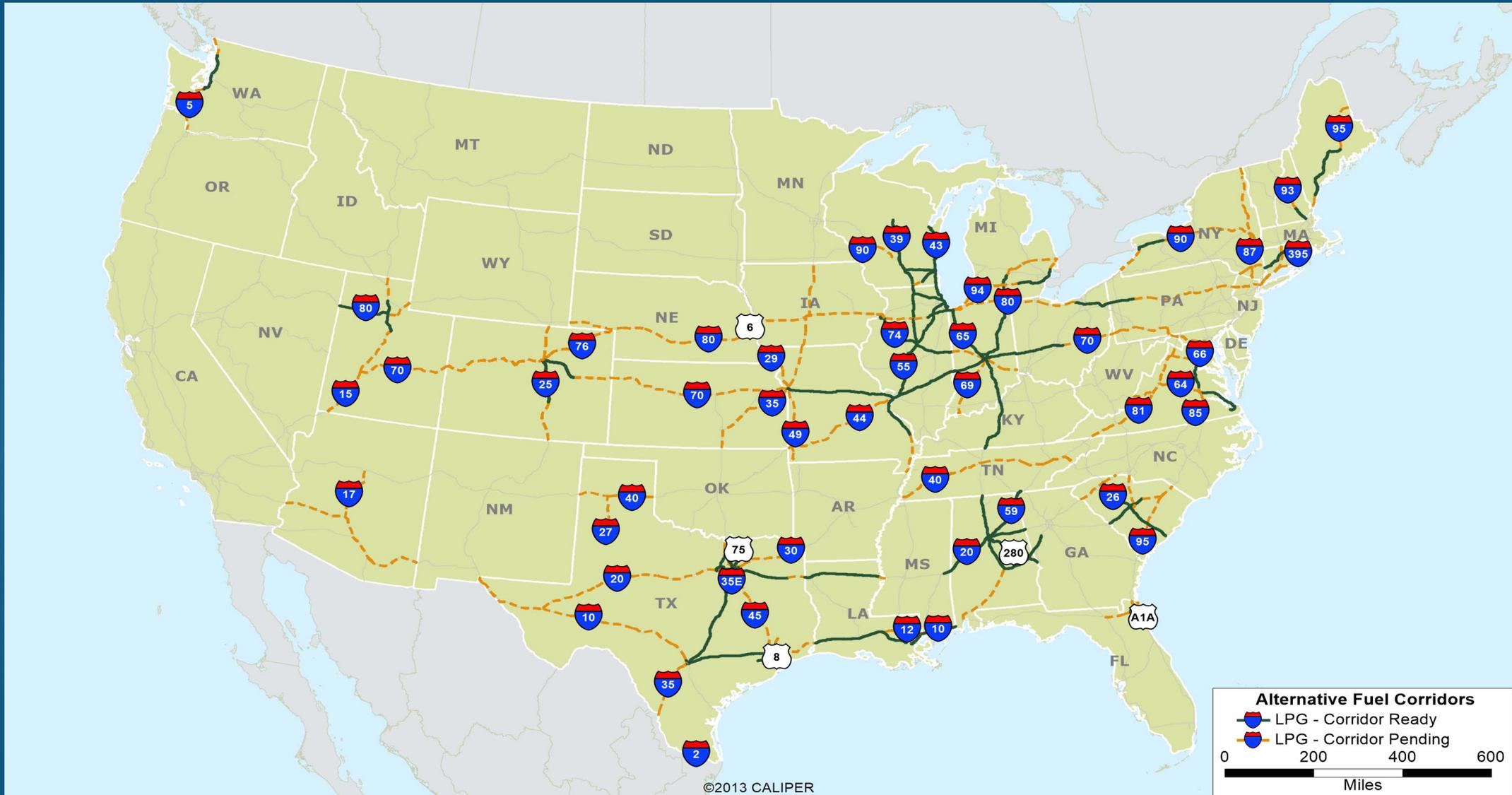
Rounds 1-3 EV Map – Corridor Ready & Pending



