

BEGIN

ALTERNATIVE
FUELS
CORRIDOR



FHWA Alternative Fuel Corridors Program Overview/Update

Northeast Diesel Collaborative 2021 Partners Meeting

October 20, 2021

MIKE SCARPINO | U.S. DEPARTMENT OF TRANSPORTATION-VOLPE CENTER



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:

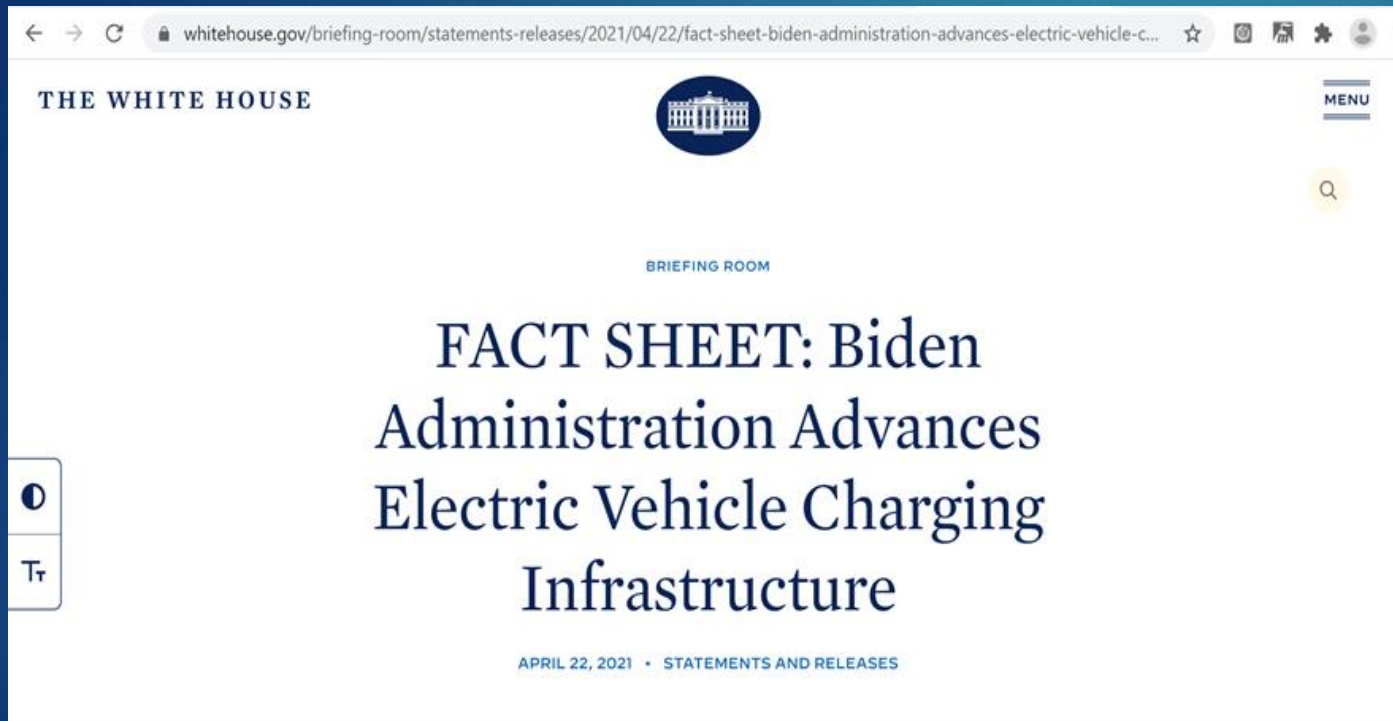
- Plug-in electric vehicle charging
- Hydrogen fueling
- Propane (LPG) fueling
- Natural gas (CNG, LNG) fueling

FAST ACT Section 1413: AFC Designations

- Solicit nominations from state and local officials
- Incorporate existing infrastructure (demand and location)
- Stakeholder involvement (on a voluntary basis)
- No funding authorized
- 5 Requests for Nominations have been issued since July 2016
 - Designations Announced:
 - Round 1- November 2016
 - Round 2- March 2018
 - Round 3- April 2019
 - Round 4- June 2020
 - Round 5- April 2021

April 22, 2021 White House Announcement Round 5 Designations & Other EV Support

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<https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-biden-administration-advances-electric-vehicle-charging-infrastructure/>

Transportation Secretary Pete Buttigieg speaks during a news conference held in front of new EVGo electric vehicle charging stations in the parking garage of Union Station in Washington, D.C., on Thursday. Photo by Sarah Silbiger/UPI | [License Photo](#)

Combined Results Rounds 1-5

- ▶ Designations....
 - ✓ **125** nominations
 - ✓ Includes portions/segments of **134** Interstates, along with **125** US highways/state roads
 - ✓ Comprise **49 states plus D.C.**
 - ✓ Covers **approximately 165,772** miles of the National Highway System (all fuels combined)

Alternative Fuel Corridor Designations

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- Nominated corridors separated into two designation categories:
 - **Corridor-Ready** – sufficient facilities on the corridor currently exist to allow for corridor travel on the designated alternative fuel(s);
 - **Corridor-Pending** – currently insufficient facilities on the corridor to allow for corridor travel on the designated alternative fuel(s).
- **Corridor Planning/Analysis**
 - Build/Expand charging and fueling capacity along corridors connecting communities, states and regions.
 - Identify potential fueling site locations along corridors
 - Close gaps and/or extend corridors

Corridor-Ready Criteria

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EV

DCFC only
(CHAdeMO +
CCS)

50 miles
between
stations

5 miles from
highway

Public stations
only (no Tesla)

