Transportation and Parking Advisory Committee

January 18, 2023

OLD DOMINION UNIVERSITY

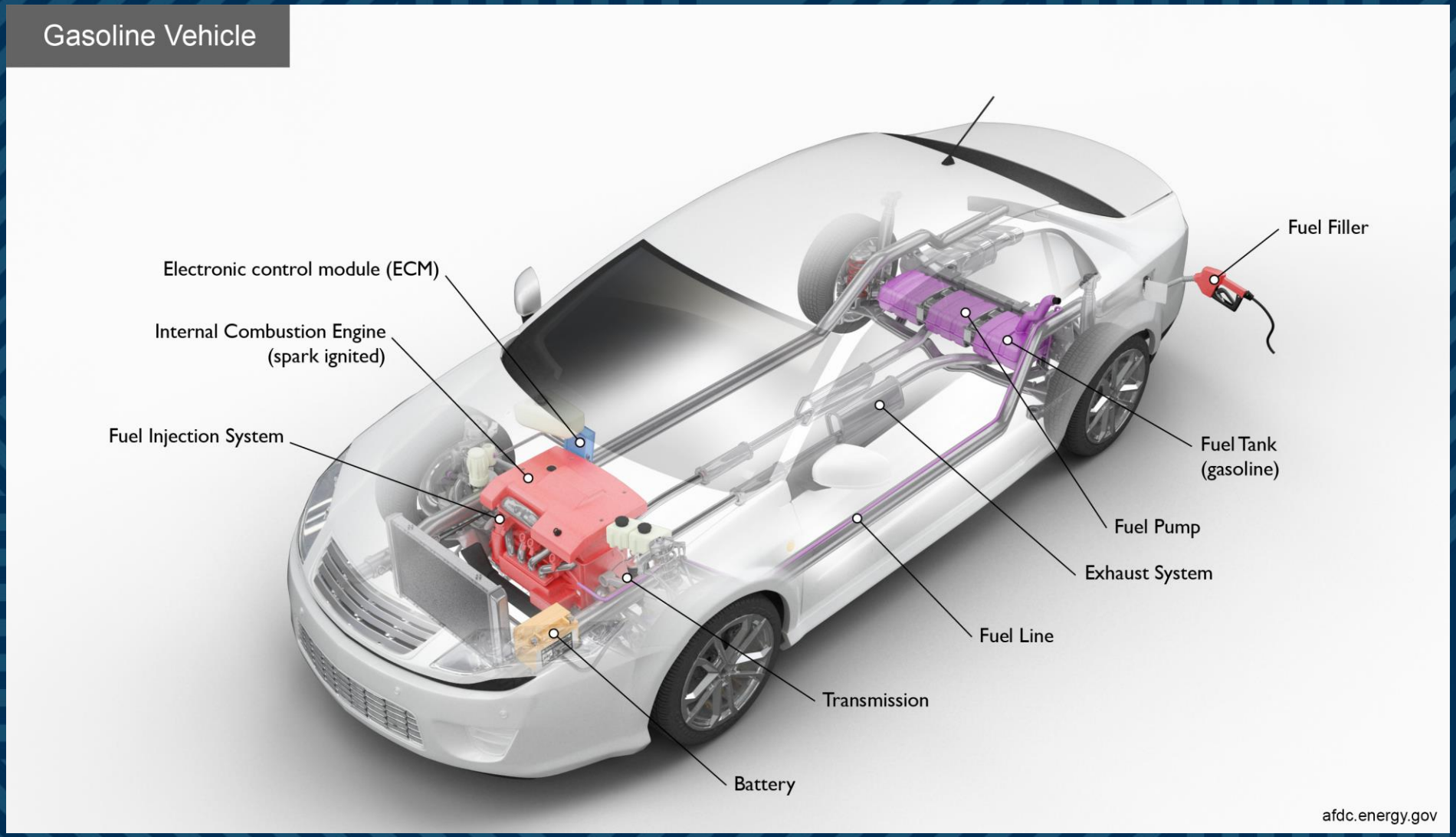
TODAY'S AGENDA

- Electric vehicles
- EV charging stations
- Questions / Discussion
- Trivia Question
- Next Meeting: February 15, 2023 at 10:00 AM

