AFDC in Action

AFDC Webinar

October 11, 2018

SOUTHEAST LOUISIANA CLEAN FUEL PARTNERSHIP

PUTTING THE PIECES TOGETHER FOR CLEANER FUEL
A STRONGER ECONOMY - A HEALTHIER COMMUNITY

Rebecca Otte

Clean Fuel Partnership Director

SOUTHEAST LOUISIANA
CLEAN FUEL PARTNERSHIP

PUTTING THE PIECES TOGETHER FOR CLEANER FUEL
A STRONGER ECONOMY - A HEALTHIER COMMUNITY

- Housed at the Regional Planning Commission for the New Orleans Metro Area
- Part of the Clean Cities Coalition Network
- Work with Municipal Fleets & Elected Officials including:
  - Jefferson Transit
  - New Orleans EMS
  - City/Parish (County) Fleet Pool Vehicles
  - Refuse Haulers with Contracts with the Municipalities

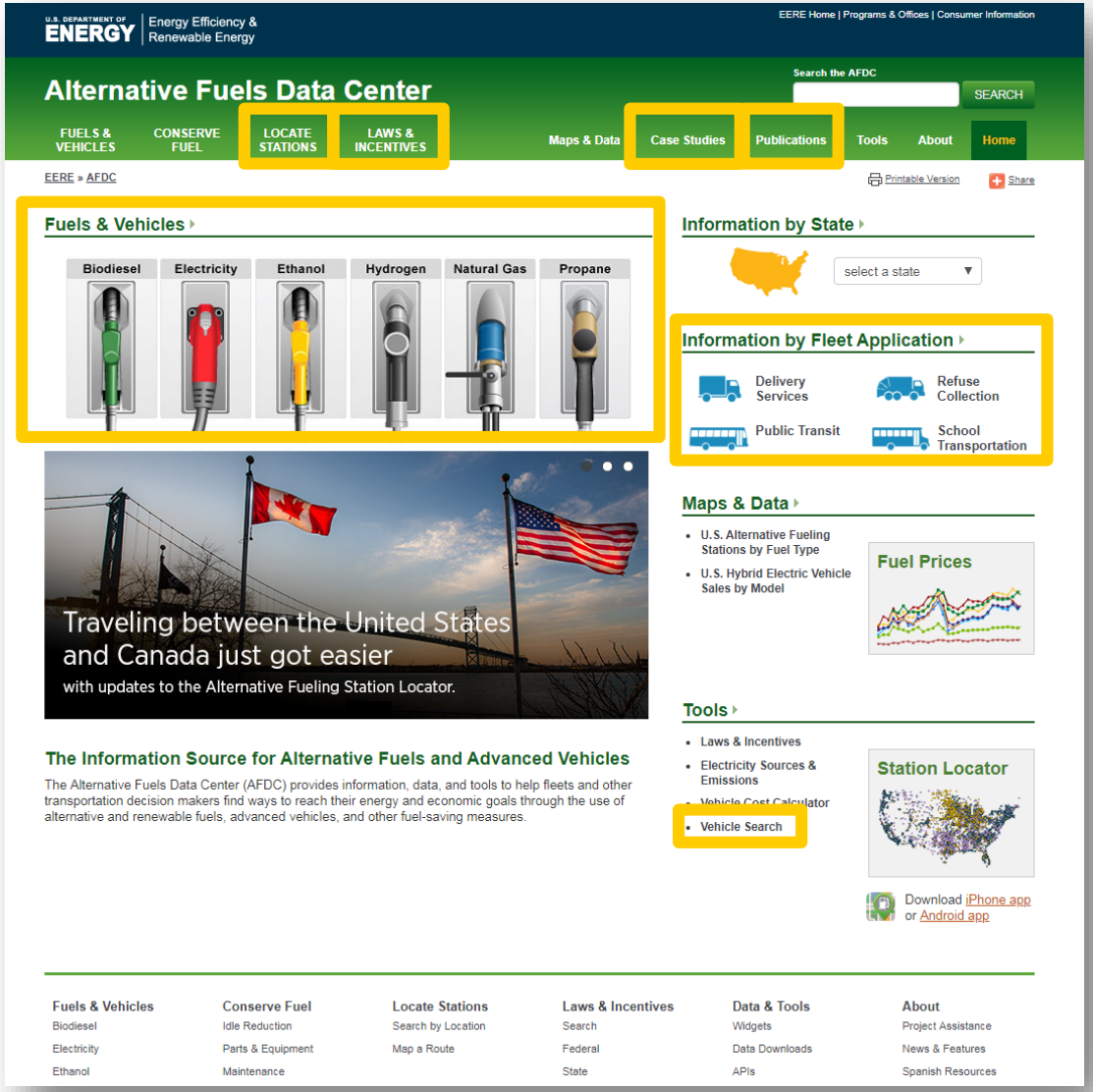
Alternative Fuels Data Center

- Unbiased Information
- Updated Regularly
- Clear and Easy to Understand
- Resources for more Technical Information

Useful for:

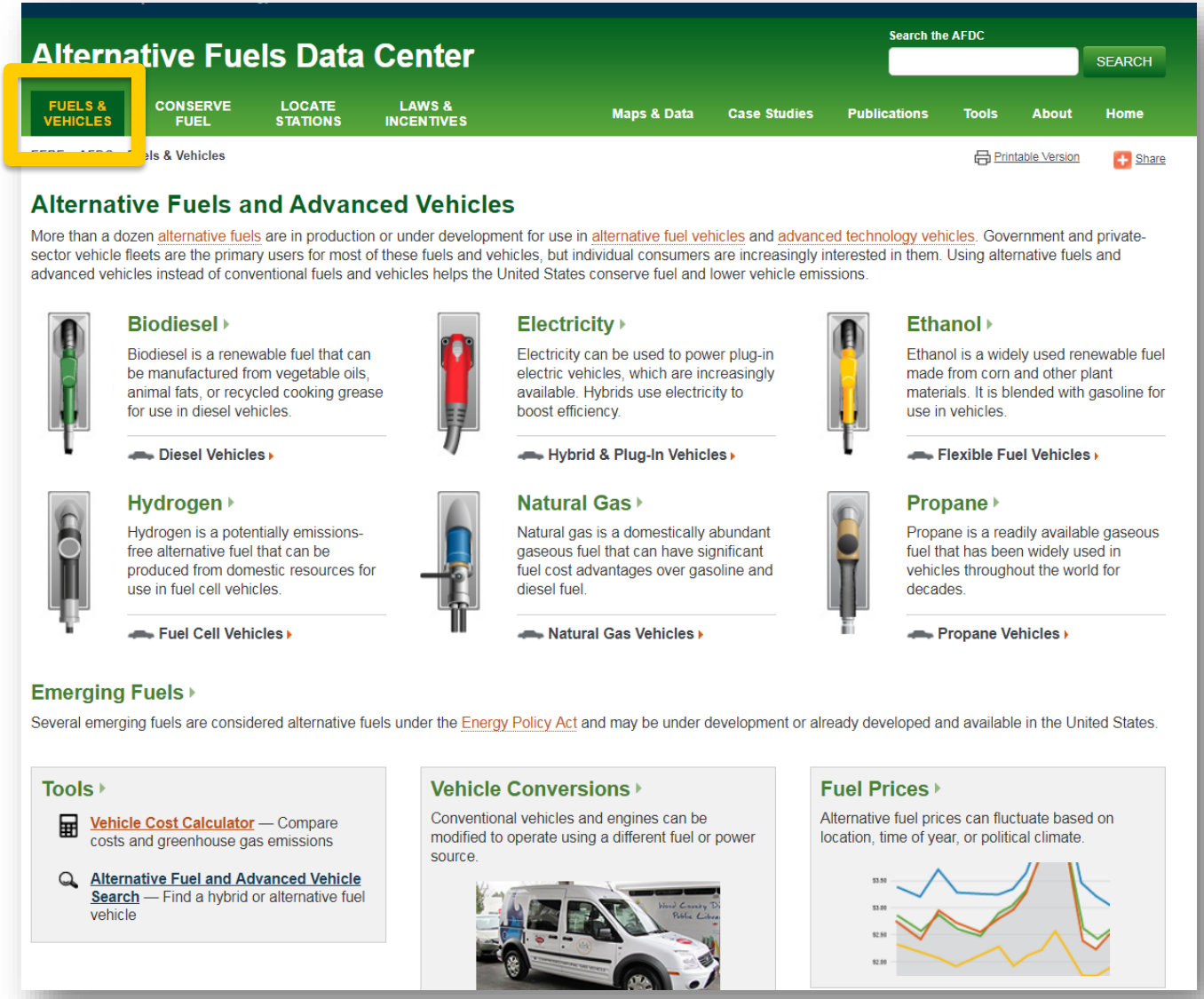
- Planning out a Project
- Resources for getting Everyone on Board

Pages I Use on a Regular Basis



- Fuels & Vehicles
- Vehicle Search
- Information by Fleet Application
- Locate Stations
- Laws & Incentives
- Case Studies
- Publications

