



Alternative Fuels Data Center Station  
Locator and Corridor Tools

Johanna Levene  
September 25, 2018

# Discussion Outline

- 1 Station Locator Updates**

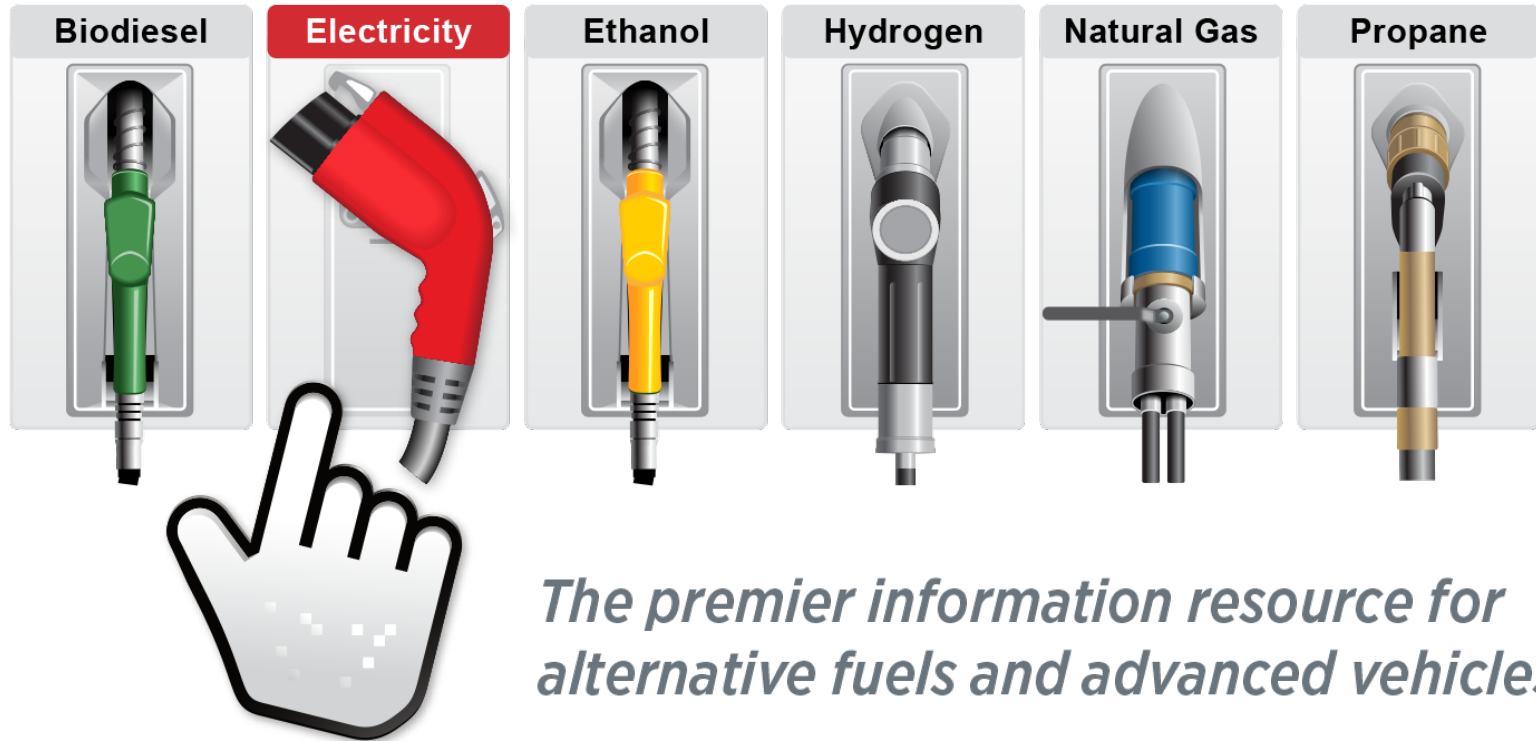
---
- 2 Data Download for Corridors**

---
- 3 Dynamic Maps for Corridors**

---
- 4 Future Corridor Mapping Tool**

---
- 5 Questions and Feedback**

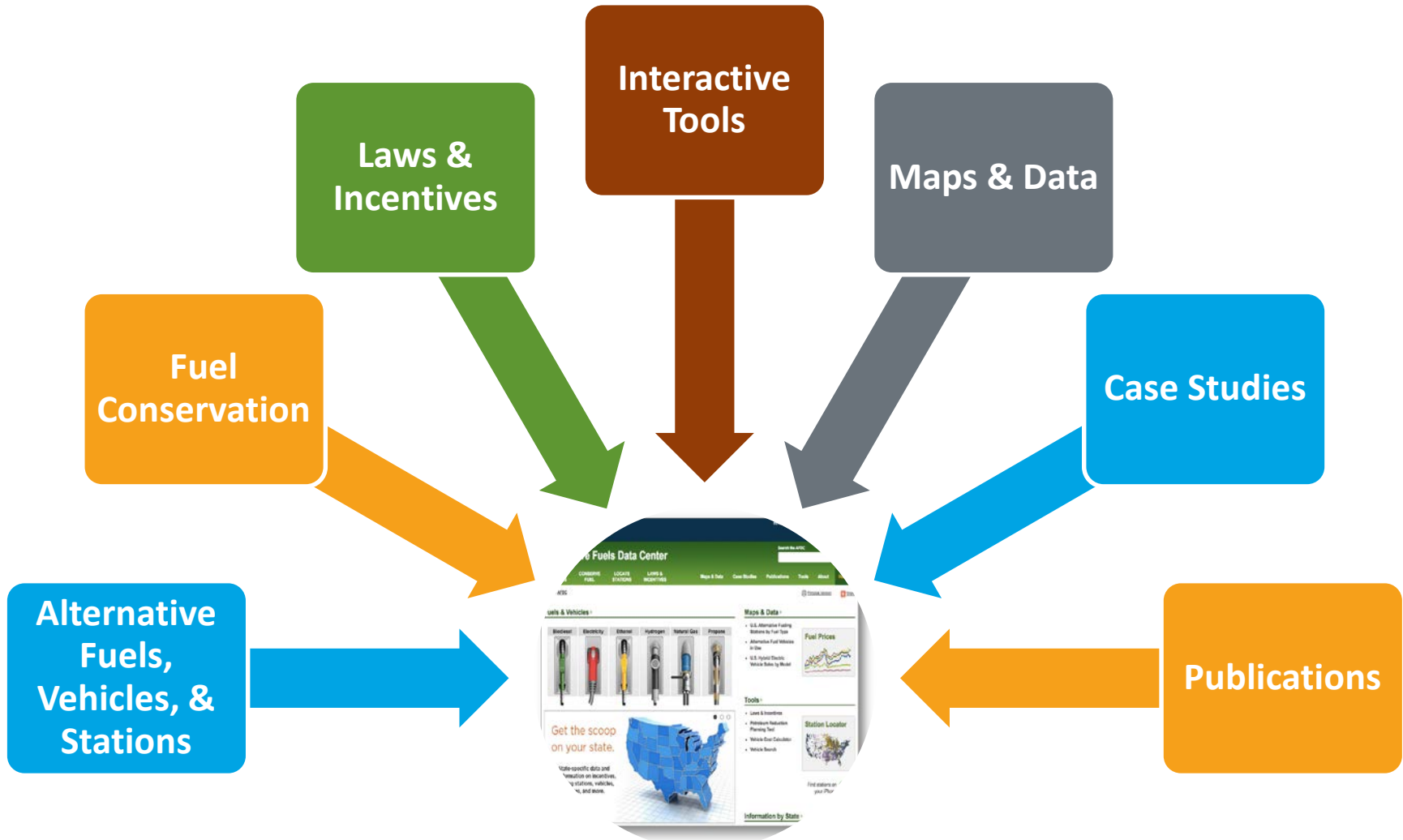
# Alternative Fuels Data Center

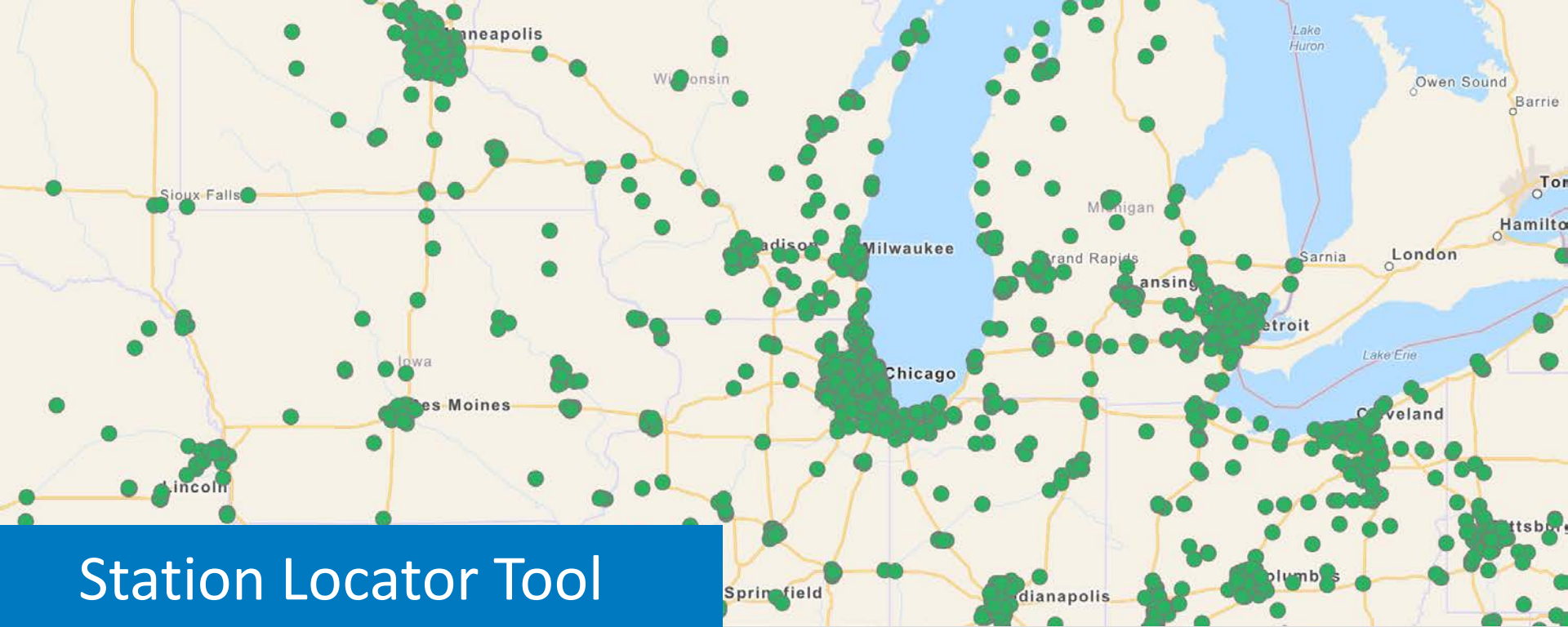


*The premier information resource for  
alternative fuels and advanced vehicles*

*[afdc.energy.gov](http://afdc.energy.gov)*

# What does the AFDC provide?





## Station Locator Tool

- Search for stations by city, state, or ZIP code
- Filter by fuel type and station details