CNG

150 miles
between
stations

5 miles from
highway

Public
stations only

Fast fill, 3,600
psi

LNG

200 miles
between
stations

5 miles from
highway

Public
stations only

Hydrogen

100 miles
between
stations

5 miles from
highway

Public
stations only

Propane

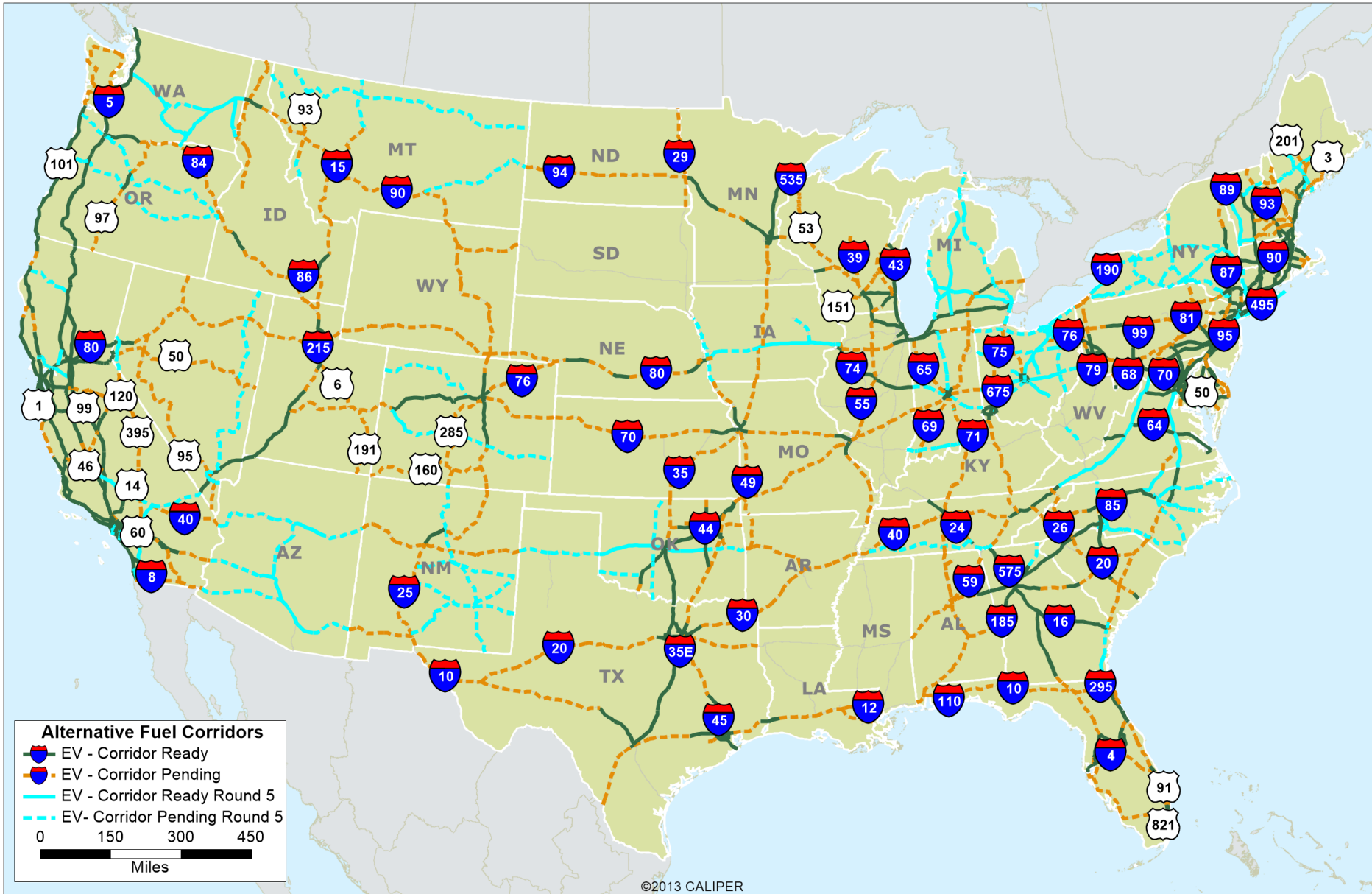