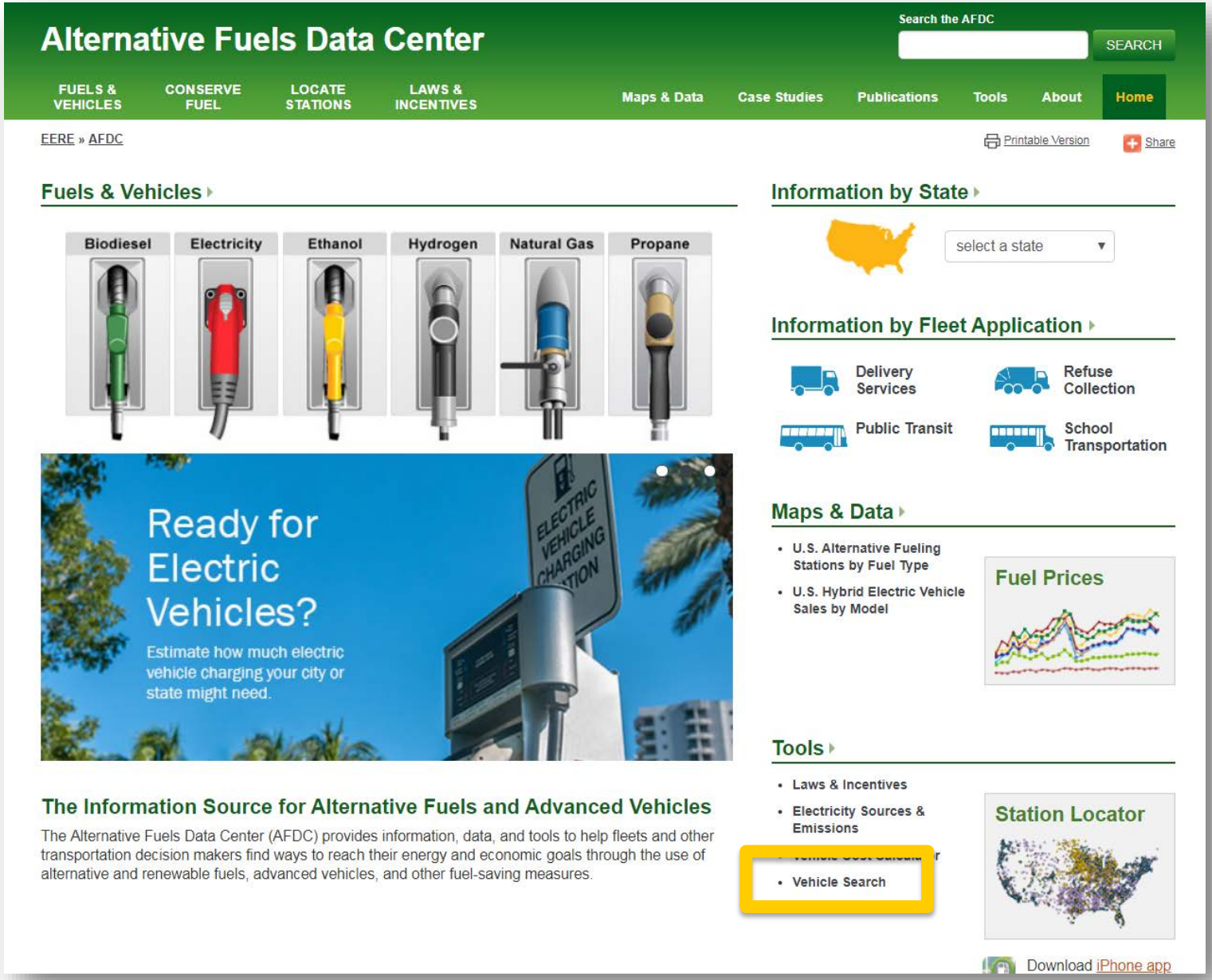
Fuels & Vehicles



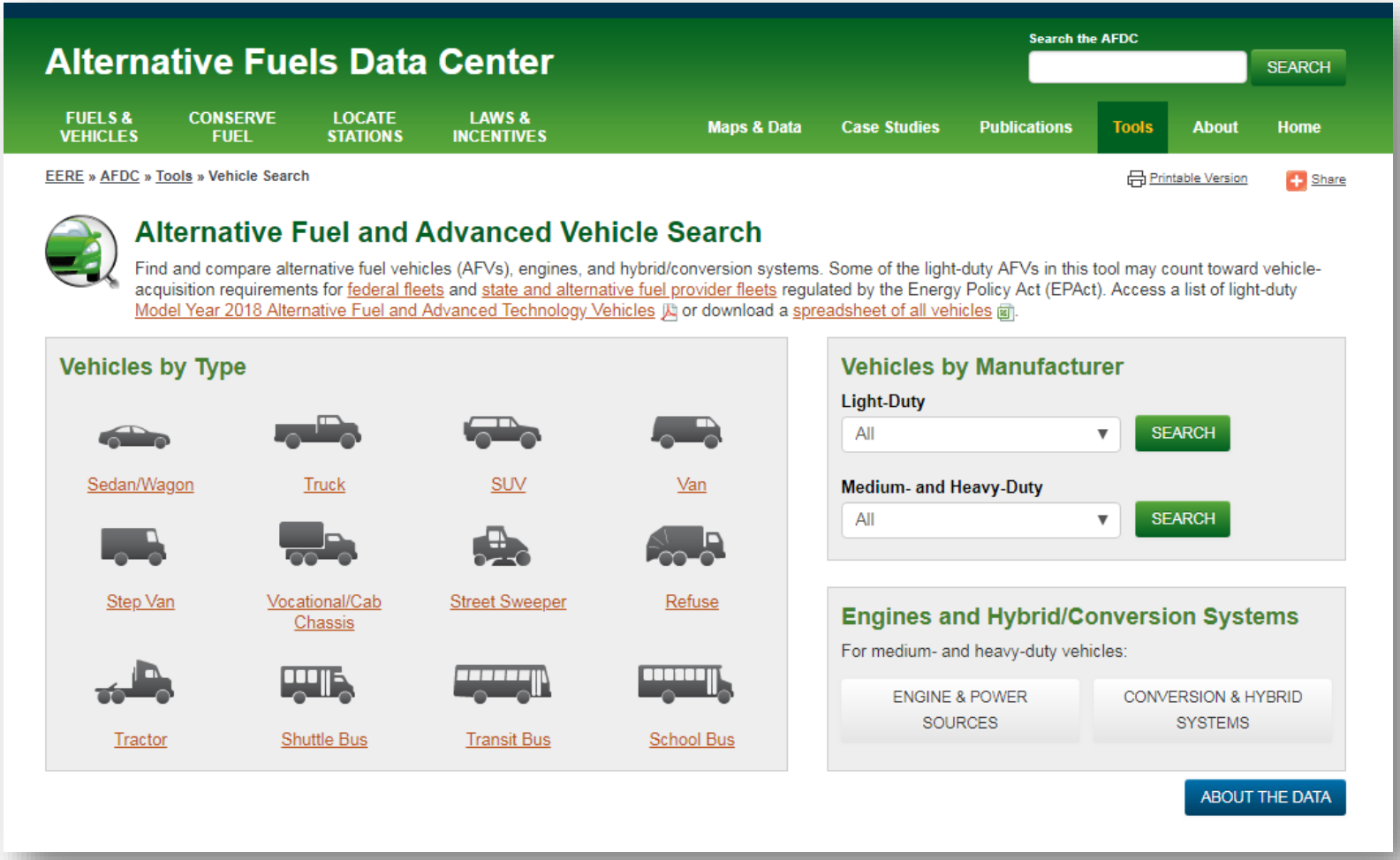
Great starting place for learning about the various fuels!