- Map a driving route



# Alternative Fuels Data Center

Search the AFDC

SEARCH

FUELS & VEHICLES

CONSERVE FUEL

LOCATE STATIONS

LAWS & INCENTIVES

Maps & Data

Case Studies

Publications

Tools

About

Home

EERE » AFDC » Locate Stations

Printable Version

Share

## Alternative Fueling Station Locator

Find alternative fueling stations in the United States and Canada. For U.S. stations, see [data by state](#). For Canadian stations in French, see [Natural Resources Canada](#).

Public Stations **Advanced Filters** 27,912 results in U.S. and Canada

Enter location   All Fuels

Legend

- Biodiesel
- CNG
- Electric
- Ethanol
- Hydrogen
- LNG
- Propane

# United States

[afdc.energy.gov/stations](https://afdc.energy.gov/stations)



- Énergie ▾
- Mines/Matériaux ▾
- Forêts ▾
- Sciences de la Terre ▾
- Risques ▾
- Explosifs ▾
- Changements climatiques ▾

Accueil → Énergie → Efficacité énergétique → Transports → Localisateur de stations de recharge et de stations de ravitaillement en carburants de remplacement

## Localisateur de stations de recharge et de stations de ravitaillement en carburants de remplacement

Entrez un emplacement pour trouver une station où vous pouvez recharger ou ravitailler votre véhicule au Canada. Vous pouvez également trouver des stations de ravitaillement en carburants de remplacement en utilisant le menu défilant. Veuillez noter que les données provenant des É-U sont disponible en anglais seulement.