HI EV Corridors - Rounds 1&2



Rounds 1-3 LPG Map – Corridor Ready & Pending



For More Information

DOT Alternative Fuel Corridor Team Contact Information

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Resources

FHWA Alternative Fuel Corridor website:

http://www.fhwa.dot.gov/environment/alternative_fuel_corridors/

MUTCD Memorandum – Signing for Designated Alternative Fuel Corridors:

https://mutcd.fhwa.dot.gov/resources/policy/alt_fuel_corridors/index.htm

DOE/NREL Alternative Fueling Station Locator:

<https://www.afdc.energy.gov/locator/stations/>



Alt Fuels in Kentucky

SOUTHERN TRANSPORTATION AND AIR QUALITY SUMMIT

AUGUST 21, 2019



HOW IT STARTED

- ▶ FAST Act (2015) kicked off the “Alt Fuel Corridor” idea
- ▶ FHWA has had 3 Calls for Applications
- ▶ States or MPOs submit applications
 - ▶ KYTC submitted applications for both Round 2 and Round 3
- ▶ FHWA Reviews Application and Designates Corridors
 - ▶ Corridor-ready / Signage ready
 - ▶ Corridor-pending / Signage pending
- ▶ FHWA Maps and Posts the Approved Corridors



CORRIDOR CRITERIA

- ▶ Corridors provide charging and fueling stations for

- ▶ Electricity (EV)
- ▶ Hydrogen (HYD)
- ▶ Propane (LPG)
- ▶ Natural Gas
 - ▶ Compressed Natural Gas (CNG)
 - ▶ Liquefied Natural Gas (LNG)



- ▶ Have to meet specific criteria for each alt fuel AND be:

- ▶ Available to the Public and
- ▶ Within 5 miles of the Interstate



Corridor-Ready Criteria for Round 3 Nominations

EV	CNG	LNG	Hydrogen	Propane
DCFC only	150 miles between stations	200 miles between stations	100 miles between stations	150 miles between stations
50 miles between stations	5 miles from highway			5 miles from highway
5 miles from highway	Public stations only	5 miles from highway	5 miles from highway	Public stations only
Public stations only (no Tesla)	Fast fill, 3,600 psi	Public stations only	Public stations only	Primary stations only

KENTUCKY SPECIFIC



- ▶ 7 Alt Fuel Corridors were designated and 5 corridors are pending.

Round 2 Results

Alt Fuel	Ready	Pending
EV	3	2
CNG	2	3
LNG	1	
LPG	1	
Hydrogen	0	

- ▶ No signage / budget constraints
 - ▶ Special Federal funding
 - ▶ FHWA CMAQ Money
 - ▶ P3 Partnership with KCFC

ALTERNATIVE FUEL CORRIDORS IN KENTUCKY				
Fuel	Ready	Corridor/Segment	Pend	Corridor/Segment
EV	I-71	From KY/OH border to Florence, KY	I-71	From Florence, KY to Louisville, KY
	I-75	From KY/OH border to Florence, KY	I-75	From Florence, KY to KY/TN border
	I-275	From KY/OH border to KY/IN border		
CNG	I-75	From KY/OH border to KY/TN border		
	I-71	From KY/OH border to Carrollton, KY	I-71	From Carrollton, KY to Louisville, KY
			I-275	Entire Length
LNG			I-265	KY 92 to I-65
	I-75	From KY/TN border to KY/OH border		
LPG	I-65	From KY/IN border to KY/TN border		
HYG				



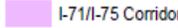
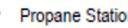
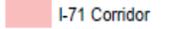
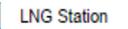
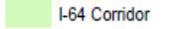
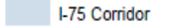
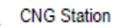
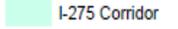
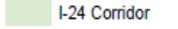
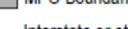
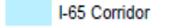
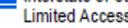
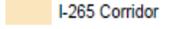
- ▶ KYTC Identified Alt Fuel Corridors with 3rd Call for Applications
- ▶ 1 Additional Alt Fuel Corridors were designated and 3 additional corridors are pending.