- Basics
- Benefits & Considerations
- Stations
- Vehicles
- Laws & Incentives

Vehicle Search

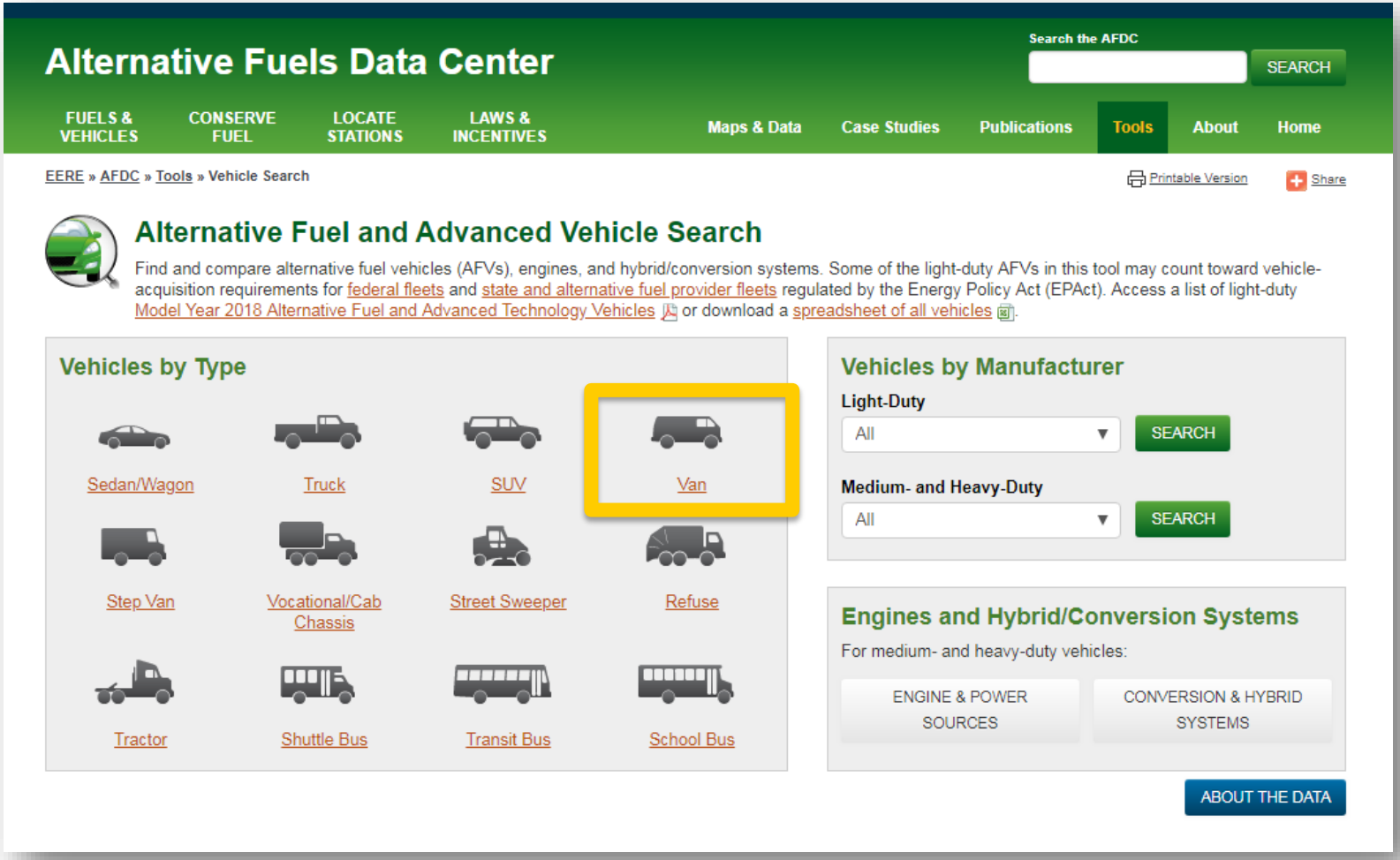


Vehicle Search

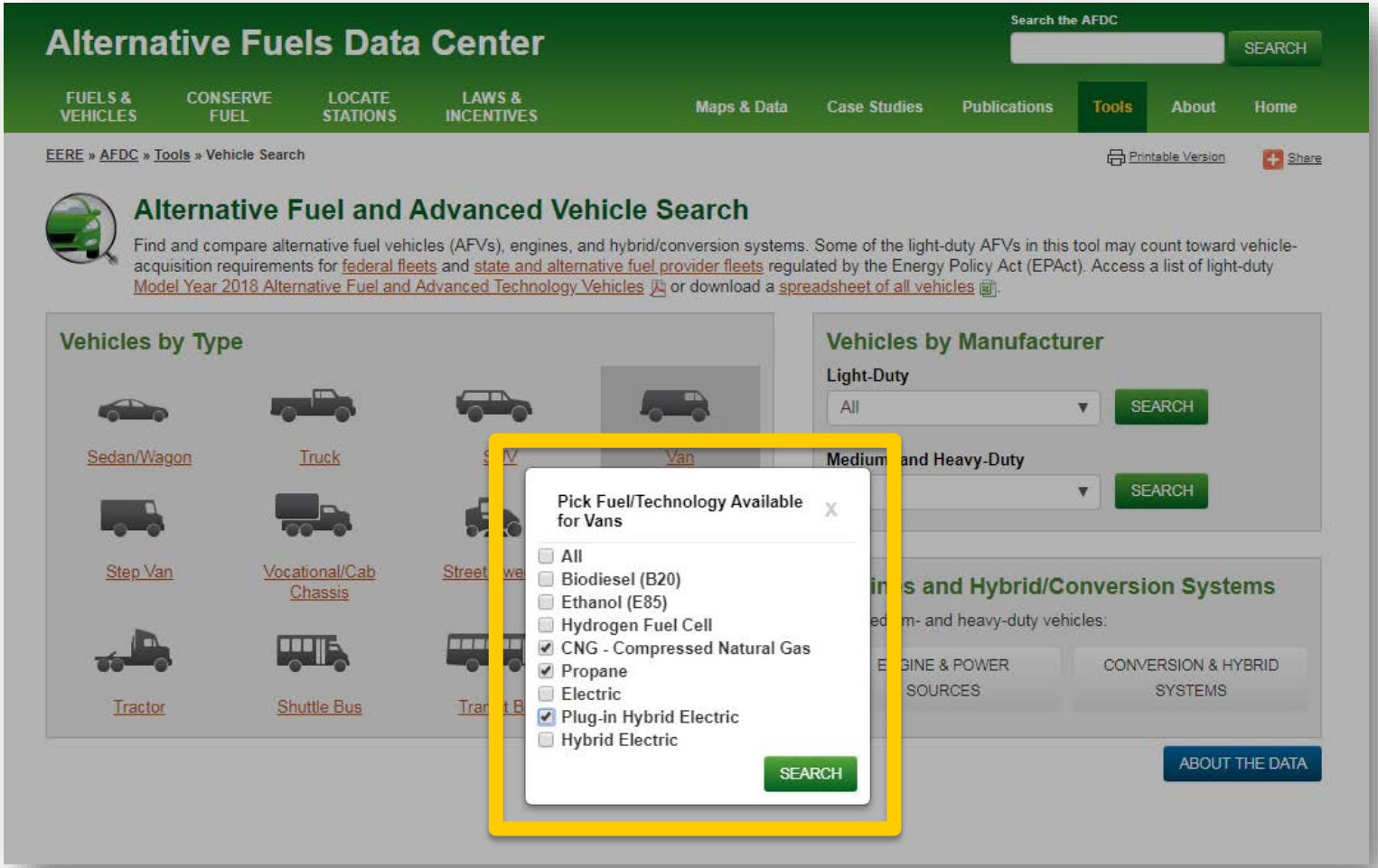


Determine what fuels/ advanced vehicles are available for specific vehicle types.