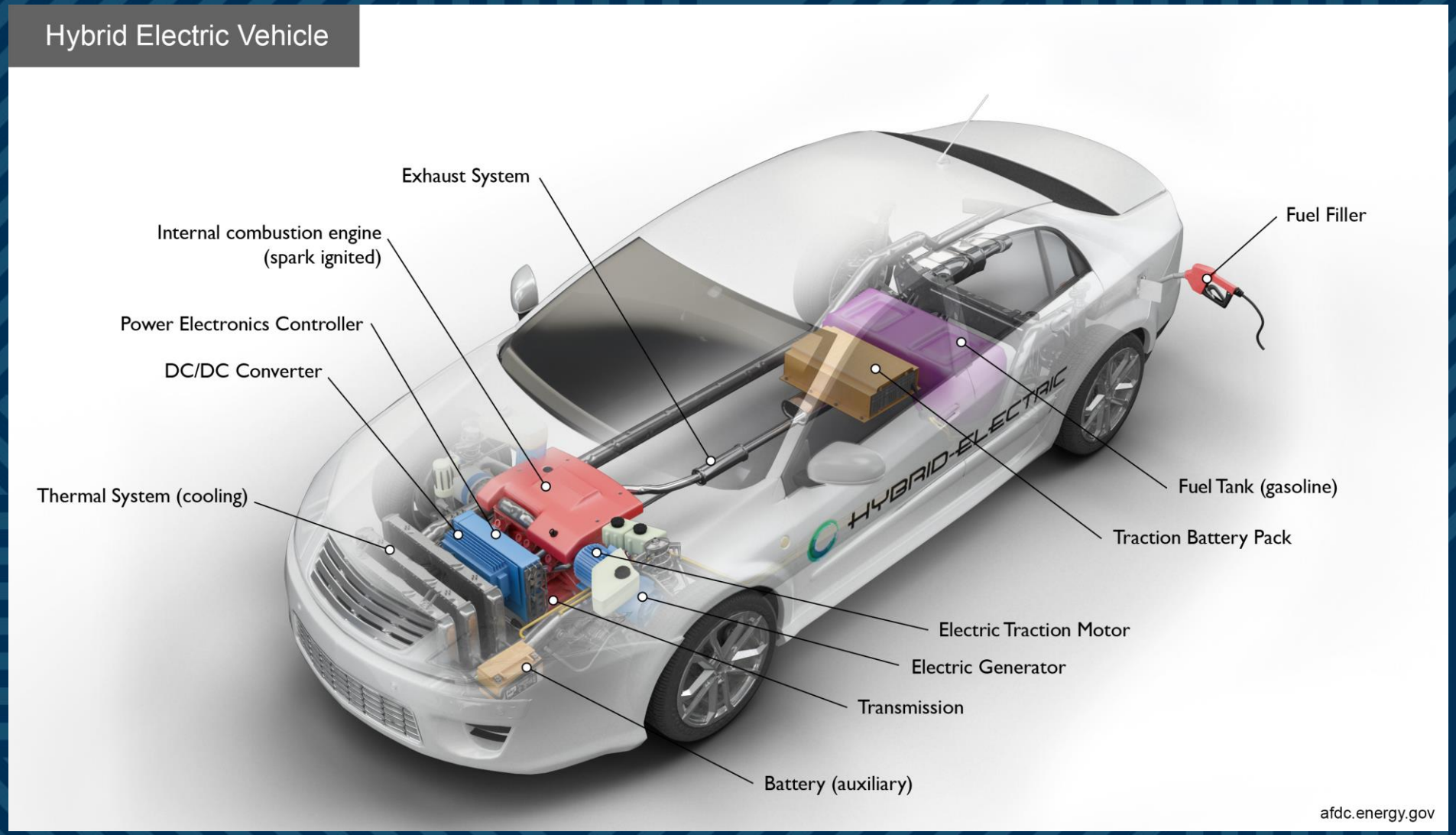
Vehicle Types

- Internal Combustion Engine (ICE)
- Hybrid Vehicles (HEV)
- Plug-In Hybrid Electric Vehicles (PHEV)
- Battery Electric Vehicles (BEV)