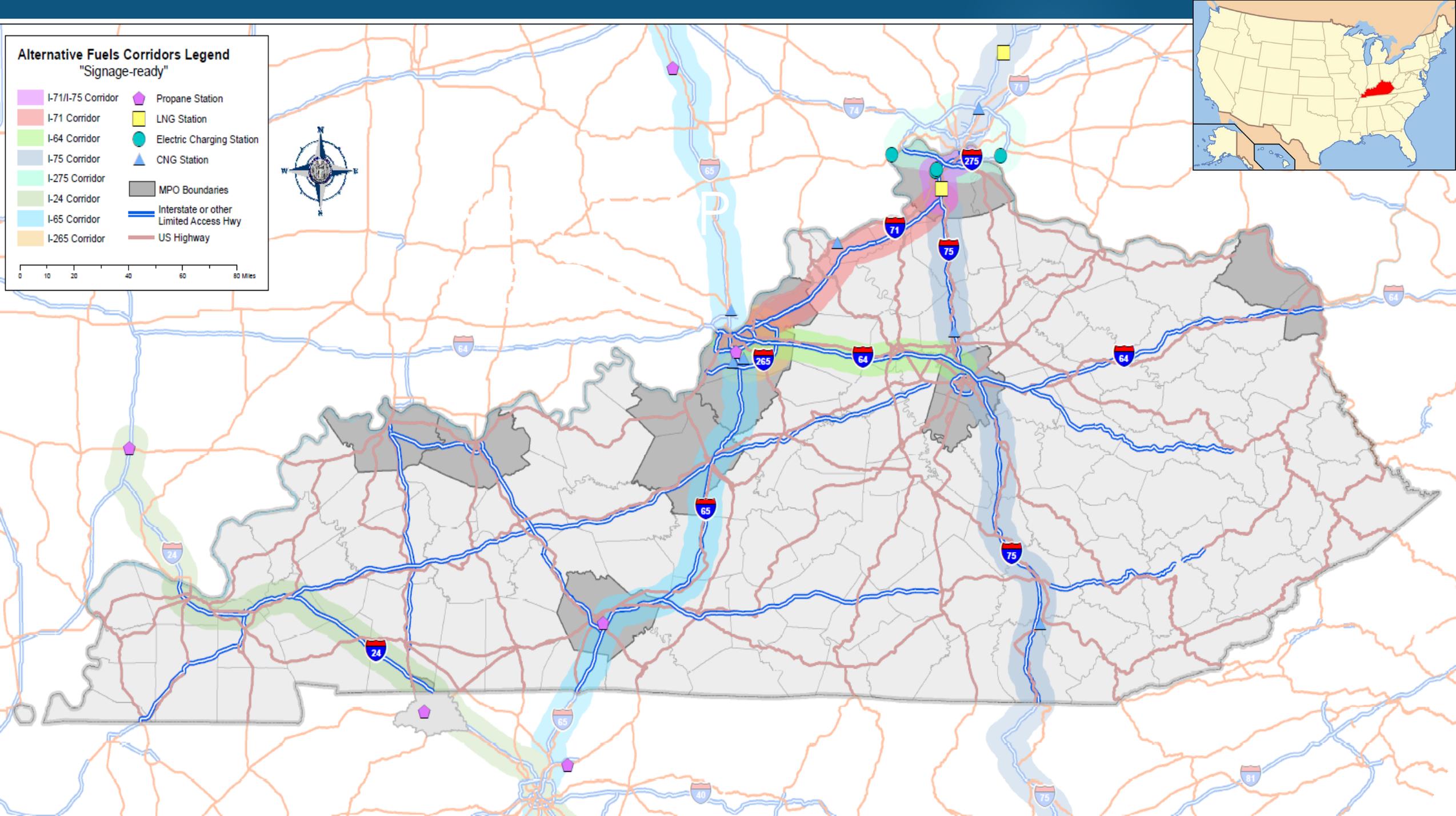
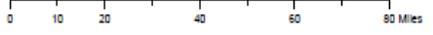
Alt Fuel	Ready	Pending
EV	3	2 3
CNG	2 3	3 5
LNG	1	
LPG	1	
Hydrogen	0	