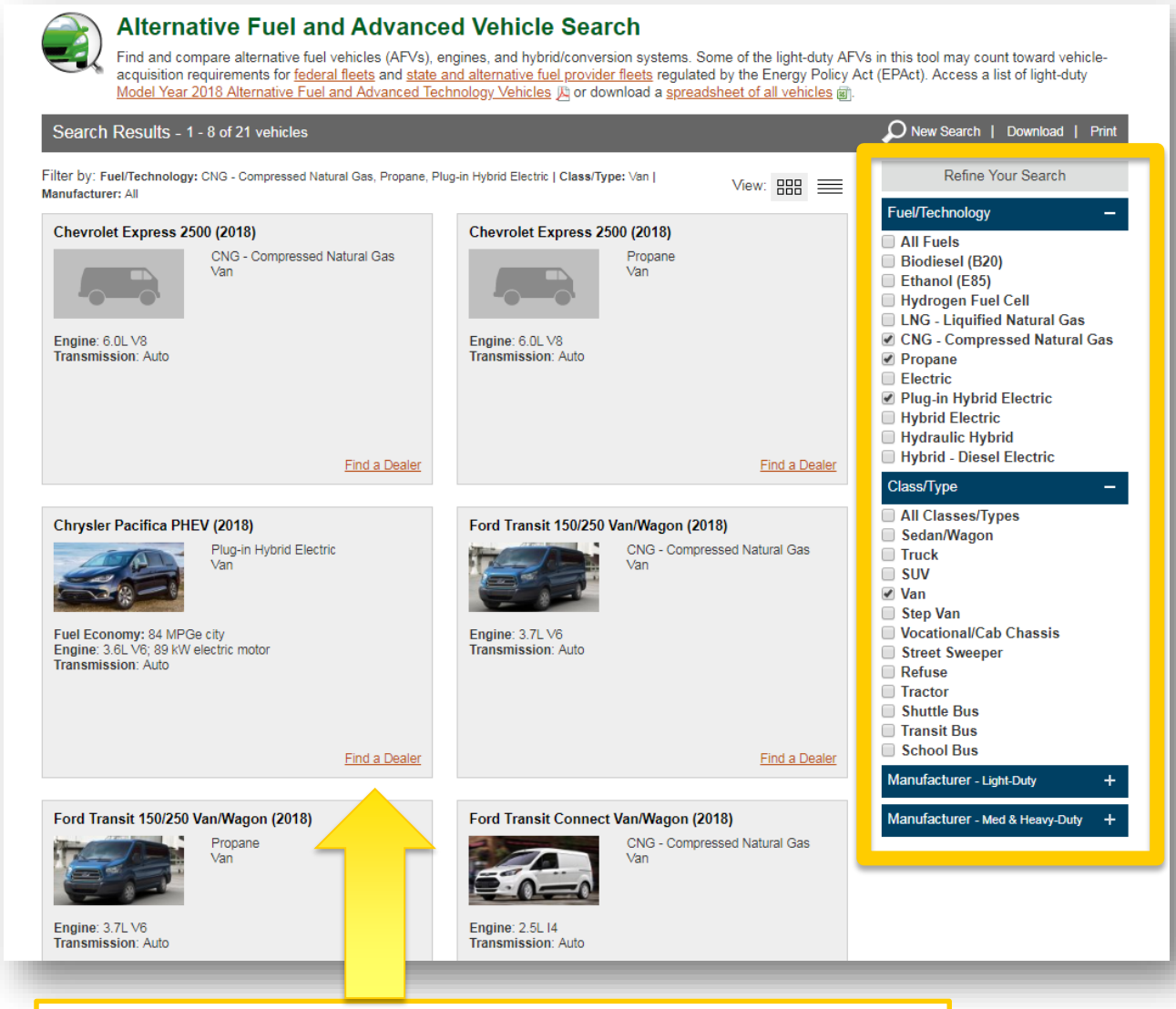
Vehicle Search



Vehicle Search

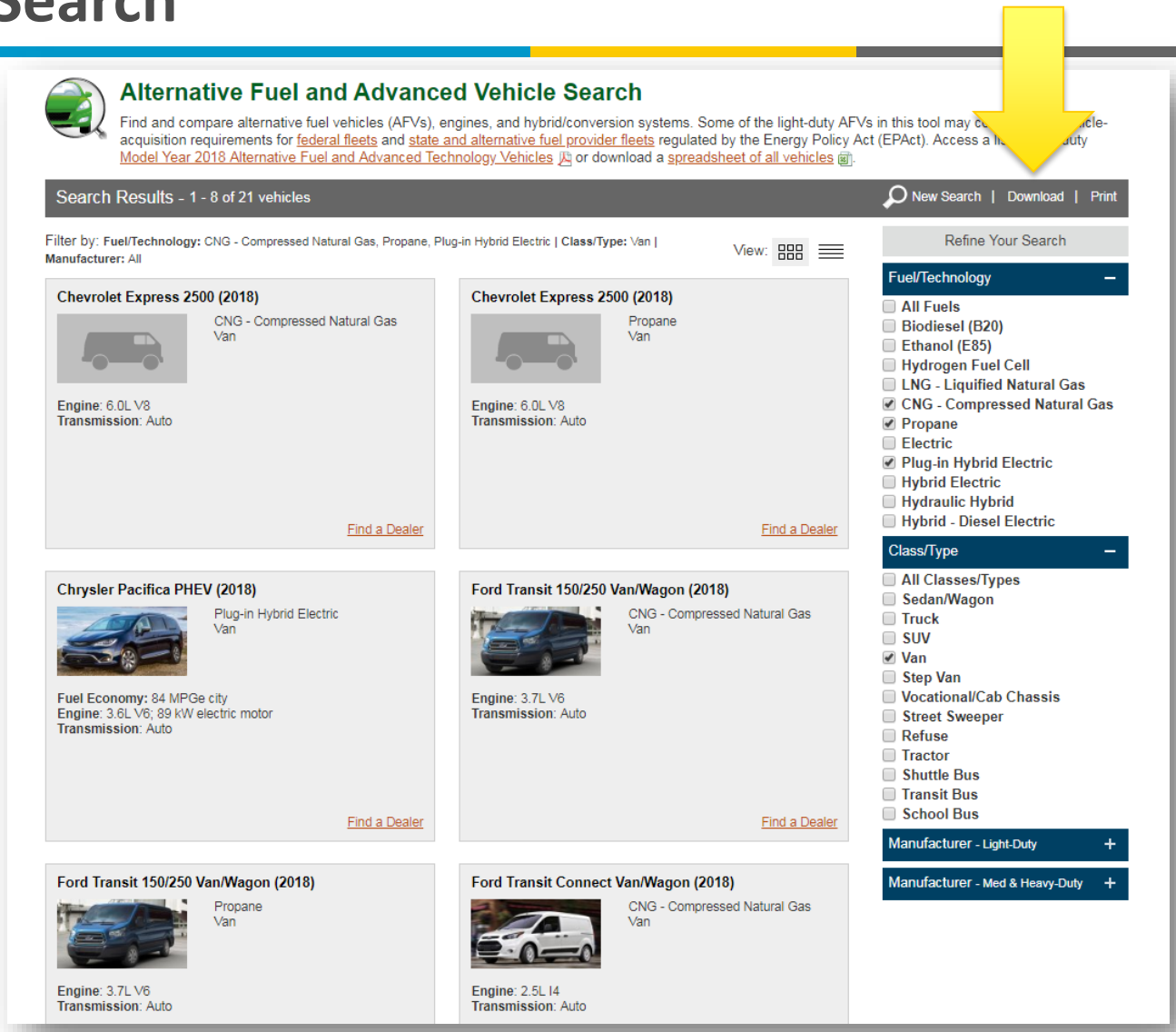


Vehicle Search



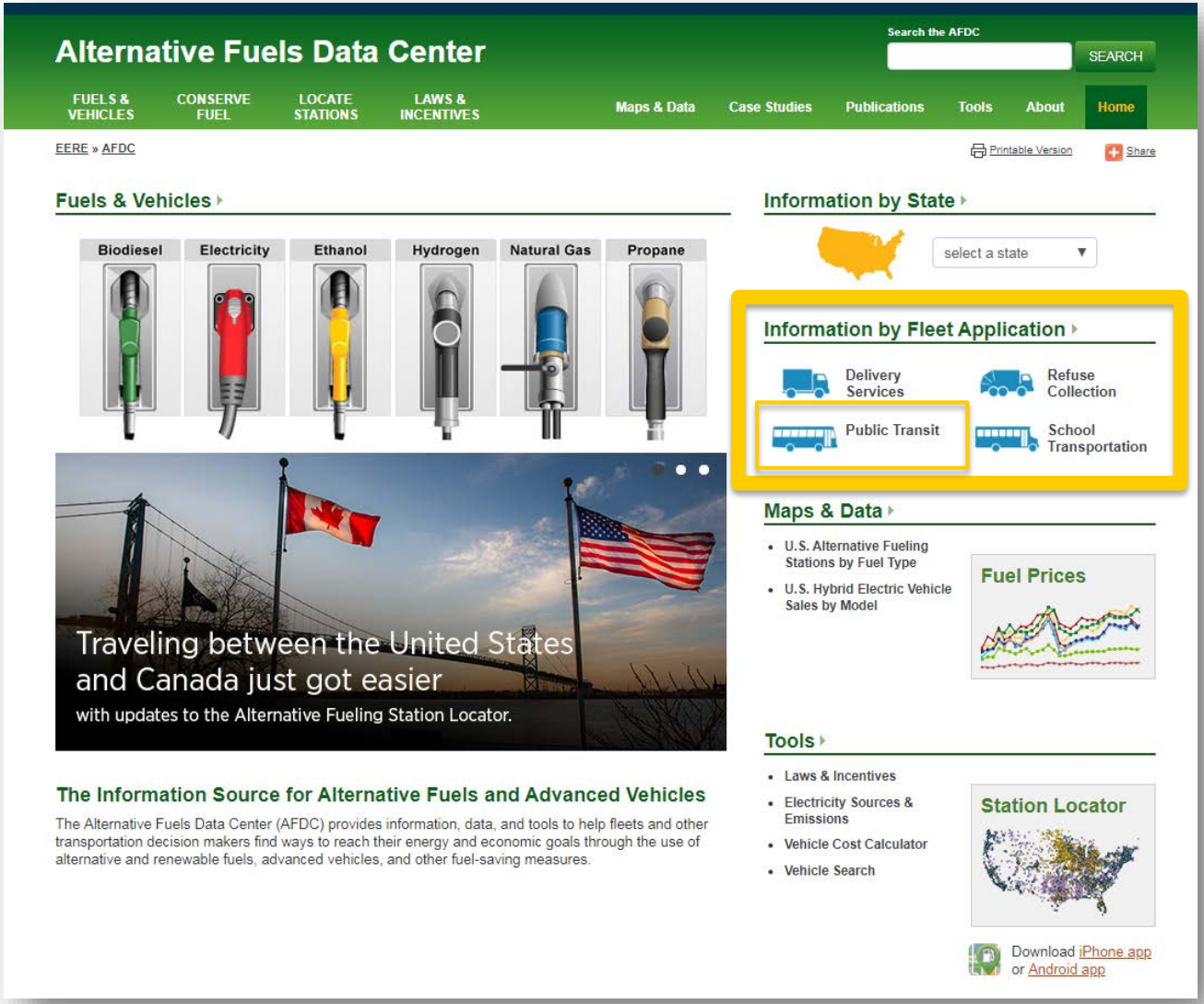
Links go to OEM websites
Need to check Vehicle Availability in Your Area

Vehicle Search

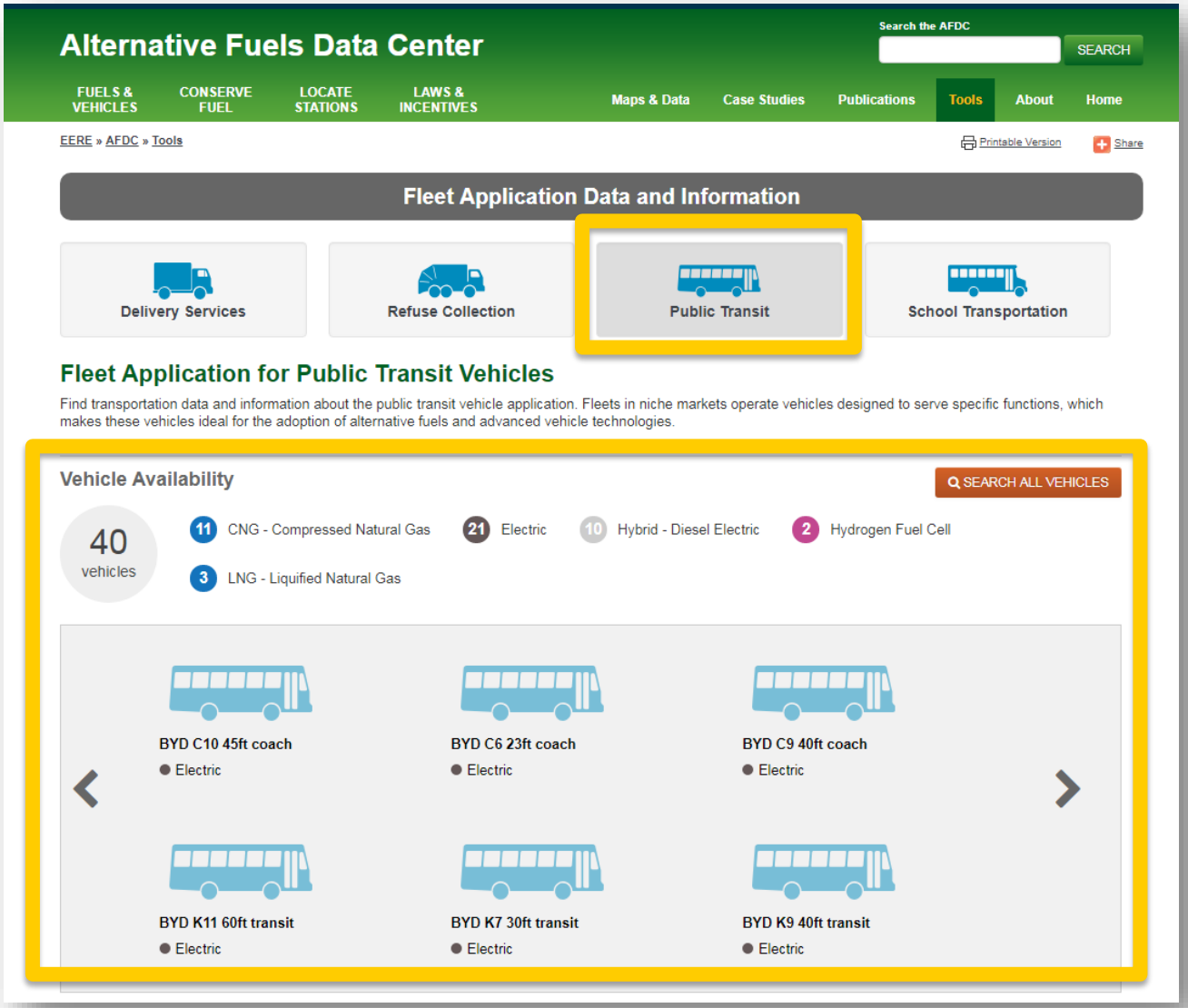


Download Information for Tables, Sorting, Going through Options, etc.

Information by Fleet Application

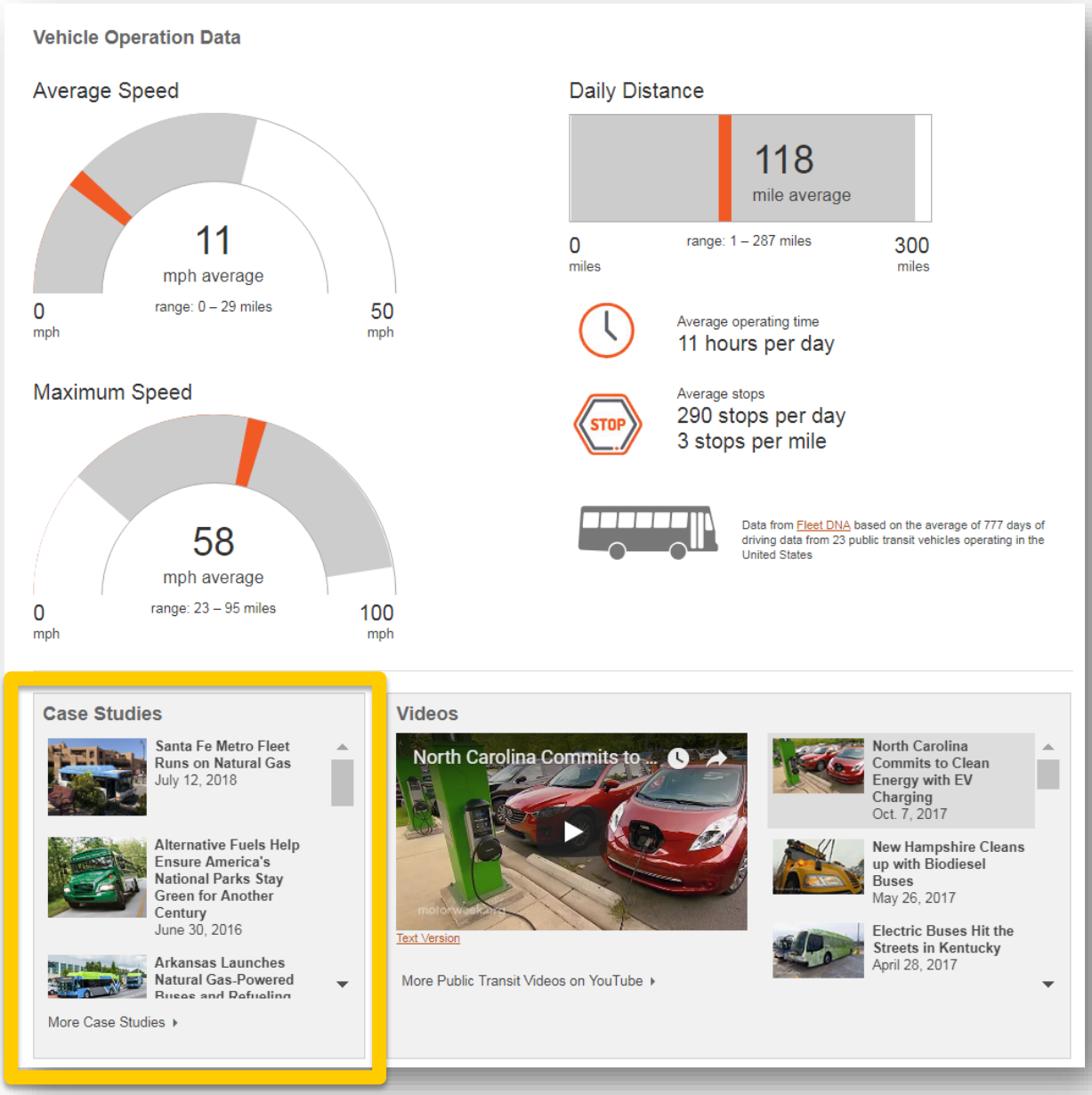


Information by Fleet Application



Find Vehicle Types easily!