Gasoline Vehicle



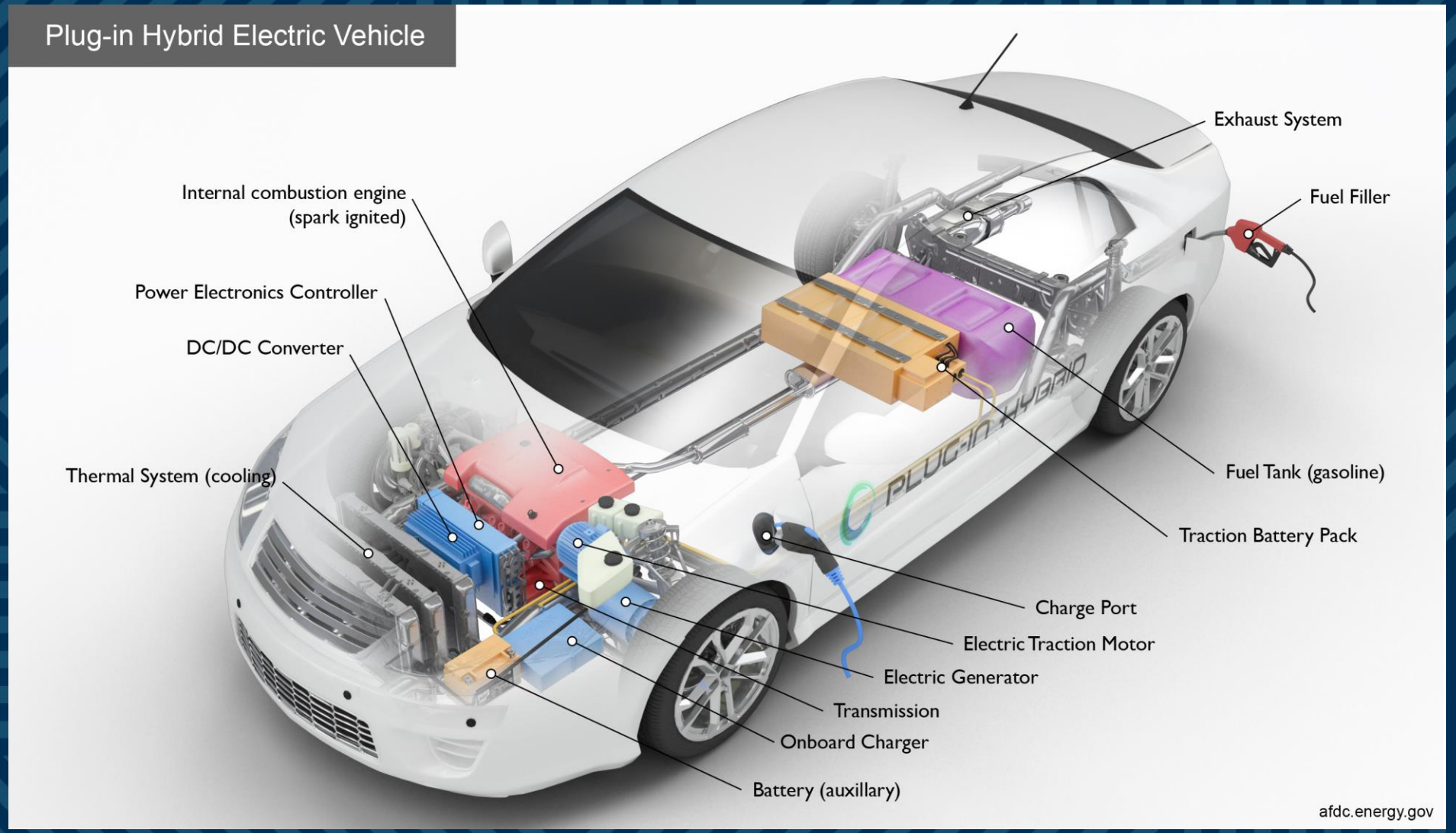
Hybrid Electric Vehicle



Top 5 selling Hybrid Electrics in 2022

- Toyota RAV4 Hybrid
- Toyota Highlander Hybrid
- Toyota Prius
- Toyota Camry Hybrid
- Honda CR-V Hybrid