Q Stations publiques

▾ Filtres avancés

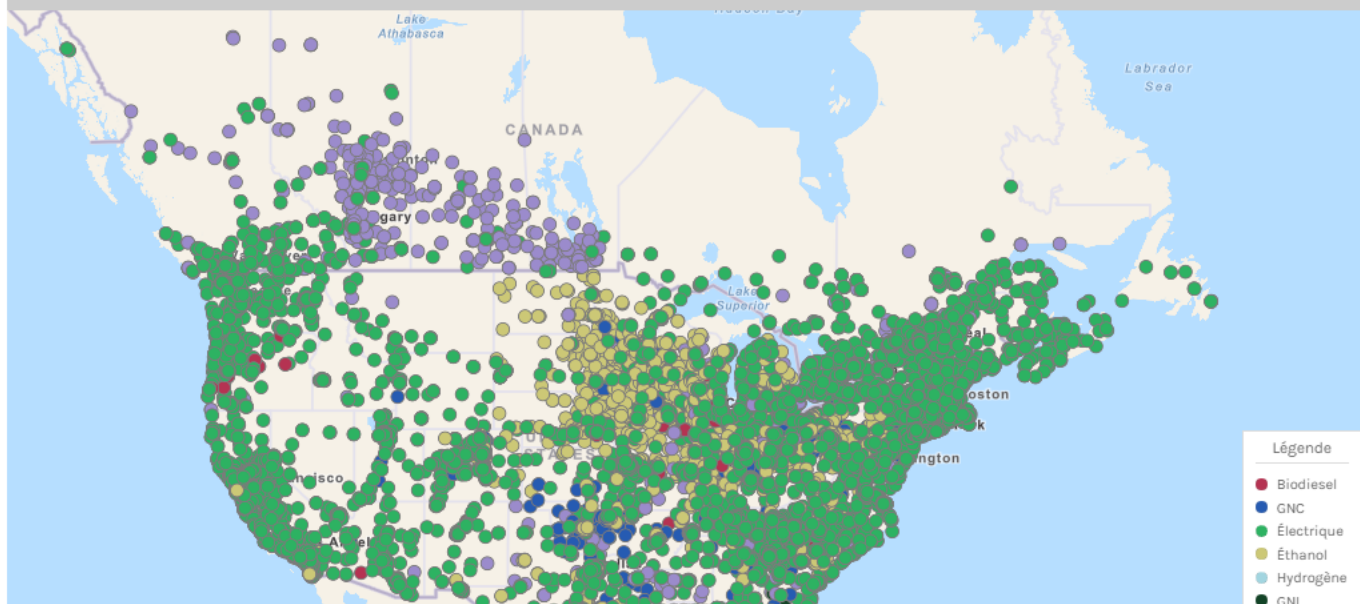
27 912 résultats dans É.-U. et Canada ▾

Saisir l'emplacement



Tous les carburants ▾

Établir un trajet



# Round 3 Data Access

A simple click allows states to download station data in a variety of formats with FHWA criteria already applied.

<https://www.afdc.energy.gov/corridors>

## Alternative Fuels Data Center

- FUELS & VEHICLES
- CONSERVE FUEL
- LOCATE STATIONS
- LAWS & INCENTIVES
- Maps & Data
- Case Studies
- Publications
- Tools
- About
- Home

[EERE](#) » [AFDC](#) » [Tools](#)

[Printable Version](#) [Share](#)

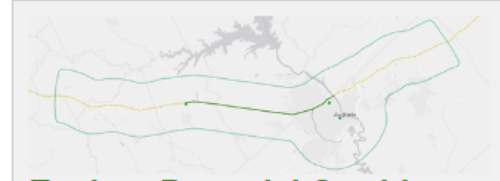
### Station Data for Nominating Alternative Fuel Corridors

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	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>
Alaska	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>
Arizona	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>	<a href="#">data</a>   <a href="#">shapefile</a>



# Goals for the Corridor Tool

With the corridor mapping tool, transportation planners can:



Monitor the system and watch for gaps and corridor designation changes



View fueling stations along corridors



Determine where to invest in fueling infrastructure



Assess roads and stations for new corridor nomination

## Features for Phase Zero



# Explore Data

ArcGIS ▾ Propane (LPG) Corridor Map ✎

New Map ▾ Create Presentation 👤 Johanna ▾

Details Add Edit Basemap Save Share Print Measure Bookmarks Find address or place

About Content Legend

Contents

- Propane Stations (09/05/2018)
- Designated Corridors (06/12/2018)
- Potential Propane 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.
- National Highway Network
- Basemap

Esri.com ArcGIS Marketplace Help Report Abuse

POWERED BY esri

Esri, HERE, Garmin, NGA, USGS | Esri, HERE | Federal Highway Administration, US Department of Transportation

## Interactive Maps

Interactive fuel-specific maps allow states to view highways, stations, and currently designated corridors. States can evaluate stations which meet FHWA criteria against distance requirements and evaluate potential corridor areas to ensure successful corridor nominations.

# Examine Data

ArcGIS Propane (LPG) Corridor Map

New Map Create Presentation Johanna

The screenshot displays the ArcGIS web application interface for the Propane (LPG) Corridor Map. The map shows the state of Georgia with various cities and interstates. Propane corridors are highlighted in light blue, and propane stations are marked with blue dots. The interface includes a search bar at the top right, navigation tools on the left, and a contents panel on the left side. The contents panel lists several layers:

- Propane Stations (09/05/2018)
- Designated Corridors (06/12/2018)
- Potential Propane 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.
- National Highway Network
- Basemap
  - World Light Gray Reference
  - World Light Gray Canvas Base

## View details

Zooming in allows states to see details of where potential corridors may exist – either with enough stations already or where the addition of a single station would create a corridor. Areas shown are within five miles of an Interstate.

# Features for Phase One





# National Map

Find Public Stations

Analyze & Download Data

Explore Fuel Corridors

3354 designated miles

Electric



Choose State



Choose HWY



**Legend**

- Complete Corridor
- - - Planned Corridor

Developer APIs

Embed Tool

About the Data

# State Map

Find Public Stations

Analyze & Download Data

Explore Fuel Corridors

559 designated miles

Electric

Ohio

Choose HWY

Download Data

Copy Map



## Ohio

Designated EV corridors: 559 mi  
Complete EV corridors: 148 mi

Show legend

Show acceptable station distance from highway  Miles

Show stations

CCS  CHAdeMO  Tesla  Level 2  
 Planned stations  Private stations

[Download Station List](#)

Test Proposed Stations

[Run Analysis](#)

Add markers to test completing a corridor

To qualify as a federal EV corridor, electric stations must be fast charging stations (CCS or CHAdeMO). Stations must be within 50 miles of each other and within 5 miles of the corridor.

See [Federal Highway Corridor Requirements](#)

Contact: [Kirsten Raymonde, ODOT](#)

Developer APIs

Embed Tool

About the Data


# Corridor Summary

Find Public Stations Analyze & Download Data Explore Fuel Corridors

Electric Ohio Choose HWY

Download Data Copy Map

659 designated miles



**I-71**  
State highway 42  
348.78 miles  
Designated in 2016


## Ohio

Designated EV corridors: 659 mi  
Complete EV corridors: 320 mi

- Show legend
- Show acceptable station distance from highway  Miles
- Show EV vehicle density
- Show stations
  - CCS  CHAdeMO  Tesla  Level 2
  - Planned stations  Private stations

[Download Station List](#)

**Test Proposed Stations** [Run Analysis](#)

 Add markers to test completing a corridor

To qualify as a federal EV corridor, electric stations must be fast charging stations (CCS or CHAdeMO). Stations must be within 50 miles of each other and within 5 miles of the corridor.  
[See Federal Highway Corridor Requirements](#)

Contact: Kirsten.Raymonde, ODOT

Developer APIs Embed Tool About the Data



# Analyzing Proposed Stations

Find Public Stations   Analyze & Download Data   Explore Fuel Corridors

348 designated miles

Electric   Ohio   I-71

Download Data   Copy Map

**I-71**

Total distance: 348 mi  
Amount completed: 99 mi

Show legend

Show acceptable station distance from highway  Miles

Show stations

CCS    CHAdeMO    Tesla    Level 2

Planned stations    Private stations

Download Station List

Test Proposed Stations

To qualify as a federal EV corridor, electric stations must be fast charging stations (CCS or CHAdeMO). Stations must be within 50 miles of each other and within 5 miles of the corridor.