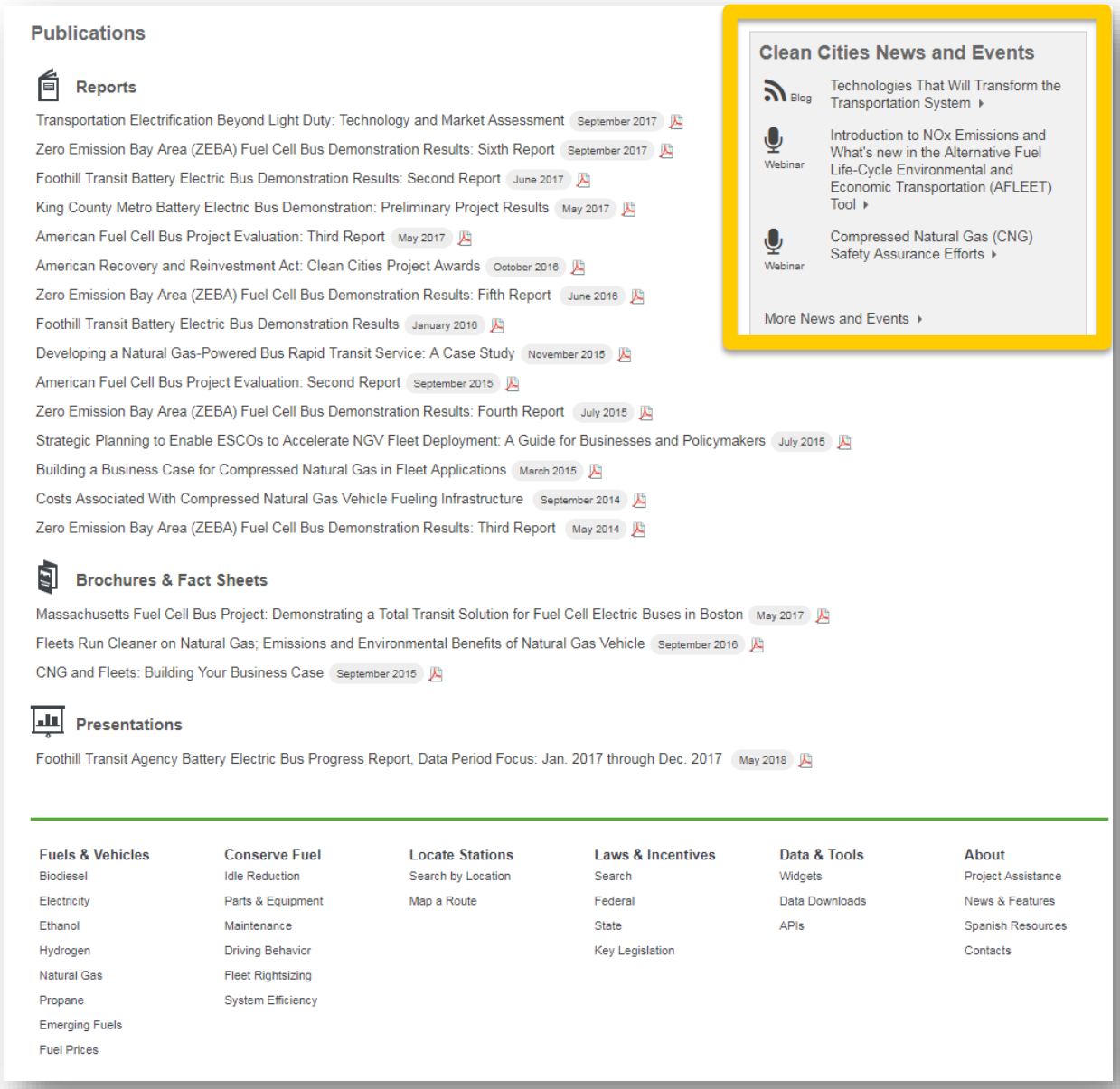
Information by Fleet Application



Learn from Fleets with similar operations

Tip: Contact the Clean Cities Coordinator for more information: https://cleancities.energy.gov/coalitions/contacts/

Information by Fleet Application



Publications

Reports

Transportation Electrification Beyond Light Duty: Technology and Market Assessment September 2017
Zero Emission Bay Area (ZEBA) Fuel Cell Bus Demonstration Results: Sixth Report September 2017
Foothill Transit Battery Electric Bus Demonstration Results: Second Report June 2017
King County Metro Battery Electric Bus Demonstration: Preliminary Project Results May 2017
American Fuel Cell Bus Project Evaluation: Third Report May 2017
American Recovery and Reinvestment Act: Clean Cities Project Awards October 2016
Zero Emission Bay Area (ZEBA) Fuel Cell Bus Demonstration Results: Fifth Report June 2016
Foothill Transit Battery Electric Bus Demonstration Results January 2016
Developing a Natural Gas-Powered Bus Rapid Transit Service: A Case Study November 2015
American Fuel Cell Bus Project Evaluation: Second Report September 2015
Zero Emission Bay Area (ZEBA) Fuel Cell Bus Demonstration Results: Fourth Report July 2015
Strategic Planning to Enable ESCOs to Accelerate NGV Fleet Deployment: A Guide for Businesses and Policymakers July 2015
Building a Business Case for Compressed Natural Gas in Fleet Applications March 2015
Costs Associated With Compressed Natural Gas Vehicle Fueling Infrastructure September 2014
Zero Emission Bay Area (ZEBA) Fuel Cell Bus Demonstration Results: Third Report May 2014

Brochures & Fact Sheets

Massachusetts Fuel Cell Bus Project: Demonstrating a Total Transit Solution for Fuel Cell Electric Buses in Boston May 2017
Fleets Run Cleaner on Natural Gas; Emissions and Environmental Benefits of Natural Gas Vehicle September 2016
CNG and Fleets: Building Your Business Case September 2015

Presentations

Foothill Transit Agency Battery Electric Bus Progress Report, Data Period Focus: Jan. 2017 through Dec. 2017 May 2018

Clean Cities News and Events

Blog Technologies That Will Transform the Transportation System
Webinar Introduction to NOx Emissions and What's new in the Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Tool
Webinar Compressed Natural Gas (CNG) Safety Assurance Efforts

More News and Events

Fuels & Vehicles
Biodiesel
Electricity
Ethanol
Hydrogen
Natural Gas
Propane
Emerging Fuels
Fuel Prices

Conserve Fuel
Idle Reduction
Parts & Equipment
Maintenance
Driving Behavior
Fleet Rightsizing
System Efficiency

Locate Stations
Search by Location
Map a Route

Laws & Incentives
Search
Federal
State
Key Legislation

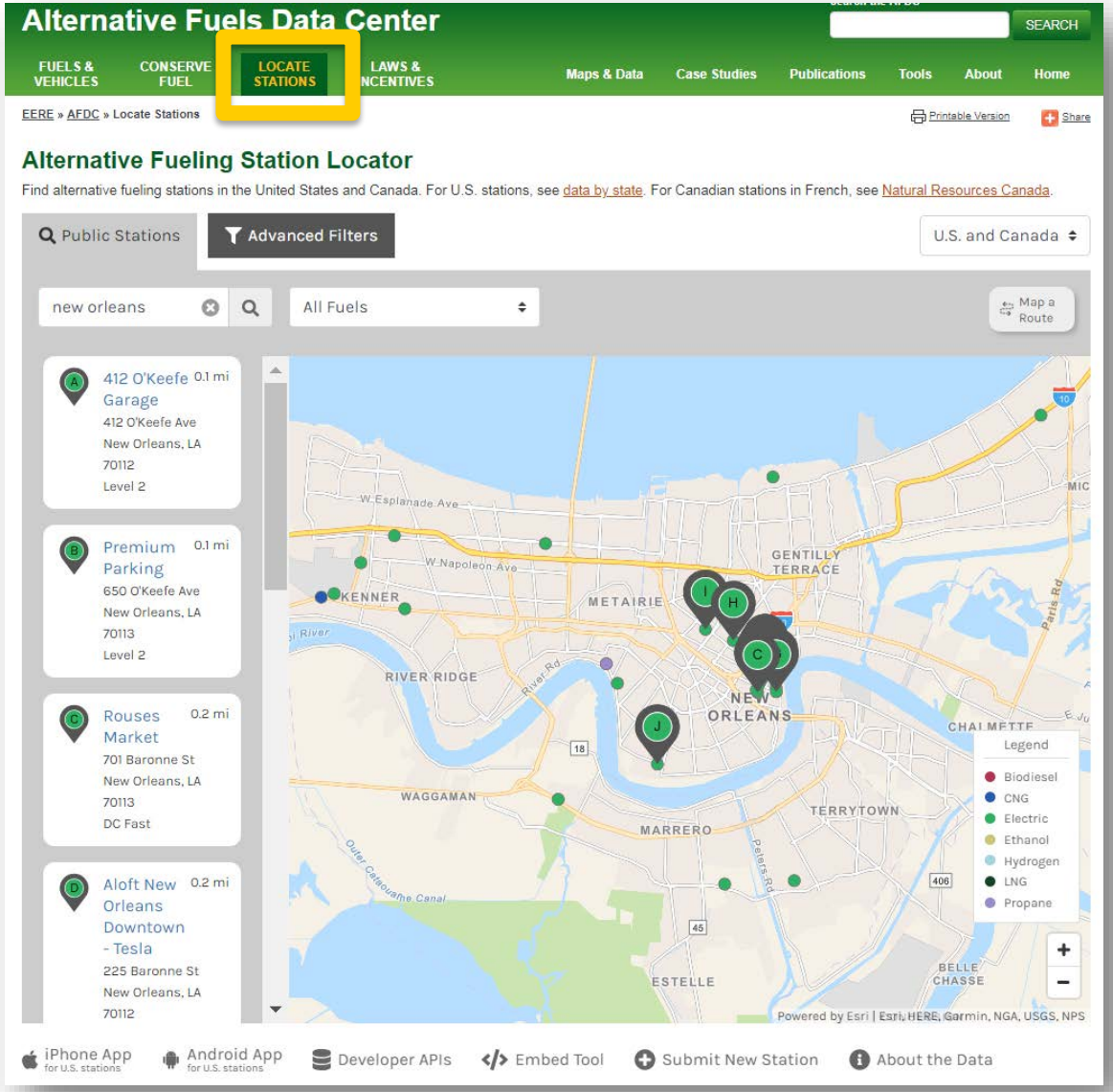
Data & Tools
Widgets
Data Downloads
APIs

About
Project Assistance
News & Features
Spanish Resources
Contacts

Publications:

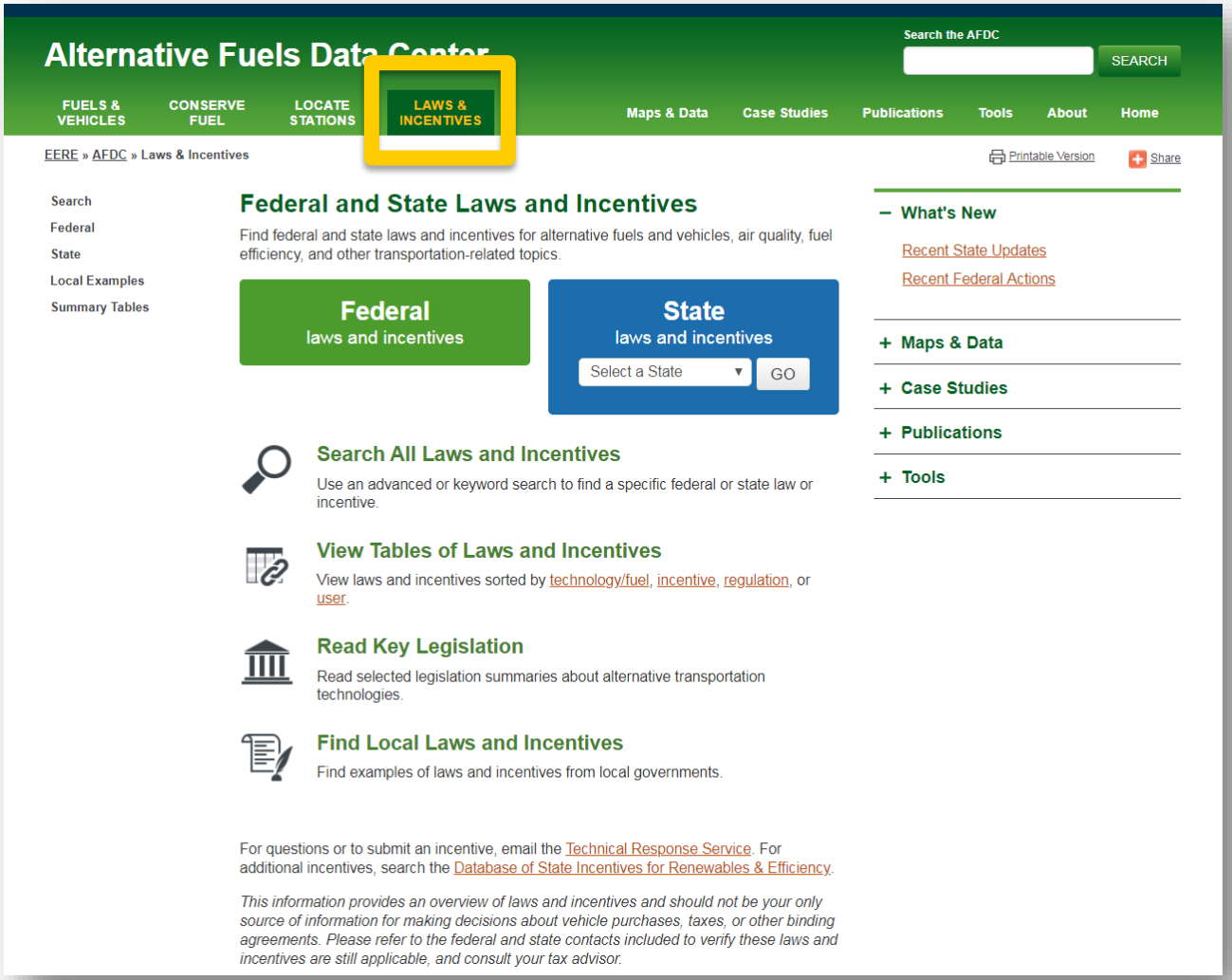
- Reports
- Brochures & Fact Sheets
- Presentations

Locate Stations



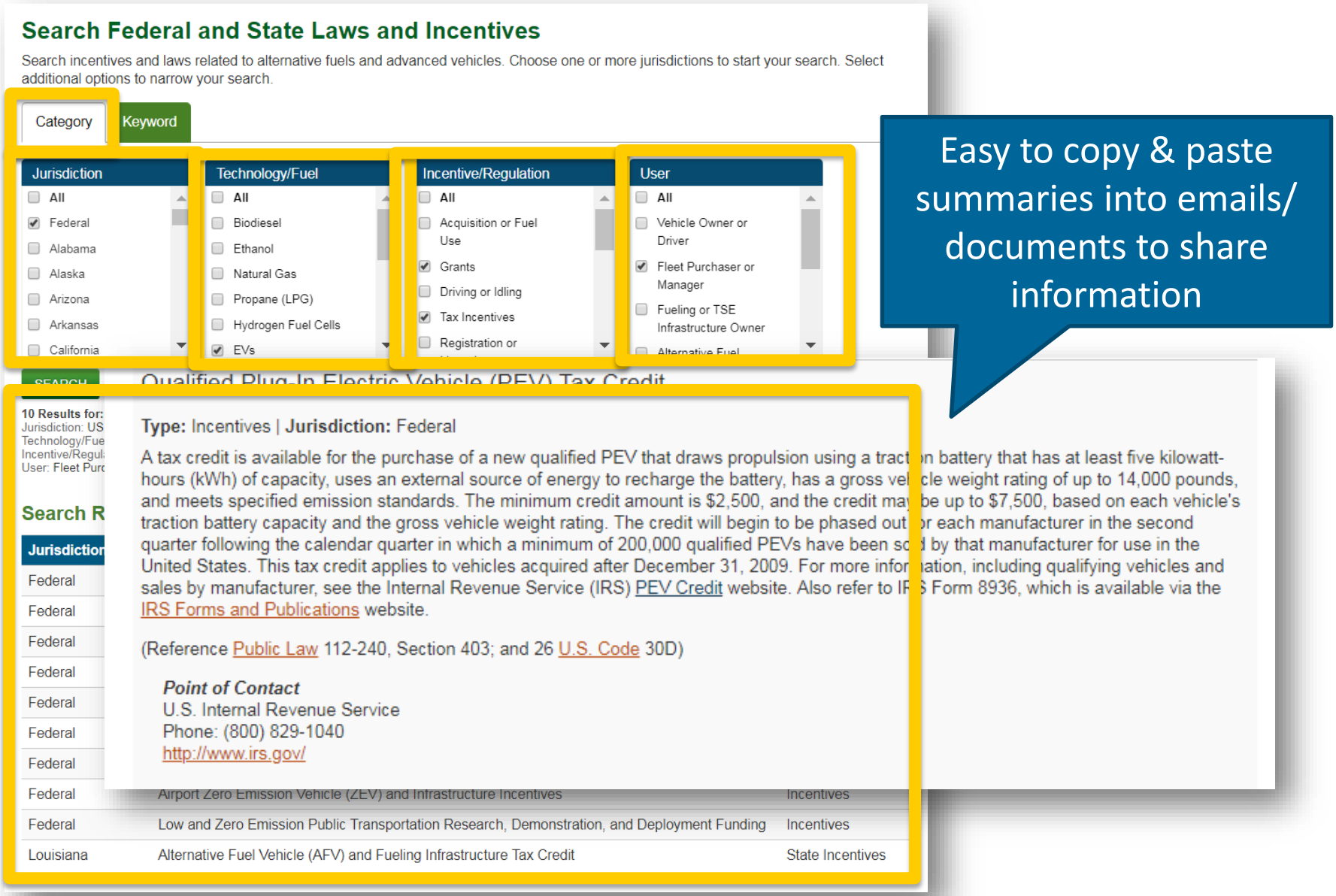
- Check for existing infrastructure around fleet's "home base" as well as in the service area
  - Many fleets don't realize that fueling stations are available
- Identify gaps in fueling infrastructure
  - Determine if a fleet will need their own fueling station

Laws & Incentives

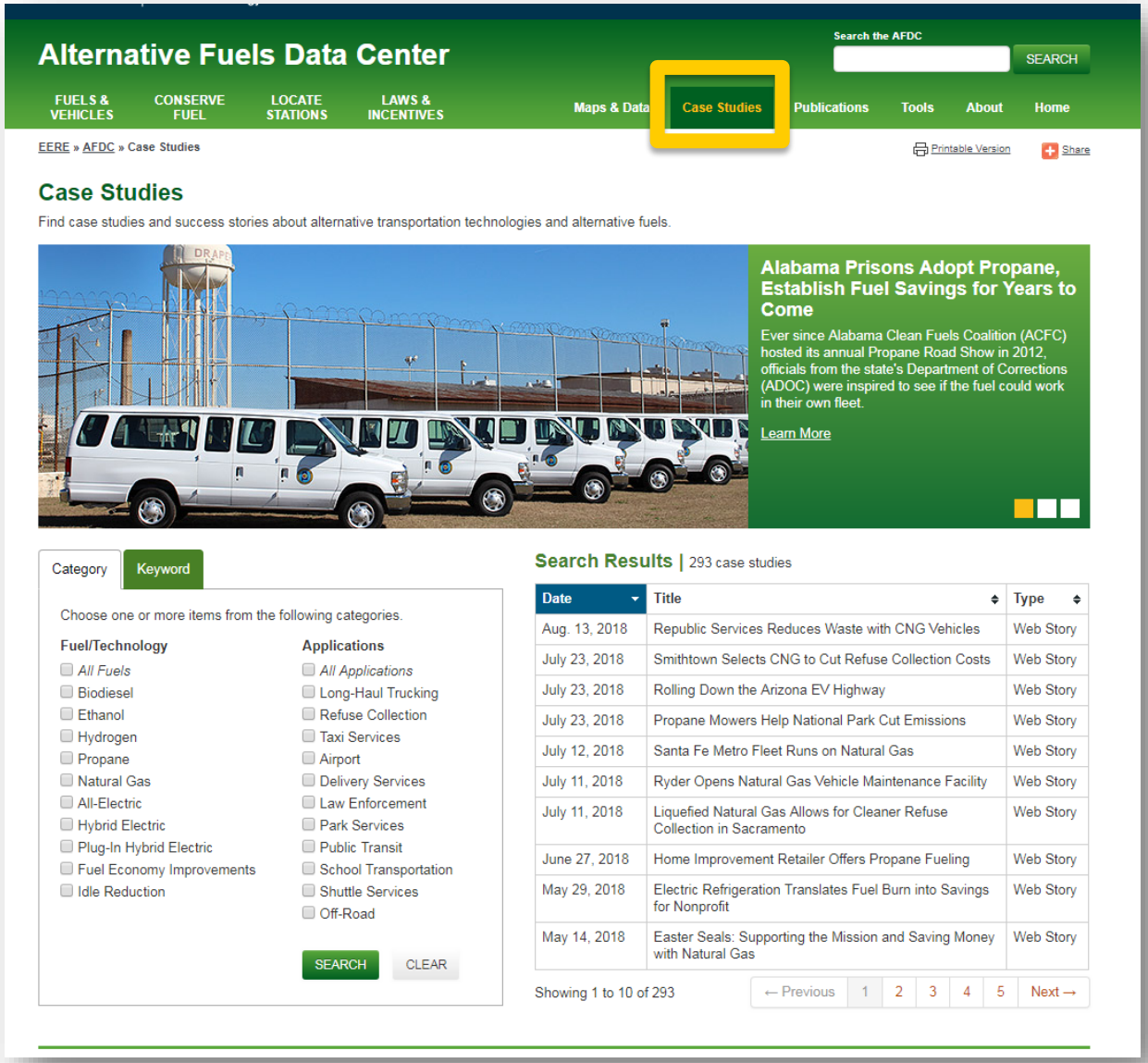


- Check current Federal incentives
- Check our State incentives for links to the original legislation to re-read
- Look at other States' laws & incentives to inform our efforts