150 miles
between
stations

5 miles from
highway

Public
stations only

Primary
stations only

EV Corridors: Rounds 1-5

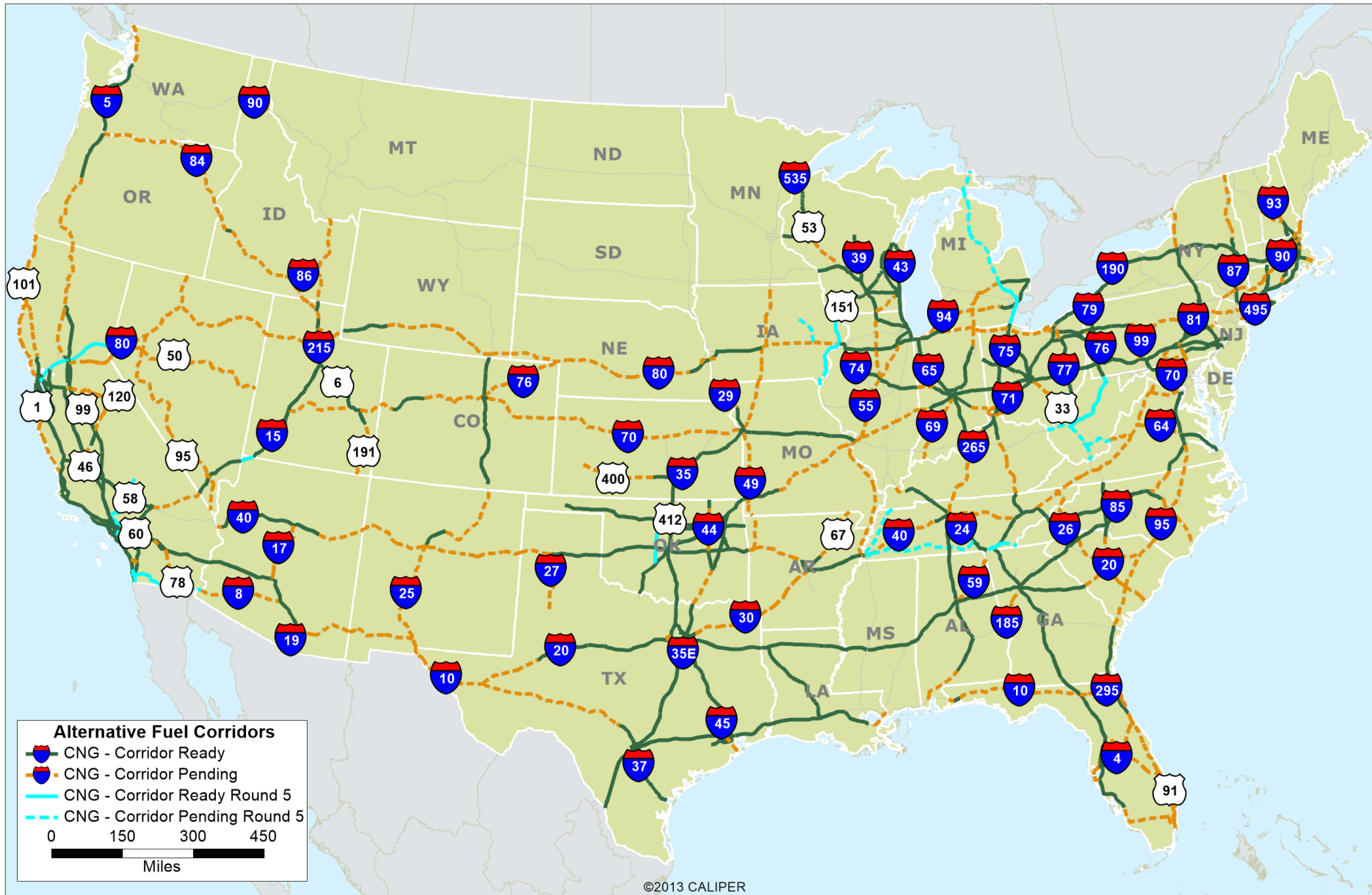


EV Corridors: Rounds 1-5

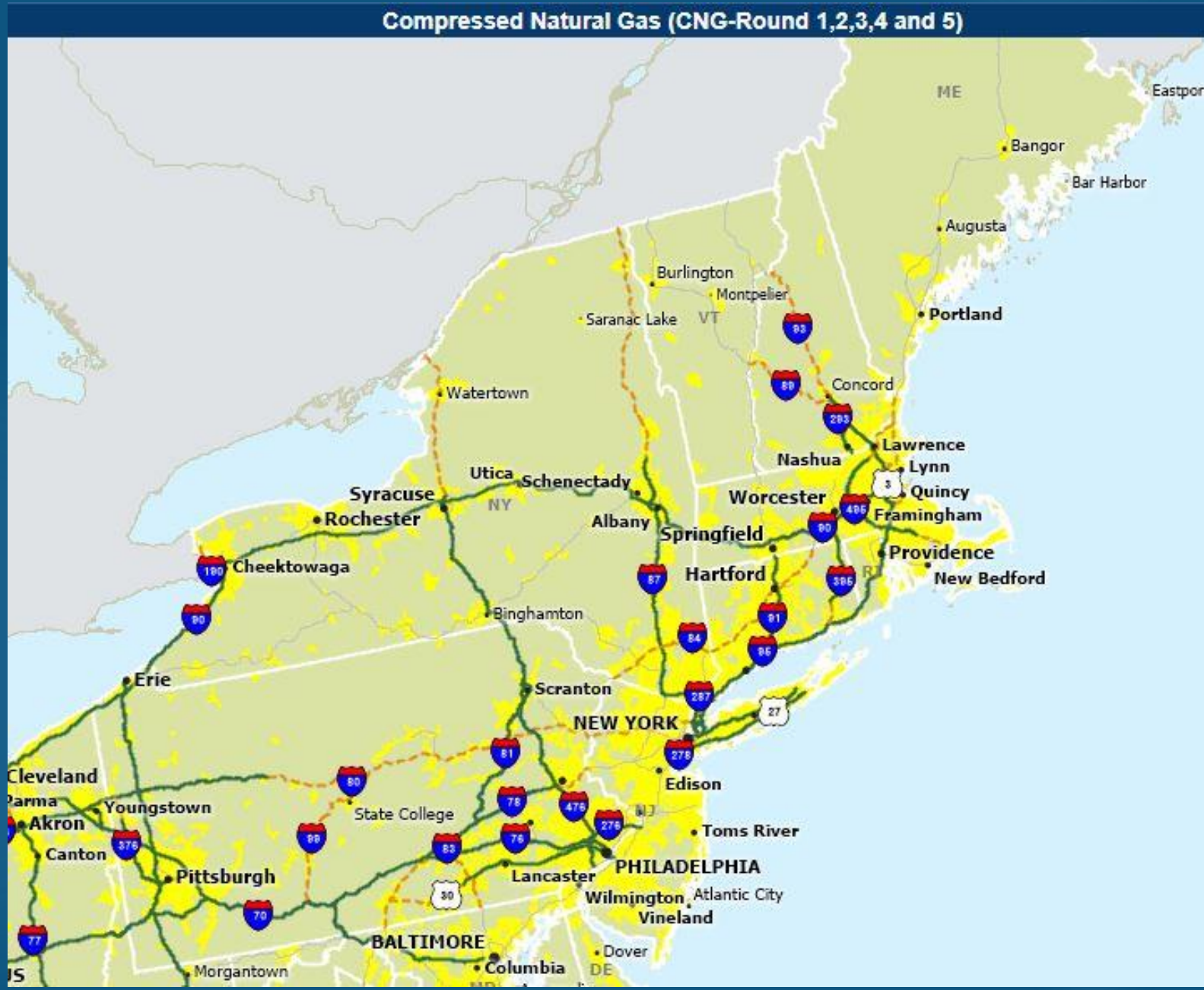
Electric Vehicle (EV-Round 1,2,3,4 and 5)