See Federal Highway Corridor Requirements

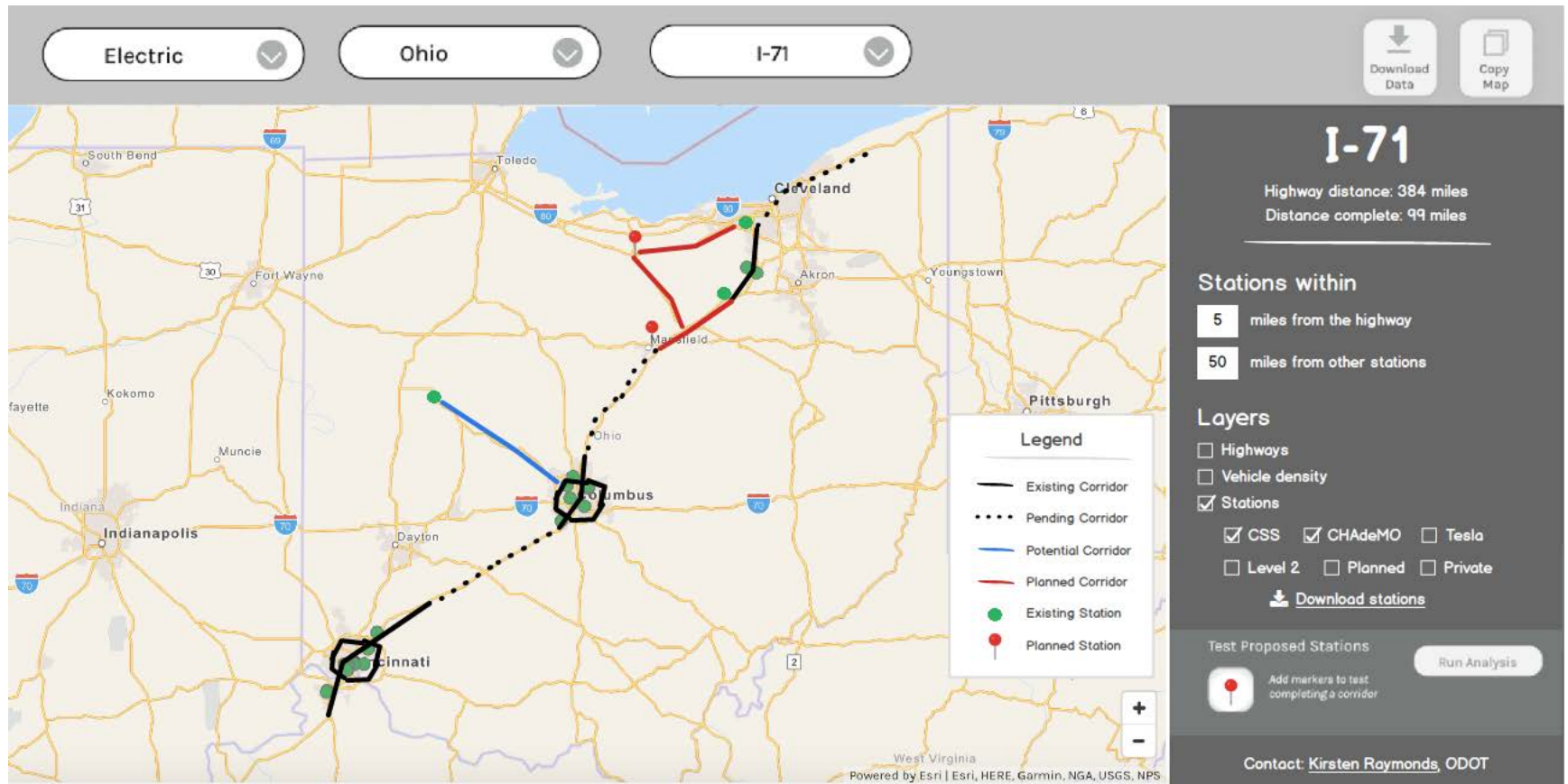
Contact: Kirsten Raymonds, ODOT

Analysis Complete: Proposed station completes 50 more miles of the corridor.