Laws & Incentives

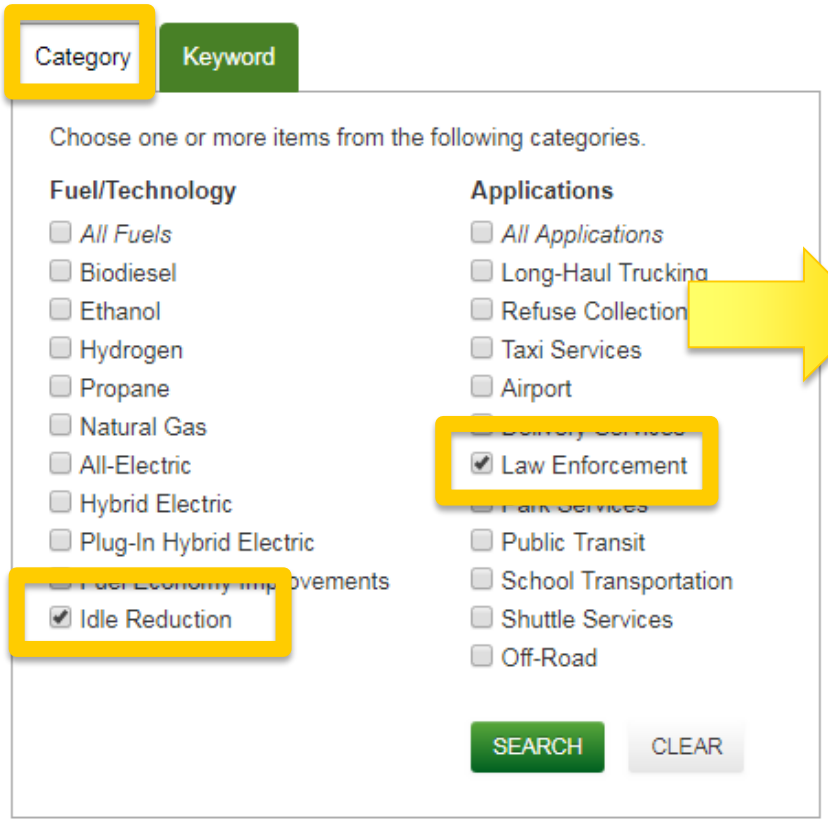


Case Studies



- See how other similar fleets made it work
- Find contacts for projects for additional information on the project
  - Fleet Managers
  - Clean Cities Coordinators

Case Studies



Search Results | 4 case studies

Date	Title	Type
July 1, 2017	Case Study Summary - Idle Reduction Technologies for Emergency Service Vehicles	Document
July 20, 2013	Idaho County Employs FFVs and Idle Reduction	Video
April 7, 2011	County Fleet Goes Big on Idle Reduction, Ethanol Use, Fuel Efficiency	Web Story
Nov. 27, 2009	Dallas Police Department Reduces Vehicle Idling	Video

Showing 1 to 4 of 4 ← Previous 1 Next →

April 7, 2011

County Fleet Goes Big on Idle Reduction, Ethanol Use, Fuel Efficiency

> *We're cutting our fuel use, and we're doing it safely-everything runs at peak performance. We're never going to leave our people hanging or compromise their safety.*
>
> **Mark Tolman; Fleet Manager; Canyon County, Idaho**

With a population of about 200,000, Canyon County, Idaho, may not be very big. But its recent successes in reducing petroleum use are enormous. About two years ago, Canyon County Fleet Manager Mark Tolman puzzled over a problem shared by countless public officials throughout the country: How would he provide a high level of service to his community in the face of shrinking budgets?

Tolman worked with Treasure Valley Clean Cities to develop a strategy that made better use of his existing fleet resources while also embracing new technologies and fuels. He convened a "utilization team" that input of vehicle drivers in every county departm also purchased fleet-management software that allowed him to better track and scrutinize fuel use, vehicle utilization, idling time, and employee mileage reimbursements.

Armed with the new data, Tolman trimmed the county's fleet from 325 vehicles to 220. He developed a new replacement schedule that incorporated E85 and hybrid vehicles into the fleet wherever possible. He started filling tires with nitrogen. And the Fleet Department installed two new 12,000-gallon fuel tanks (one for gasoline, one for ethanol) and a blending dispenser that allows workers to specify the level of ethanol in the fuel they use.

Before Tolman's project began, he knew fuel was being wasted in idling patrol cars in the Sheriff's Department, but once he had the hard numbers in front of him, "It was just shocking," he said. Each patrol car was idling for up to five hours per day, using about 1 gallon of fuel per hour of idle time.

Canyon County fleet workers installed idle-reduction equipment on nearly all of the more than 60 patrol cars in the sheriff's department, eliminating 36 "ghost miles" and 100 pounds of carbon dioxide emissions per day for each car. "We're cutting our fuel use, and we're doing it safely-everything runs at peak performance. We're never going to leave our people hanging or compromise their safety," Tolman said.

The Canyon County Fleet Department is eliminating an estimated 1.4 million pounds of carbon dioxide emissions every year and improving its vehicles' fuel economy by 4 mpg to 6 mpg.

"Using technologies that are already widely available, we realized immediate cost savings to Canyon County," he said. "We are maintaining a top-notch fleet, trimming our budget with minimal disruptions to ongoing operations, reducing our dependence on foreign oil, shrinking our environmental footprint, and serving as an example for other fleets."

Project at a Glance

Fleet Type: County government, law enforcement
Number of Vehicles in Fleet: 220
Vehicles Eliminated via Rightsizing: 105
Infrastructure: E85 blender pump
Motivation: Cost savings, fuel savings, emissions reductions

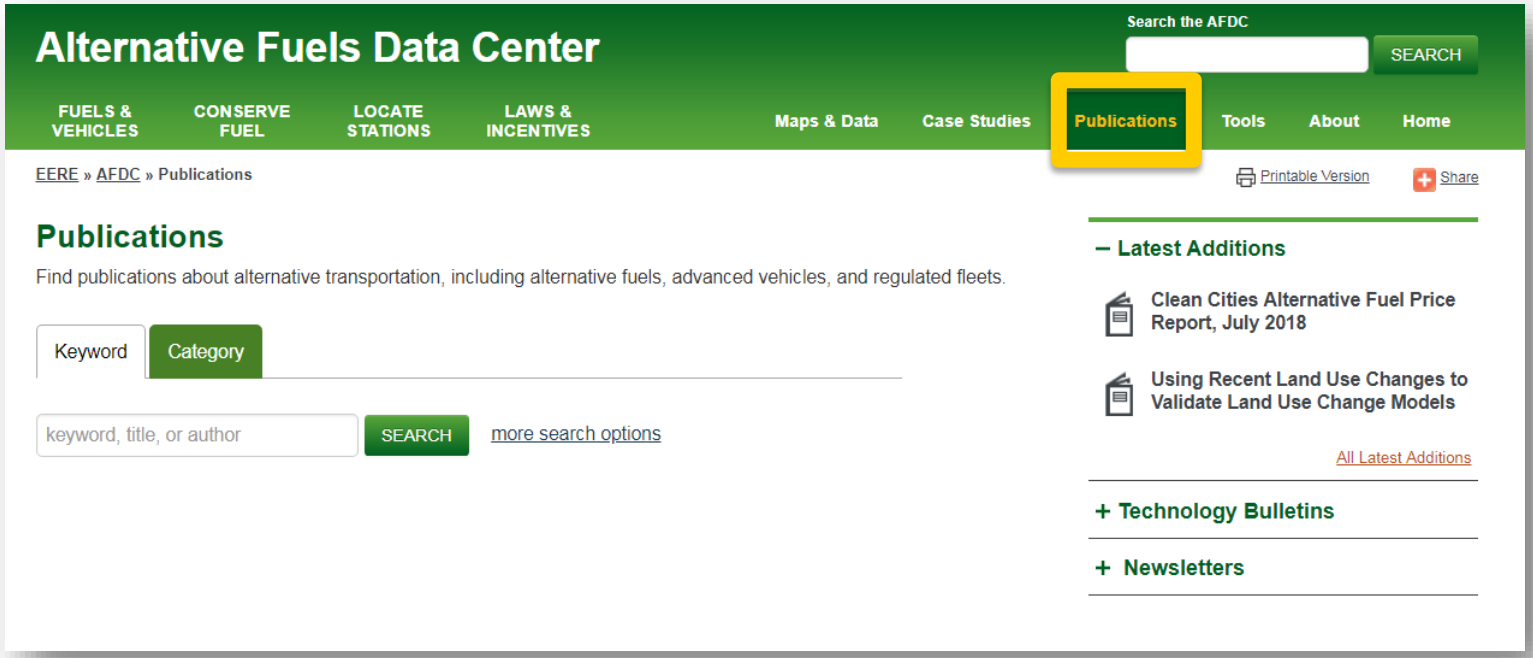
Related Links

- Idle Reduction Basics
- Rightsizing Your Fleet
- Installing E85 Equipment
- Treasure Valley Clean Cities Coalition
- Canyon County, Idaho