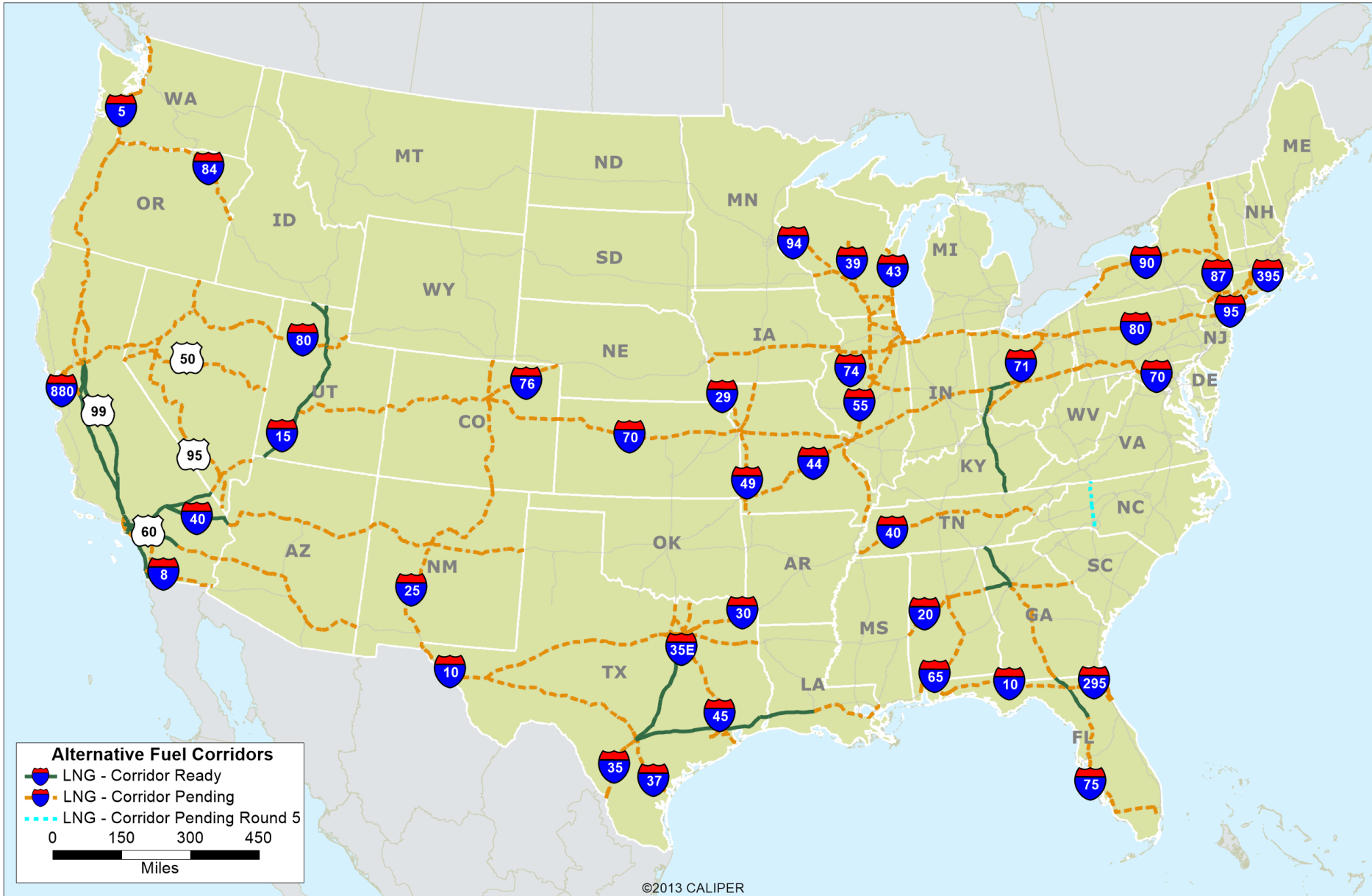
CNG Corridors: Rounds 1-5



CNG Corridors: Rounds 1-5

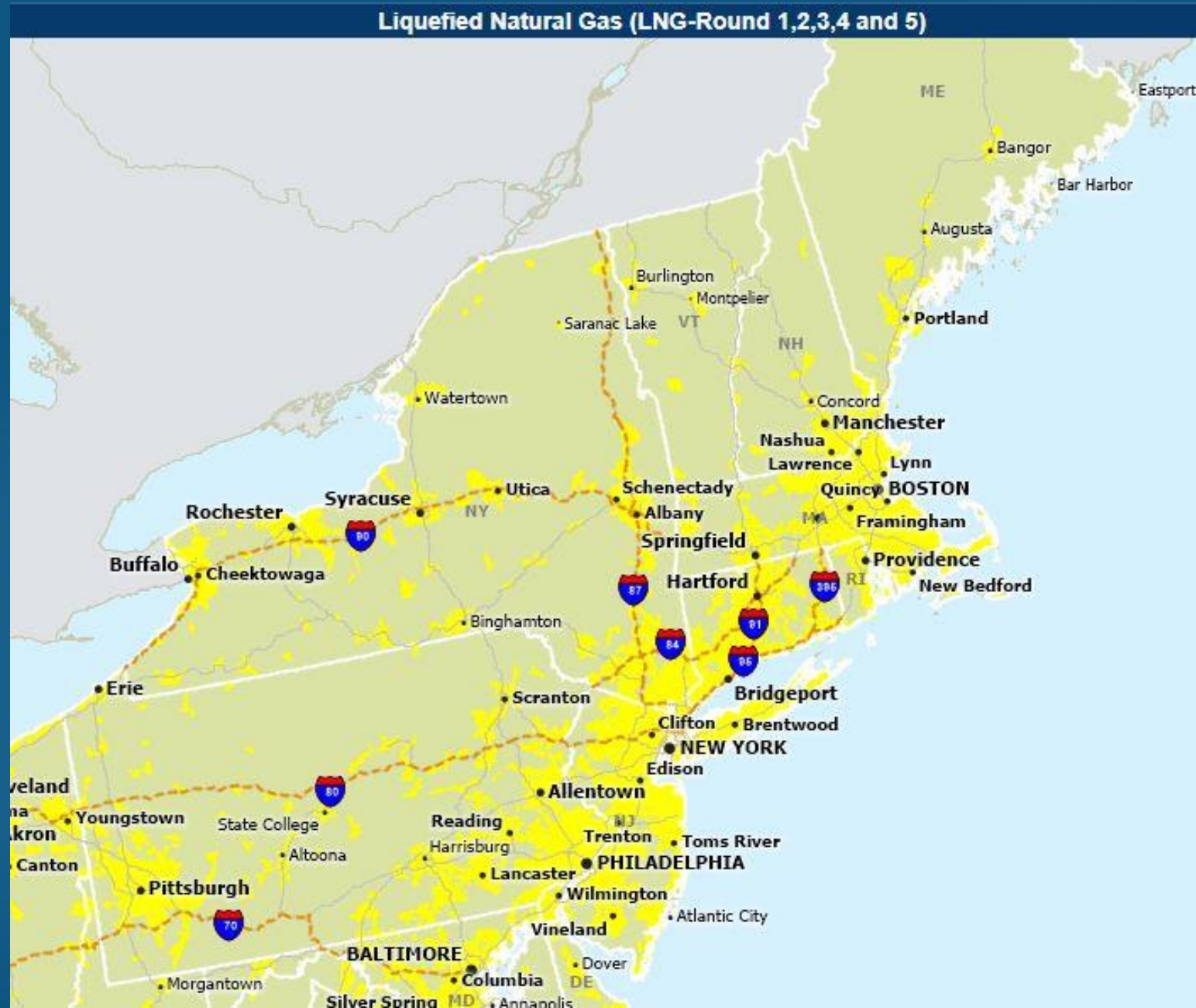


LNG Corridors: Rounds 1-5