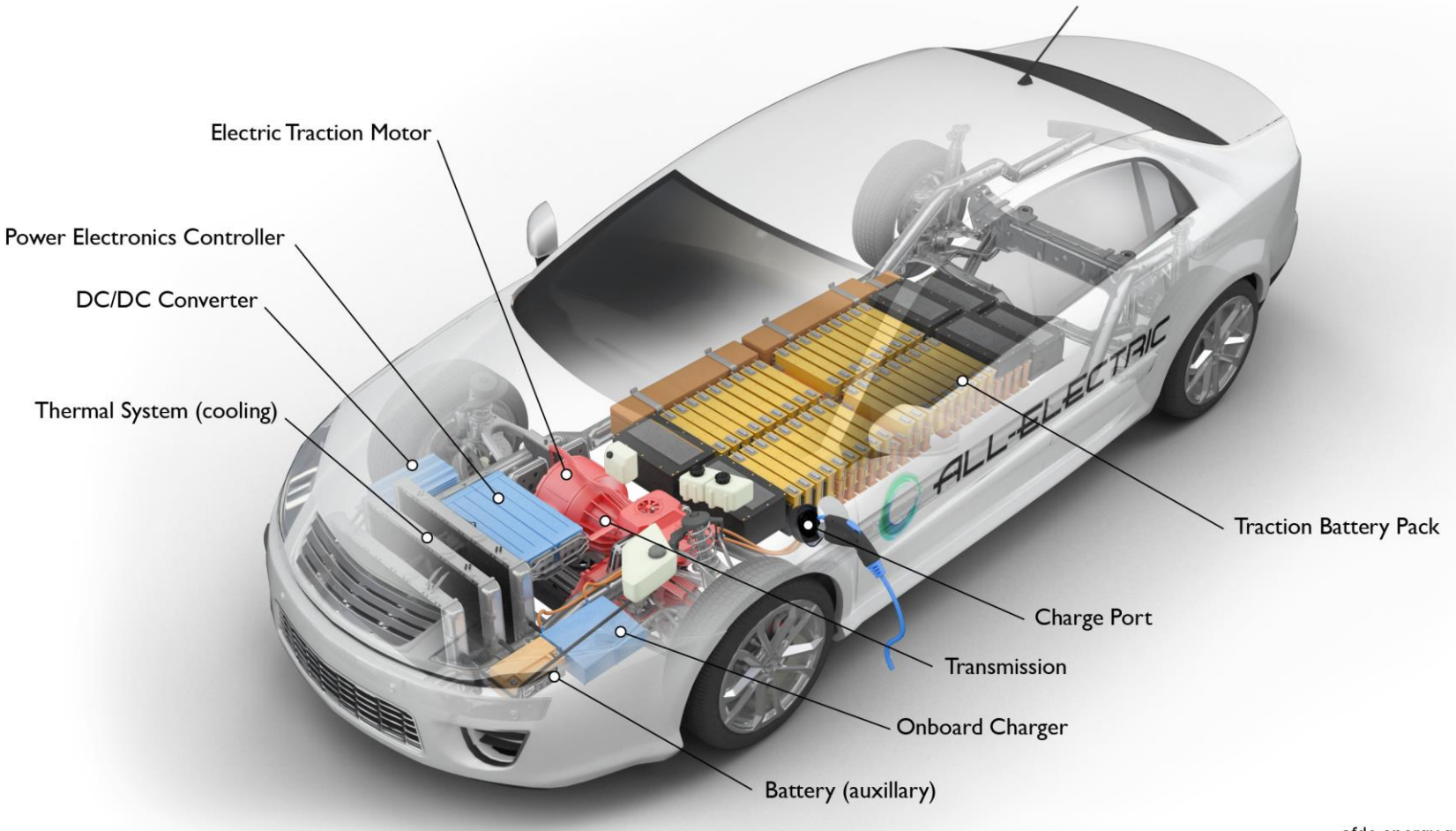
Plug-in Hybrid Electric Vehicle



Top 5 selling PHEV in 2022

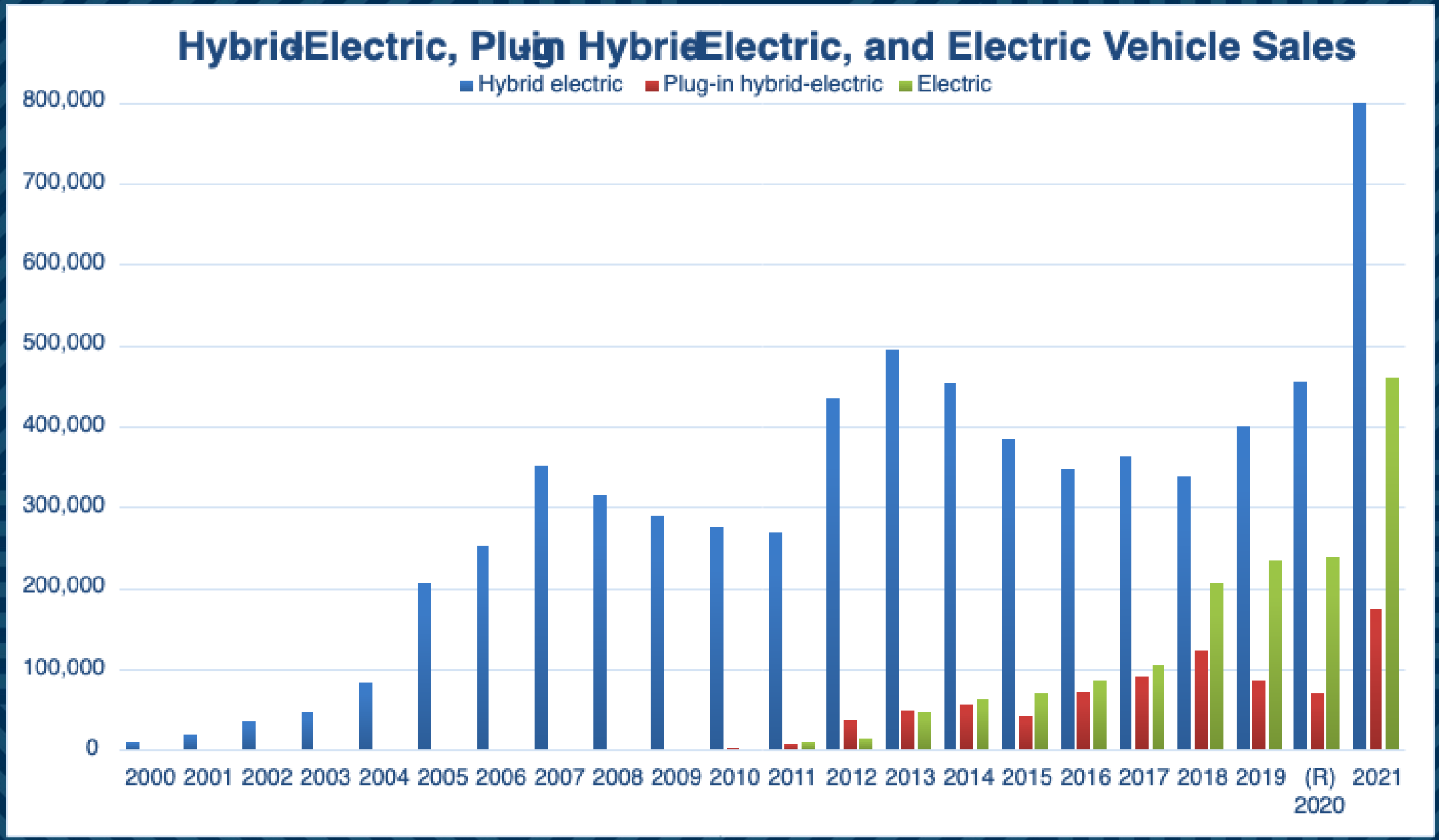
- Jeep Wrangler 4xe
- Ford Escape Plug In Hybrid
- BMW x5 xDrive 45e
- Toyota Prius Prime
- Chrysler Pacifica Hybrid

All-Electric Vehicle



Top 5 Battery Electric Vehicles in 2022

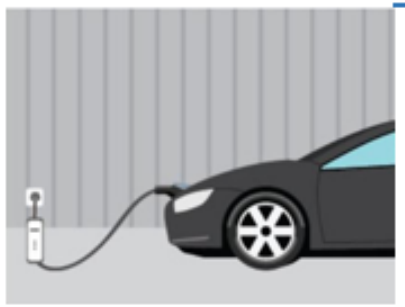
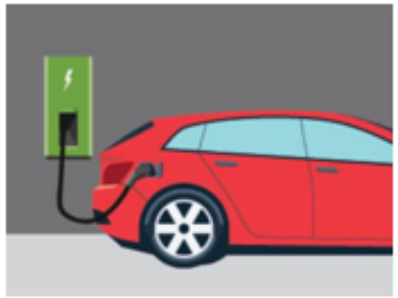
- Tesla Model Y
- Tesla Model 3
- Ford Mustang Mach E
- Chevy Bolt EV / EUV
- Volkswagen ID.4