Search for another case study

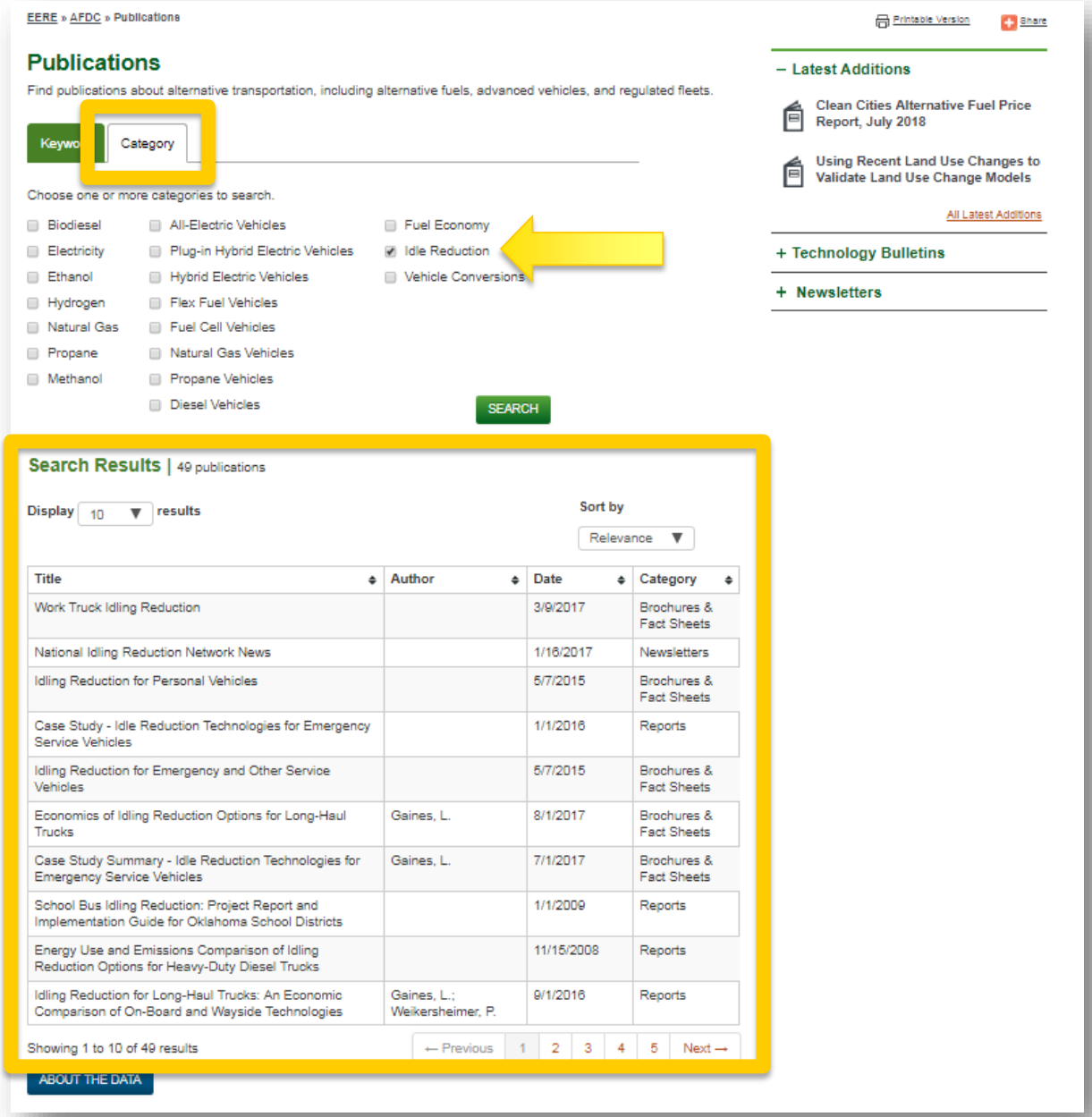
SEARCH

Publications



- Great for meetings to get other parties on board & Press Kits for ribbon cuttings
- Don’t reinvent the wheel – check if USDOE already has a handout/ publication on a topic before creating one

Publications



Publications

NREL/CP-5400-53864 Posted with permission.
Presented at the 2012 SAE World Congress,
24-26 April 2012, Detroit, Michigan

SAE International

Analyzing Vehicle Fuel Saving Opportunities through Intelligent Driver Feedback

2012-01-0494
Published

Jeffrey Gonder, Matthew Earleywine and Witt Sparks
National Renewable Energy Laboratory

ABSTRACT

While it is well known that "MPG will vary" based on how one drives, little independent research exists on the aggregate fuel savings potential of improving driver efficiency and on the best ways to motivate driver behavior changes. This paper finds that reasonable driving style changes could deliver significant national petroleum savings, but that current feedback approaches may be insufficient to convince many people to adopt efficient driving habits. To quantify the outer bound fuel savings for drive cycle modification, the project examines completely eliminating stop-and-go driving plus unnecessary idling, and adjusting acceleration rates and cruising speeds to ideal levels. Even without changing the vehicle powertrain, such extreme adjustments result in dramatic fuel savings of over 30%, but would in reality only be achievable through automated control of vehicles and traffic flow. Considering the effects of real-world driving conditions, efficient driving behaviors could reduce fuel use by 20% on aggressively driven cycles and by 5-10% on more moderately driven trips.

To evaluate potential receptiveness to changing driving habits, the project team conducted a literature survey of driver behavior influences and observed pertinent factors from on-road experiments with different driving styles. This effort highlighted important driver influences such as surrounding vehicle behavior, anxiety over trying to get somewhere quickly, and the power/torque available from the vehicle. Existing feedback approaches often effectively deliver efficiency information and instruction, but do not always do so in an easy way that avoids unintended consequences and helps trump other driving behavior influences. Based on these findings the report details three recommendations for maximizing fuel savings from potential drive cycle improvement: (1) Leverage applications with enhanced incentives, (2) Use an approach that makes it easy

and is widely-deployable to motivat
connected vehicle and automation
large and widespread efficiency imp

INTRODUCTION

Data show that the reported fuel ec
can vary by plus or minus 20% ac
drivers [1]. Some of this variation
temperatures and road conditions
driver behavior also accounts for
stands to reason that if drivers
efficient driving habits, then the
results for any given vehicle would
U.S. Department of Energy (D
Renewable Energy Laboratory
potential fuel saving opportunity
feedback techniques and to
techniques may deliver the greate
This paper summarizes NREL's find

APPROACH

NREL divided the driver feedbac
separate tasks: (1) quantifying the
from drive cycle modification; (2
influence drivers' receptiveness to
and (3) assessing various driver fe
performed both simulations and exp
and leveraged a conventional vehic
study for the simulation effort [2
similar design and fuel economy c
Chevrolet Malibu [1]. Note that thi
on conventional (rather than hyb
because of DOE's interest in what d
could do for the existing U.S. vehi
consists of conventional powertrain

Argonne NATIONAL LABORATORY

ANL/ESD-16/3

Case Study – Idling Reduction Technolog for Emergency Service Vehicles

Energy Systems Division

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Clean Cities: Idling Reduction

Work Truck Idling Reduction

Work trucks are everywhere—delivering packages to our doorsteps, removing refuse, and towing disabled vehicles. Unlike the 18-wheelers that travel over 500 miles per day, work trucks typically travel short distances from home base to work site and are tailored to perform a specific service.

Utility trucks are common work trucks used for installing and repairing electric and telecommunication lines, powering equipment and tools, and supplying heating, ventilation, and air conditioning (HVAC) for workers in the cab or down a manhole.

In order for utility trucks to carry out these functions, power from the vehicle's transmission is diverted to provide power for onboard equipment—such as raising and lowering workers in the bucket on a bucket truck. This process is called *power take-off* (PTO) and often requires that the vehicle engine runs nonstop, though work may only be performed intermittently. The idling while the vehicle or equipment is not in use wastes fuel, causes engine wear, and generates noise and emissions.

Solutions

To eliminate unnecessary idling for PTO, auxiliary power sources can be used to more efficiently provide power to on-board equipment. Auxiliary power sources typically include batteries charged from the electrical grid overnight, recharged while the vehicle's engine is running, or through regeneration technology that captures energy lost during braking while the vehicle is in motion. Utility companies can purchase a new hybrid truck or retrofit an existing truck with an auxiliary battery system to power electric or hydraulic equipment and provide climate control for the crew compartment.

Hybrid utility truck allows for work on utility lines without engine idling. *Photo credit: Altec, Inc.*

Benefits

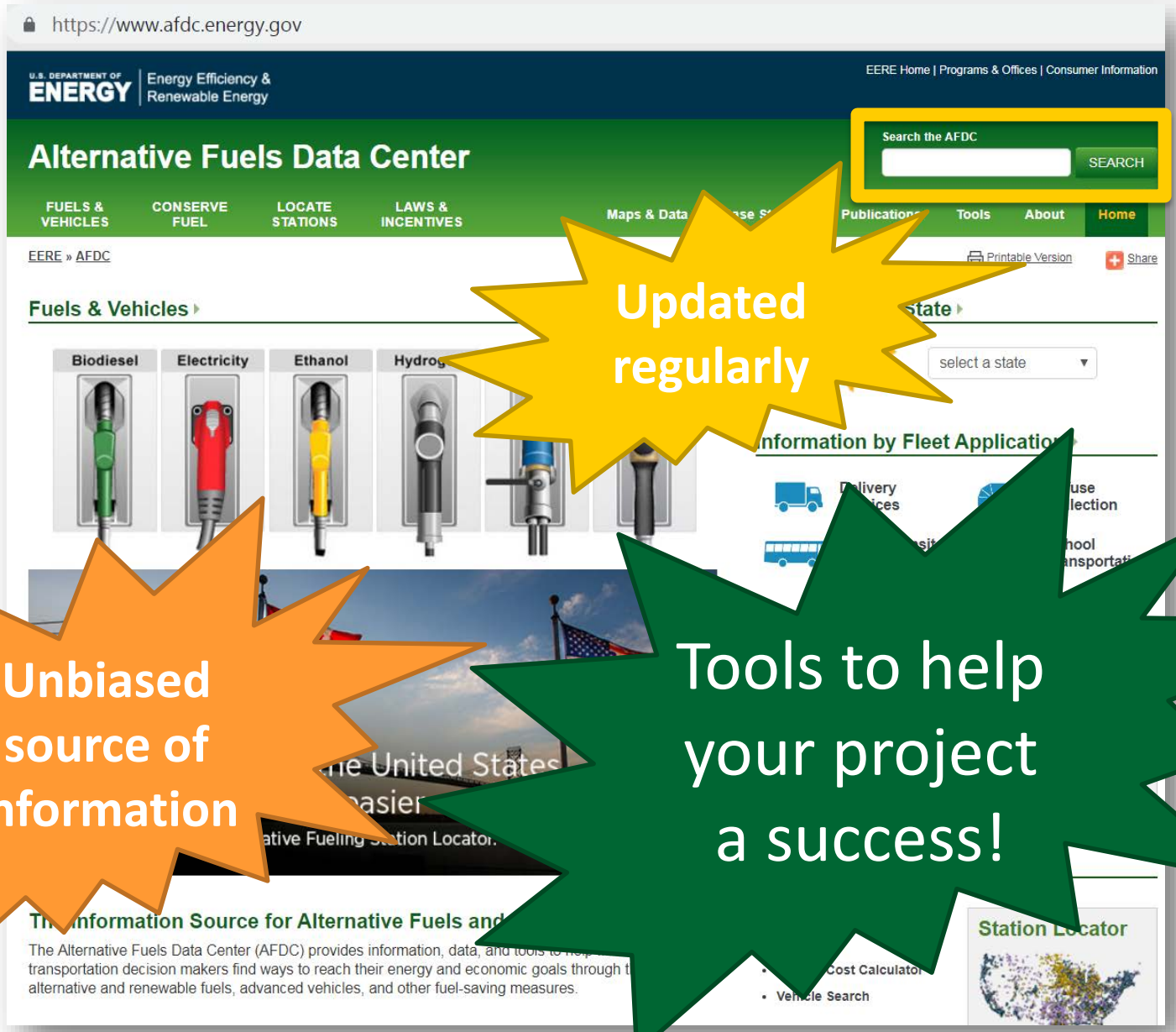
In addition to the reduced costs from fuel and maintenance, hybrid utility trucks have several benefits without direct financial payback. The reduction in idling significantly reduces the amount of noise and emissions produced and creates a safer work environment for the utility crew. The quieter operations also allow crews to work later into the evenings without disrupting the surrounding residents.

Since the main engine is used for fewer hours, a hybrid utility truck will have a longer service life than its conventional counterpart and it provides the ability to run small power tools from the battery. Work is underway to enable hybrid utility trucks to supply emergency power to utility customers during a power outage.

The reduction in idling significantly reduces the amount of noise and emissions produced and creates a safer work environment for the utility crew.

VEHICLE TECHNOLOGIES OFFICE

www.afdc.energy.gov



Questions?

How would you use the AFDC in your Day-to-Day Work?

AFDC: www.afdc.energy.gov/

Find your local Clean Cities Coordinator:
https://cleancities.energy.gov/coalitions/contacts/

Technical Response Service:
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