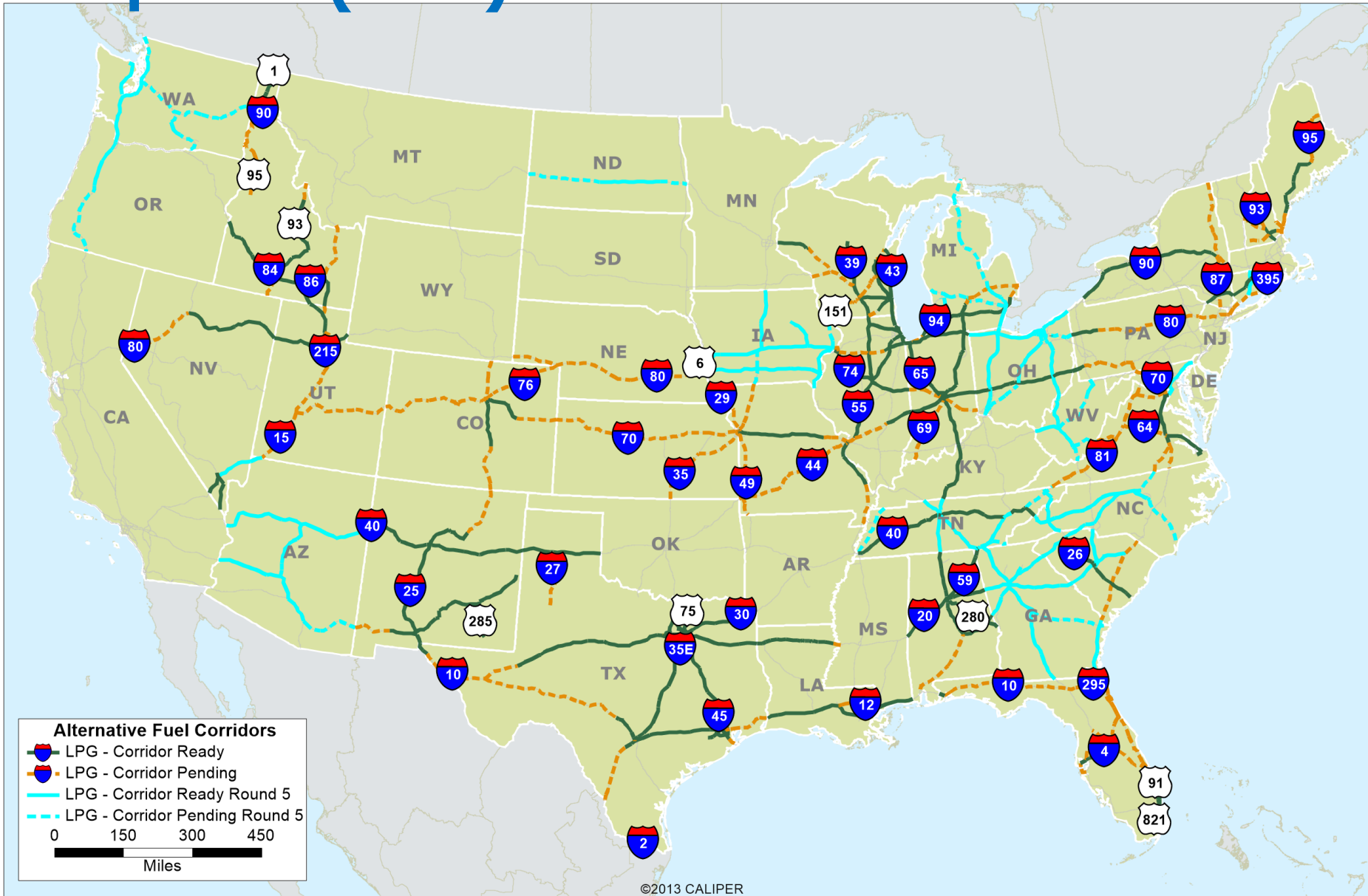


LNG Corridors: Rounds 1-5

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Propane (LPG) Corridors: Rounds 1-5