Hybrid Electric, Plug-in Hybrid Electric, and Electric Vehicle Sales
Hybrid electric
Plug-in hybrid-electric
Electric
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 (R) 2020 2021

Registered BEVs on ODU's Campus

Vehicle Make	Vehicle Model	Number Registered on Campus	Oldest License Plate Registration Date
Tesla	Model 3	71	January 2020
Tesla	Model S	26	November 2014
Tesla	Model Y	28	July 2021
Tesla	Model X	12	September 2017
Ford	Mach E	1	August 2022
Chevy	Bolt	7	April 2022
Nissan	Leaf	29	December 2015
BMW	i3	3	August 2019
Hyundai	Ioniq 5	2	August 2022
Volkswagen	ID4	5	August 2021

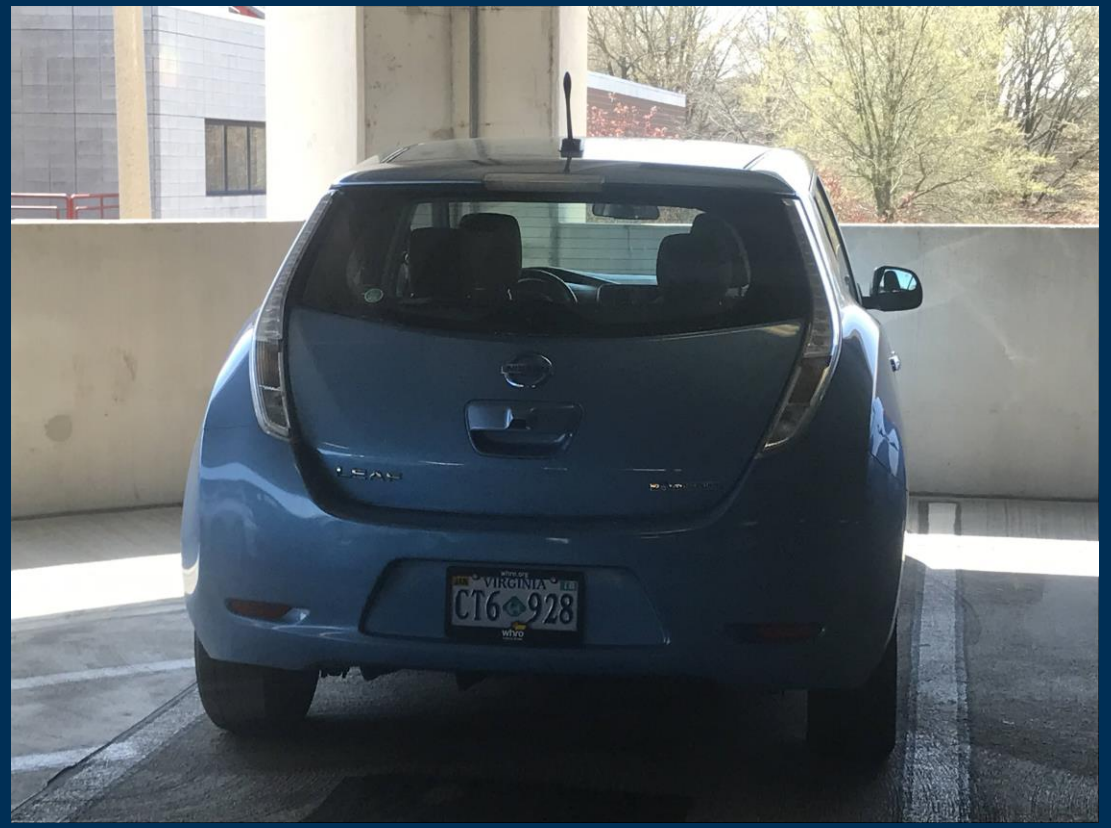
Types of EV Charging

		Range	Application
Level 1		2 to 5 miles of range per hour	• Single Family Homes • Multi-Unit Residential • Condos
Level 2		10 to 30 miles of range per hour	• Single Family Homes • Multi-Unit Residential • Workplace • Fleet • Public
Level 3 (Direct Current Fast)		150 to 350+ miles of range per hour	• Fleet • Public • Multi-Unit Residential

Source: https://www.phoenix.gov/sustainabilitysite/Pages/Basics-of-Charging.aspx

Source: https://electrek.co/2021/10/22/electric-vehicle-ev-charging-standards-and-how-they-differ/