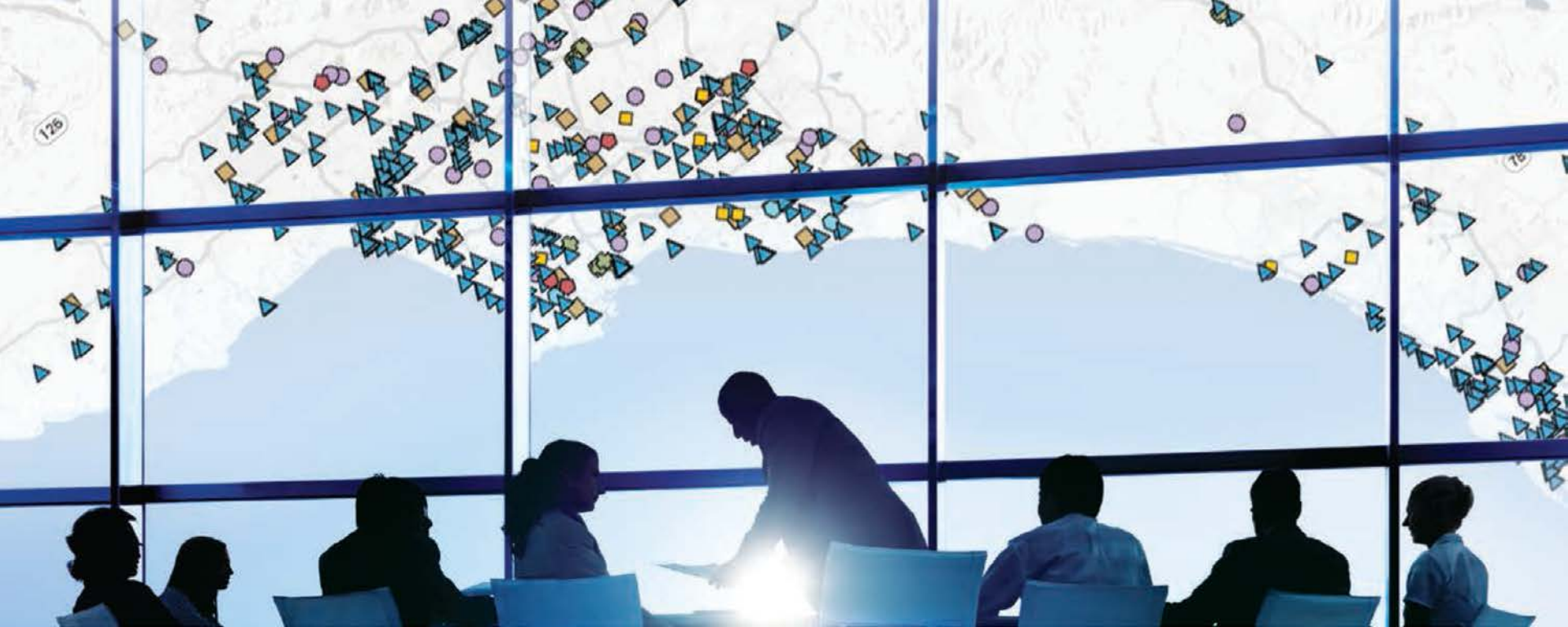
**Legend**

- Complete Corridor
- Planned Corridor
- Existing Station
- Proposed Station

# Exploring Potential Corridors







## Questions and Feedback

# Thank You

---

[johanna.levene@nrel.gov](mailto:johanna.levene@nrel.gov)

This work was authored in part by the Alliance for Sustainable Energy, LLC, the manager and operator of the National Renewable Energy Laboratory for the U.S. Department of Energy (DOE) under Contract No. DE-AC36-08GO28308. Funding provided by U.S. Department of Energy Office of Energy Efficiency and Renewable Energy Vehicle Technologies Office. The views expressed in the article do not necessarily represent the views of the DOE or the U.S. Government. The U.S. Government retains and the publisher, by accepting the article for publication, acknowledges that the U.S. Government retains a nonexclusive, paid-up, irrevocable, worldwide license to publish or reproduce the published form of this work, or allow others to do so, for U.S. Government purposes.