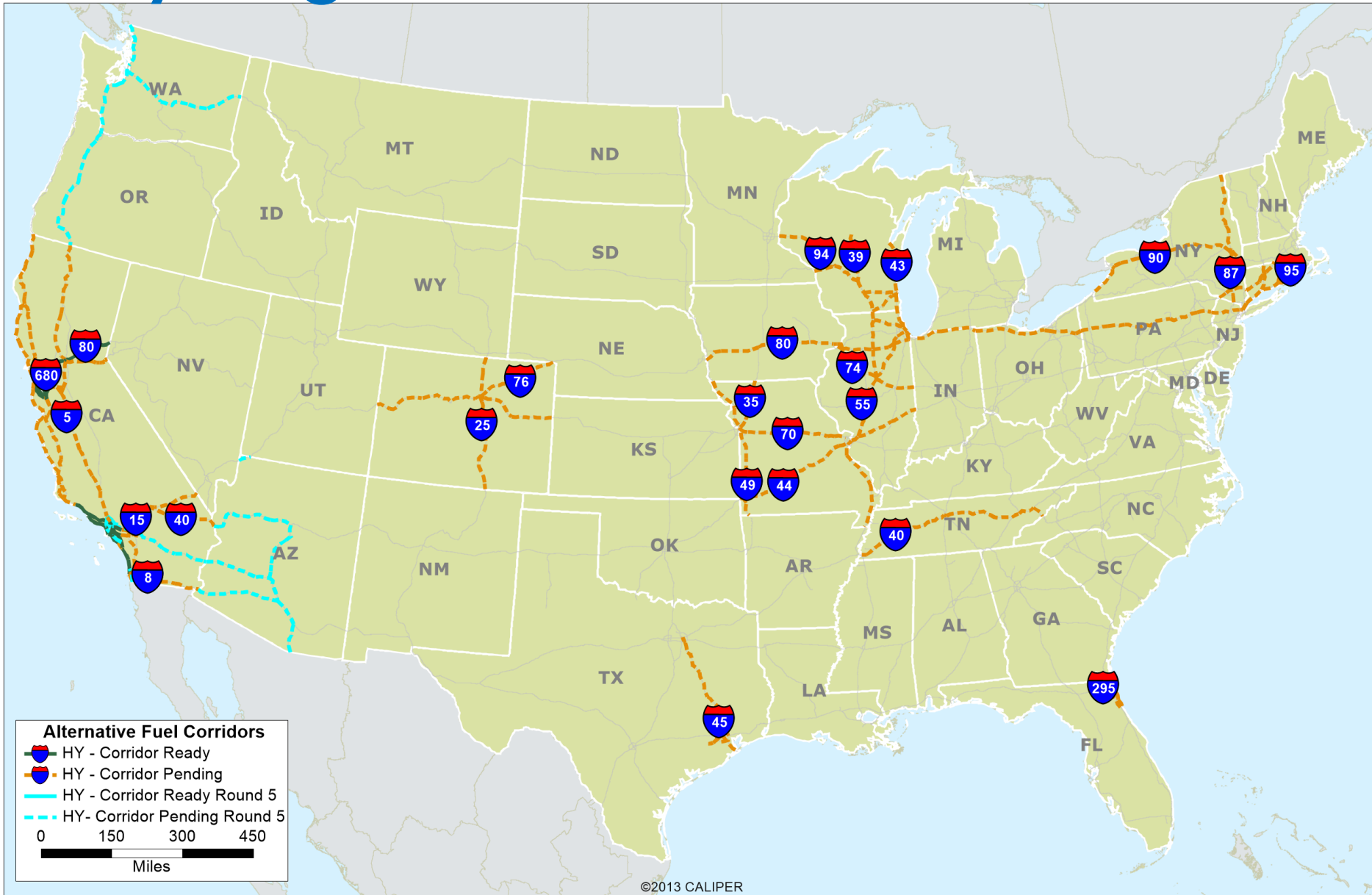


LPG Corridors: Rounds 1-5

Liquefied Petroleum Gas (LPG or Propane-Round 1,2,3,4 and 5)