Level 1: Charging on Campus in 2017



Level 2 Charging

DC Fast Charging: Tesla Supercharger

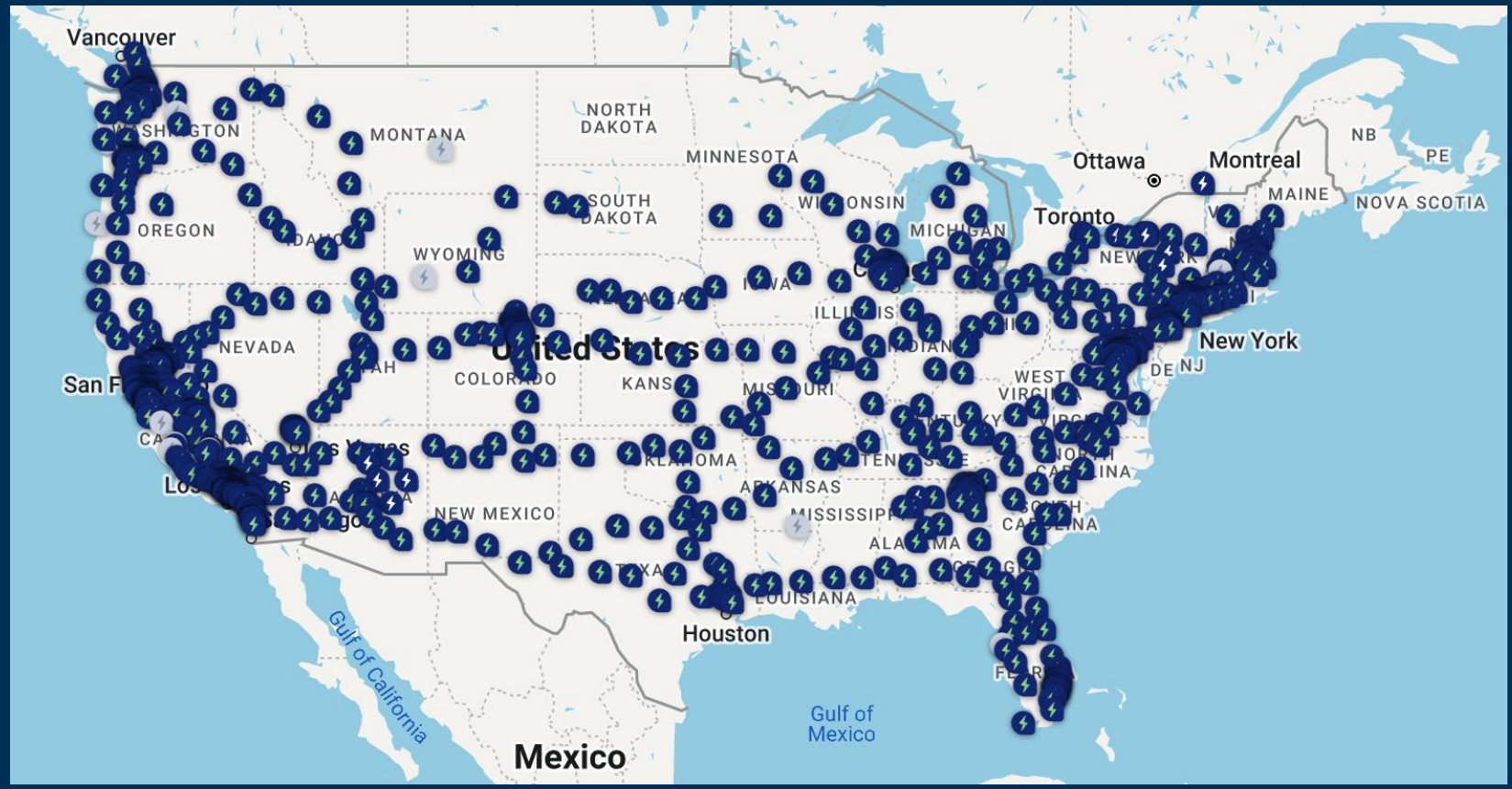
DC Fast Charging: Electrify America

DC Fast Charging: EVgo in Norfolk

Tesla Supercharging Network

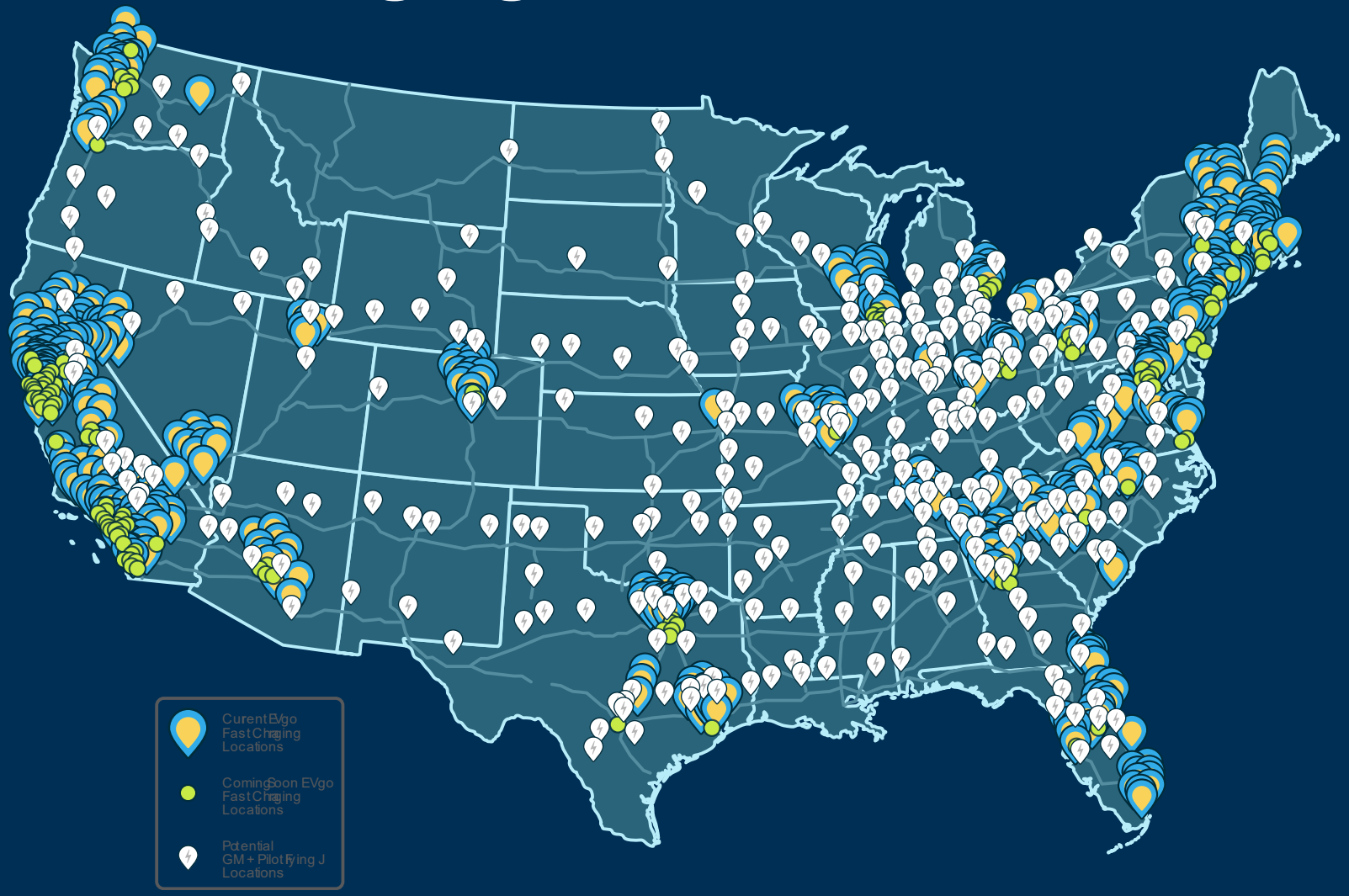
Source: https://www.tesla.com/en_eu/supercharger