Fuel	Ready	Corridor/Segment	Pend	Corridor/Segment
EV			I-65	From KY/IN border to KY/TN border
	I-71	From KY/OH border to Florence, KY	I-71	From Florence, KY to Louisville, KY
	I-75	From KY/OH border to Florence, KY	I-75	From Florence, KY to KY/TN border
CNG	I-275	From KY/OH border to KY/IN border		
	I-24	From KY/TN border to I-24/I-69 interchange in Eddyville	I-24	From I-24/I-69 interchange in Eddyville to KY/IL border
	I-75	From KY/OH border to KY/TN border	I-65	From KY/IN border to KY/TN border
	I-71	From KY/OH border to Carrollton, KY	I-71	From Carrollton, KY to Louisville, KY
			I-275	Entire Length
LNG			I-265	KY 92 to I-65
	I-75	From KY/TN border to KY/OH border		
LPG				
	I-65	From KY/IN border to KY/TN border		
HYG				



Alternative Fuels Corridors Legend "Signage-ready"

- | | |
|---|--|
|  I-71/I-75 Corridor |  Propane Station |
|  I-71 Corridor |  LNG Station |
|  I-64 Corridor |  Electric Charging Station |
|  I-75 Corridor |  CNG Station |
|  I-275 Corridor |  MPO Boundaries |
|  I-24 Corridor |  Interstate or other Limited Access Hwy |
|  I-65 Corridor |  US Highway |
|  I-265 Corridor | |



CMAQ Requirements

CMAQ projects must meet three basic criteria:

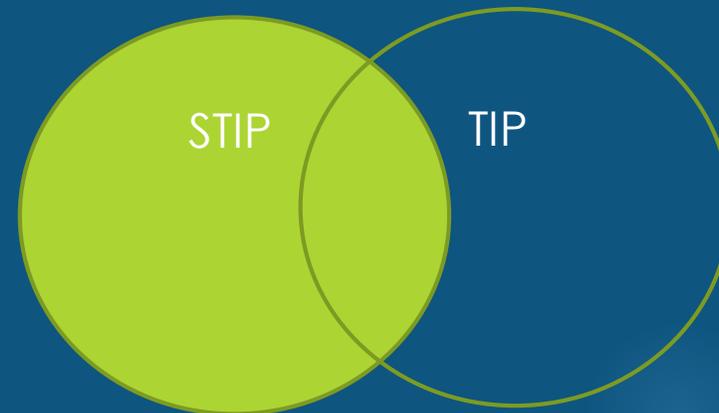
- Transportation project
- Generate an emissions reduction
- Located in or benefit a nonattainment or maintenance area



CMAQ Requirements

In addition, all CMAQ projects must be included in the:

- ❑ STIP - if in a non-MPO area or
- ❑ STIP and MPO TIP - if in an MPO area



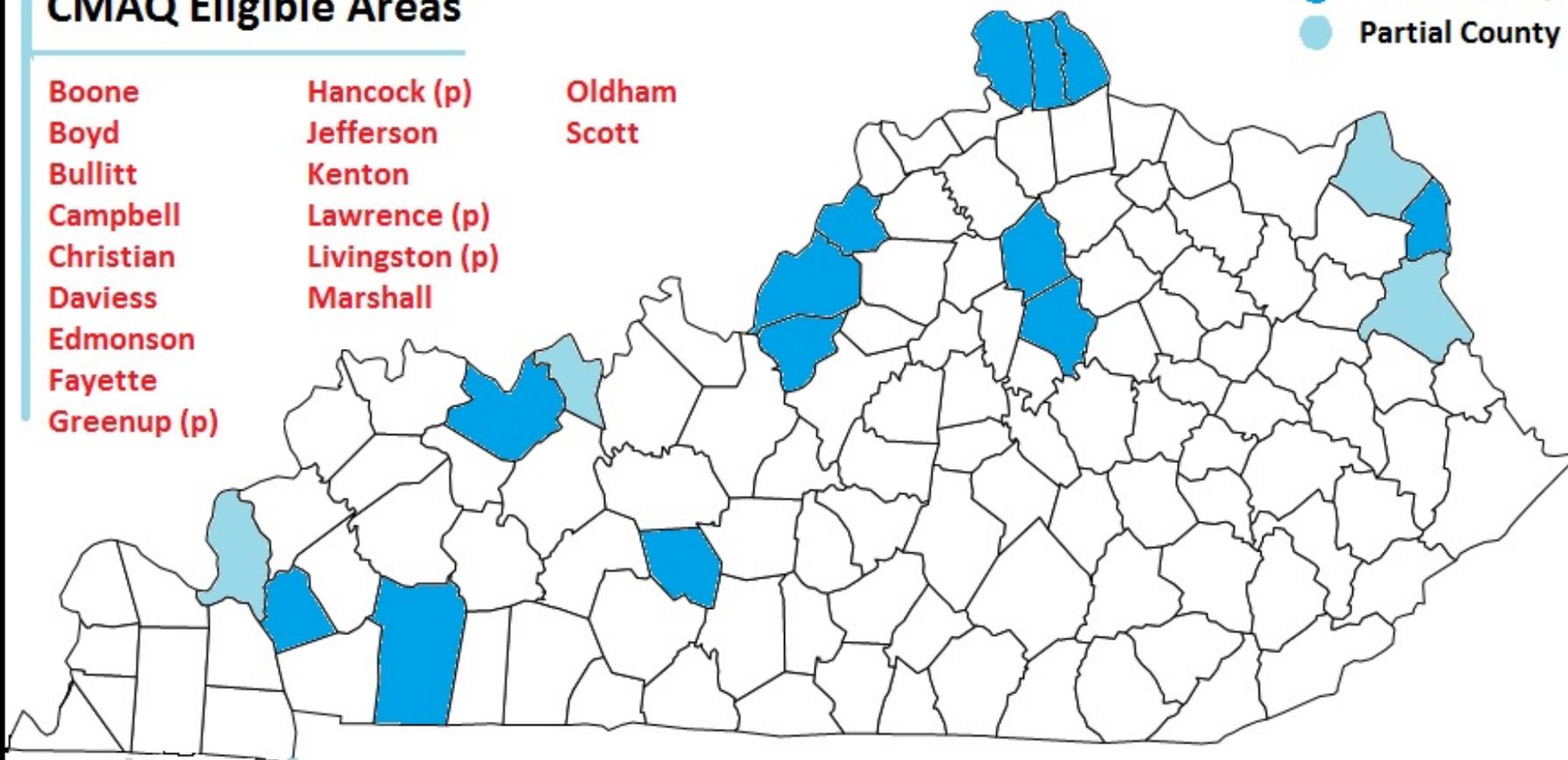
CMAQ Eligible Areas

Boone
Boyd
Bullitt
Campbell
Christian
Davies
Edmonson
Fayette
Greenup (p)

Hancock (p)
Jefferson
Kenton
Lawrence (p)
Livingston (p)
Marshall

Oldham
Scott

● Whole County
● Partial County



QUESTIONS?

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