Hydrogen Corridors: Rounds 1-5

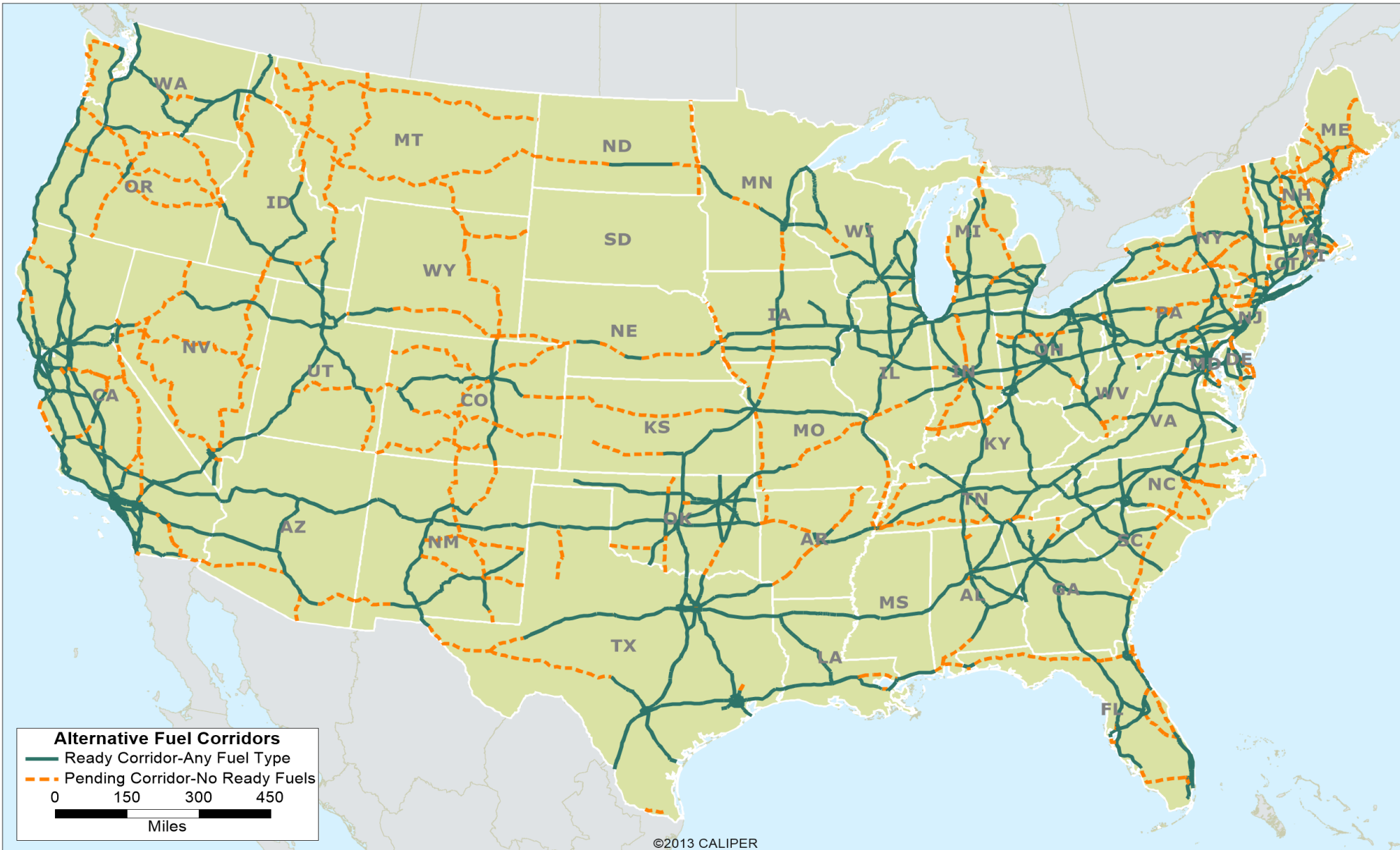


Hydrogen Corridors: Rounds 1-5



All Corridors: Rounds 1-5

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"These routes, which connect communities large and small, signal the clear demand for cleaner, more affordable transportation across the country"
U.S. Secretary of Transportation
Pete Buttigieg

DOT Funding and Financing Programs with EV Eligibilities*

LEGEND

Construction and installation of EV charging infrastructure including parking facilities and utilities.	Workforce development and training related to EV infrastructure.	EV acquisitions and engine conversions - cars or trucks.	Planning for EV charging infrastructure and related projects.	Construction and installation of EV charging infrastructure to support operational, resiliency, national energy security, environmental, and community goals for freight transportation.	Installation of EV charging infrastructure as part of transit capital projects eligible under chapter 53 of title 49, United States Code.



National Highway Performance Program (NHPP)	\$23.1 B						
Surface Transportation Block Grant Program (STBG)	\$10.2 B						
Congestion Mitigation & Air Quality Improvement Program (CMAQ)	\$2.4 B						
National Highway Freight Program (NHFP)	\$1.5 B						
State Planning and Research (SPR)	\$641.5 M						
Metropolitan Planning (PL)	\$357.9 M						
DISCRETIONARY PROGRAMS							
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) (formerly known as BUILD)	\$1.0 B						
Infrastructure for Rebuilding America (INFRA) Grant Program	\$889.0 M						
Advanced Transportation and Congestion Management Technologies Deployment (ATCMDT)	\$53.3 M						
OTHER ALLOCATED PROGRAMS							
Federal Lands and Tribal Transportation Program (FLTTP)	\$1.0 B						
Highway Infrastructure Program (HIP) (other than for bridges)	\$644.0 M						
Puerto Rico Highway Program (PRHP)	\$74.9 M						
Territorial Highway Program (THP)	\$37.3 M						
INNOVATIVE FINANCE PROGRAMS							
State Infrastructure Banks (SIBs)	Varies						
Transportation Infrastructure Financing and Innovation Act (TIFIA)	Varies						

Disclaimer: Many of these programs are oversubscribed, and EV charging infrastructure competes with many other types of eligible projects.

* All eligibility determinations are fact specific. Limitations may apply. Additional low and zero-emission fuel types also may be eligible under these programs.

Note: Total (in millions and billions, rounded to one decimal place)

Federal Funding is Available For Electric Vehicle Charging Infrastructure On the National Highway System

https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/resources/ev_funding_report_2021.pdf

August 5, 2021 White House Announcement

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THE WHITE HOUSE



BRIEFING ROOM

MENU

FACT SHEET: The Bipartisan Infrastructure Investment and Jobs Act Advances President Biden's Climate Agenda

AUGUST 05, 2021 • STATEMENTS AND RELEASES

[FACT SHEET: The Bipartisan Infrastructure Investment and Jobs Act Advances President Biden's Climate Agenda | The White House](#)

White House Fact Sheet

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- ▶ U.S. market share of plug-in electric vehicle (EV) sales is only one-third the size of the Chinese EV market. The President believes that must change. The bill invests **\$7.5 billion** to build out the first-ever national network of EV chargers in the United States and is a critical element in the Biden-Harris Administration's plan to accelerate the adoption of EVs to address the climate crisis and support domestic manufacturing jobs. The bill will provide funding for **deployment of EV chargers along highway corridors to facilitate long-distance travel and within communities to provide convenient charging where people live, work, and shop. Federal funding will have a particular focus on rural, disadvantaged, and hard-to-reach communities.**

▶ State by State

- <https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/04/white-house-releases-state-fact-sheets-highlighting-the-impact-of-the-infrastructure-investment-and-jobs-act-nationwide/>