Electrify America Fast Charging Network



Source: https://www.electrifyamerica.com/locate-charger/

EVgo Fast Charging Network



Source: https://www.evgo.com

EV Charging Locations near ODU main campus

Source: https://www.plugshare.com

ODU EV Charger Requirements

- Division of Engineering and Buildings (DEB) and Construction and Professional Services Manual (CPSM) stipulate specific requirements
- Capital Construction projects such as the new Biology building
- Provide both Electric Vehicle Parking Spaces (EVPS) and Electric Vehicle Charging Stations (EVCS). Number of spaces determined by occupancy calculations
- Long Term Planning: New construction projects shall provide capacity and infrastructure for ten (10) year future expansion
- Residential projects require the most (1 per 20 spaces until 2030, then 1 per every ten spaces), Other building occupancy types vary
- Required to be installed IAW Executive Order 45 (Floodplain Management)

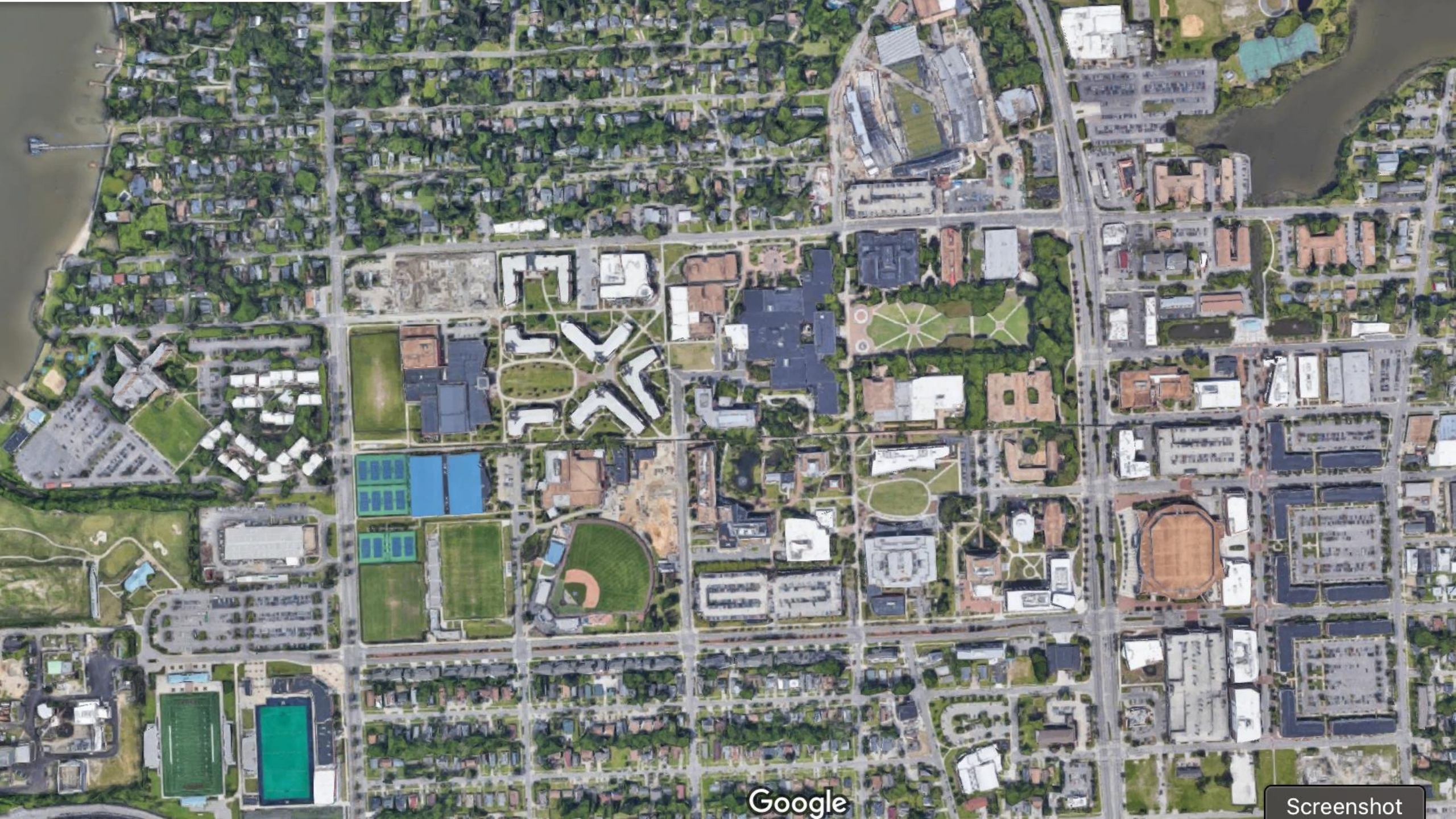
EV charging at other Virginia institutions:

Institution	Charging Stations
George Mason University	13
James Madison University	8
University of Virginia	2
Virginia Tech	3
Virginia Commonwealth University	4

Topic ideas for next meeting ?

- Parking Citations, Appeals, Boots, Tows
- Preparing for New Buildings / Capital Projects
- EVMS Integration

Questions?


Google
Screenshot

All on-campus parking requires a valid ODU Parking Permit or Hourly parking payment. ODU utilizes a virtual permit system and License Plate Recognition (LPR) to enforce parking.
In addition to designated parking lots, ADA Parking spaces are available in all lots/garages and require both a valid DMV issued plate or placard and a valid ODU Parking Permit or Hourly Permit
Updated: 7-22-2022
N
E
S
W
Transit Stops
Hampton Roads Transit
Monarch Silver
Monarch Blue/Silver
Monarch Blue
For Visitor Parking, please see "Hourly & Mobile Pay" Section on the back of map
Follow us @oduparking
L-1
L-2
L-3
L-4
L-5
L-8
L-9
L-10
L-11
L-16
L-18
L-28
L-32
L-34
L-35
L-37
L-38
L-41
L-42
L-43
L-47
L-50
L-58
L-V1
L-V2
L-V3
Visitor L-7
49th St. Stadium Garage
Kornblau Field at SB Ballard Stadium
Kornblau Welcome Center
Rollins Hall
Koch Hall
WHRO Public Media
WHRO Parking
Rogers Hall Main
Rogers Hall East
Foundation House
Gresham Hall East
Gresham Hall Main
Nusbaum A
Nusbaum B
Nusbaum C
Constant Hall
VAB Building
Dragas Hall
Kaufman Mall
Kaufman Hall
Monarch Hall
Engineering Systems Building
Lions Club Child Study Center
Batten Arts & Letters (BAL)
Perry Library
Gornto Jr Hall
Education Building
Chartway Arena
Constant Center 45th St. Garage
Constant Center 43rd St Garage
Barry Art Museum
Univ. Theatre
Health Sciences
Goode Theatre
Barry Arts Building
Hixon Arts Studio Annex
Studio 47
Village 1
Village 2
Village 3
Village 4
Village 5
Village 6
Village 7
Village 8
Village 9
Village 10
Under Construction
The Next at ODU
Downtown Norfolk
Naval Station Norfolk
Boiling Ave
Monterey Ave.
Cedar Ln.
Longwood Dr.
Melrose Pkwy.
49th Street
48th Street
47th Street
46th Street
45th Street
44th Street
43rd Street
42nd Street
41st Street
40th Street
39th Street
38th Street
Hampton Blvd
Bluestone Ave
Quarantine Rd.
Kenova St.
Powhatan Ave
Parker Ave
Elkhorn Ave
Bowden's Ferry
Monarch Way
Killam Ave
Temporarily Closed
Owens House
Dominion House
Broderick Dining Commons
Diehn Center for Performing Arts
VIP Lot
Webb University Center
Under Construction
France House
Scotland House
Student Rec Center
Runte Quad
Ireland House
England House
Virginia House
E.V. Williams Engineering Computational Sciences
Whitehurst Hall
Powhatan Apartments
Sailing Center
Folkes-Stevens Indoor Tennis Center
Jarrett Athletic Administration Building
Kaplan Orchid Conservatory
Alfriend Chemistry Building
Oceanography & Physics
Physical Sciences
Mills Godwin Life Sciences
New Chemistry Building
Facilities Management
Lambert's Point Golf Course
Golf Course Parking
Soccer Administration Building
Soccer Practice
Soccer Stadium
Bud Metheny Baseball Complex
43rd & Elkhorn Garage
43rd & Bluestone Garage
Transportation & Parking Services Office
L.R. Hill Sports Complex
Powhatan Field
ODU Inn
Rogers Hall Main
Kaufman Mall
Brock Commons
CDC

Next Meeting Date:

Wednesday February 15, 2023
10:00 AM Webb Center – Chesapeake / Porstmouth

Trivia Question:

Where is America’s oldest continuously operating gas station?

Bonus: When did it open?

Answer

Reighard's station: Altoona, PA

1908