Bipartisan Infrastructure Bill

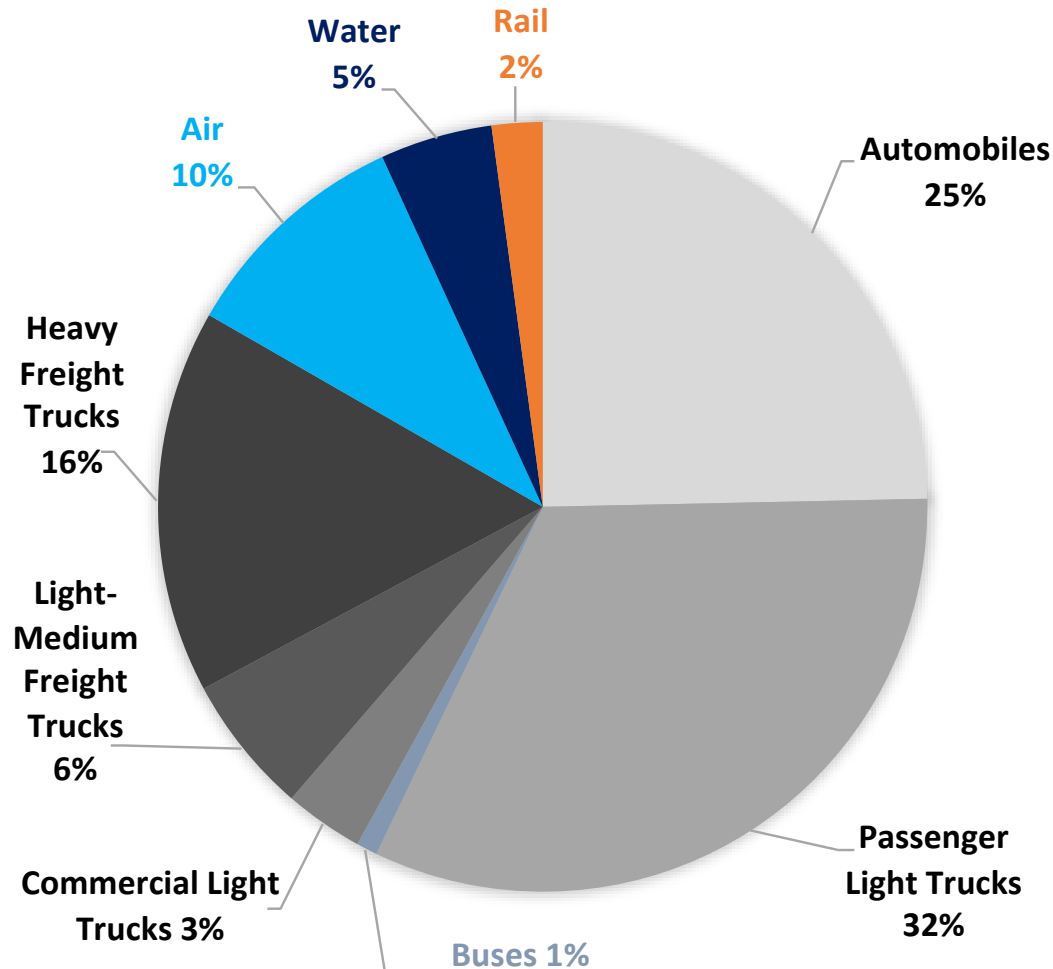
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- Sec. 11401 - Grants for Charging and Fueling Infrastructure for Corridors and Communities– discretionary grant program
 - \$2.5B for **Alternative Fuels (EV, CNG, LNG, LPG, H2)**
 - \$300,000,000 for FY2022; \$400,000,000 for FY2023; \$500,000,000 for FY2024; \$600,000,000 for FY2025; and \$700,000,000 for FY2026
 - National Electric Vehicle Formula Program
 - \$5.0B for **EV Corridors**
 - \$1B/year for FY2022-2026
- Joint DOT/DOE Deployment Support Program to provide tools & technical assistance to funding recipients

DOE Vehicle Technologies Office (VTO)

Mission: Decarbonize transportation across all modes

2019 U.S. Transportation Energy Use (26.8 Quads)

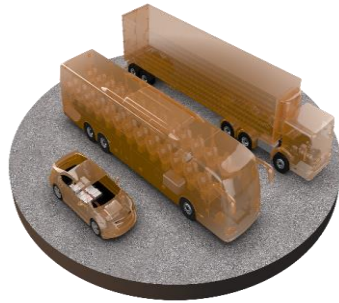


- Net-zero by 2050 requires dramatic energy efficiency and emissions improvements in vehicle and the overall transportation system
- 100% clean electricity and dramatic technology cost reductions enable deep transportation decarbonization
- On-Road Vehicles (Light, Medium, Heavy) account for 83% of energy use, and can be electrified leveraging cheap and abundant clean electricity
- Long Haul freight movement and Air, Marine, Rail likely require Hydrogen and Biofuels

Source: EIA AEO



ON-ROAD
Light-, Medium-, Heavy
Duty Vehicles



Batteries & Electrification



Materials Technology



Mobility Systems



Demonstration and Deployment



Air, Marine, Rail



R&D for On/Off-Road
MD/HD Vehicles



Biofuels



Hydrogen

Technology Integration Program

Provide objective data and real-world lessons learned that inform future research needs and support local decision-making to advance affordable, domestic transportation fuels and energy-saving technologies



**Clean Cities
Coalitions**



**Information
and Tools**



**Technical
Assistance**



**Training,
Outreach,
Partnerships**



**Financial
Assistance**



**Regulatory Activities /
State and Alt Fuel
Provider Fleets**



**Advanced Vehicle
Technology
Competitions**

Technology Integration Strategies

1. Work closely with the nationwide network of local Clean Cities coalitions to support local decision-making



2. Help stakeholders evaluate transportation needs and energy choices



3. Fund projects that:

- Shift to domestic transportation energy sources,
- Improve transportation fuel efficiency,
- Reduce harmful emissions, and
- Demonstrate new mobility choices.

Summary & Final Updates

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- **AFC Program** and **Clean Cities** deployment activities will play a key role in supporting the Administration's climate and environmental justice goals and initiatives
 - A national network of 500,000 chargers by 2030
 - The Justice40 Initiative
 - Net-zero emissions economy by no later than 2050 goal
- Three of the five AFC infrastructure corridor deployment plans have posted updates/completed plans (AZ, TN, PA):

https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/deployment_plan/

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 & Corridor Tools:

<https://afdc.energy.gov/stations/> & <https://afdc.energy.gov/corridors>

FHWA Alternative Fuel Corridors Convenings:

<http://altfueltoolkit.org/regional-convenings/>

Motorweek Alternative Fuel Corridors Video Segment:

<https://www.youtube.com/watch?v=AvCqXXPcVwI>