



Planning for Infrastructure 2023-2032



Alleyn Harned
Virginia Clean Cities
[Calendly.com/alleyn](https://calendly.com/alleyn)
804 539 9425

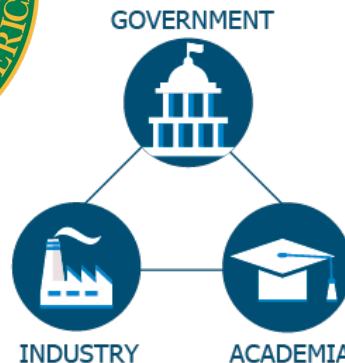
How many state / local officials does it take to put in a lightbulb?





Why/What Clean Cities?

Clean Cities advances the energy, economic, and environmental security of the United States by supporting local actions to cut petroleum use in transportation.



Reduced petroleum consumption

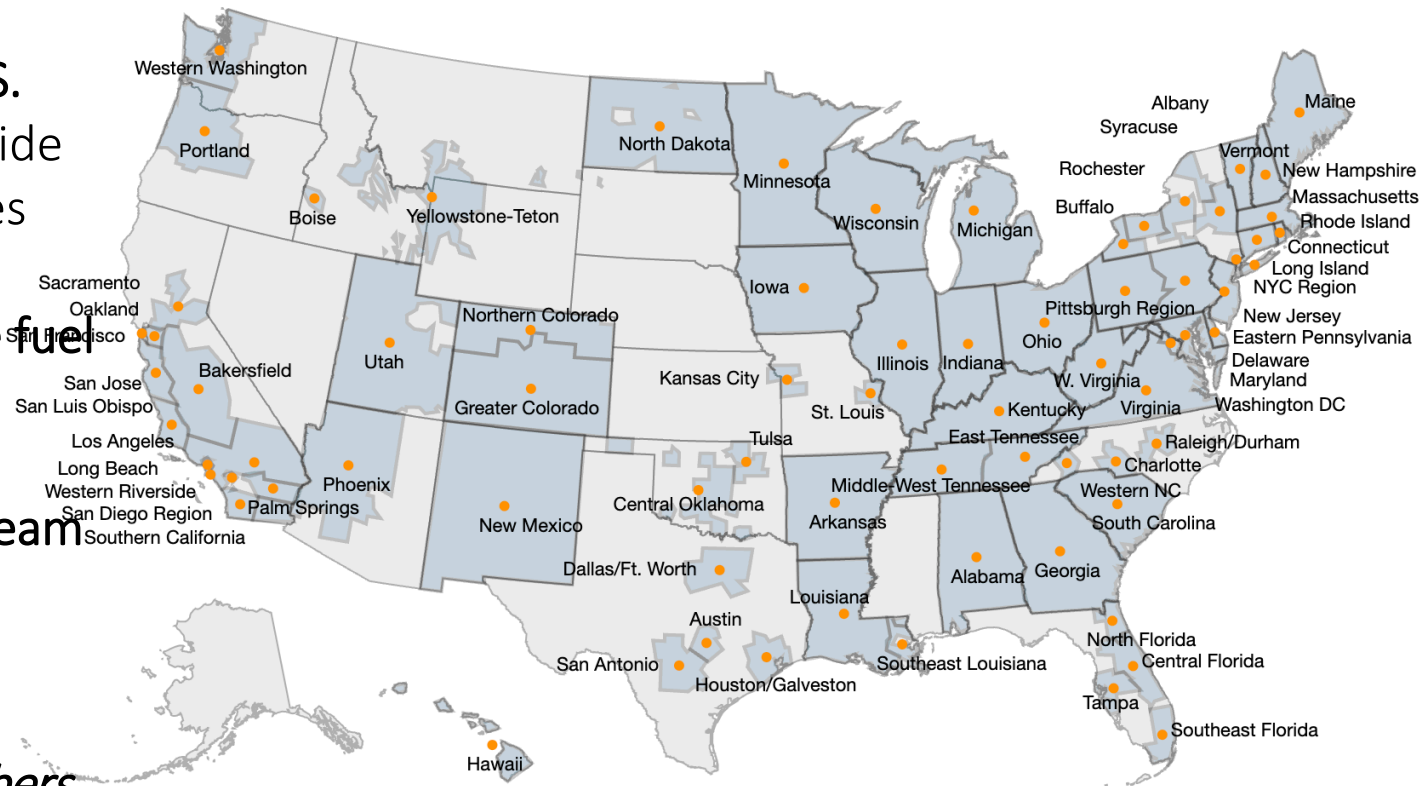
Reduced greenhouse gas (GHG) emissions

Reduced dependence on imported petroleum



Local Partnerships: Clean Cities Coalitions

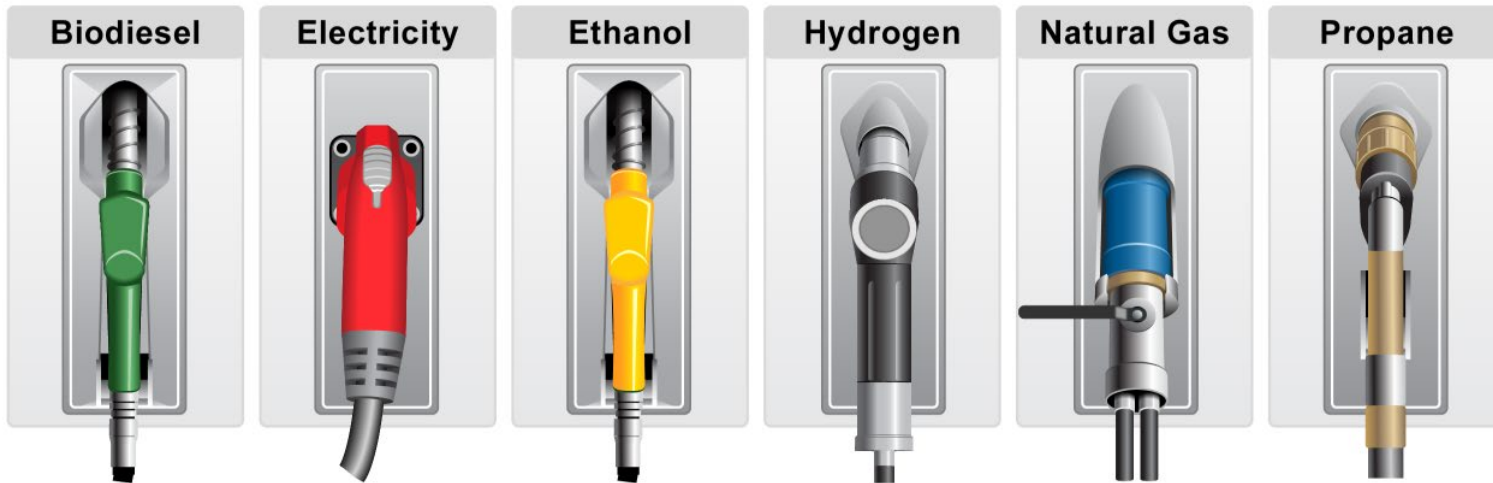
- National network of nearly 75 local coalitions
- 82% of the total U.S. population lives inside coalition boundaries
- 500,000 alternative fuel vehicles (AFVs)
- VA Coalition large team additional federal support and *also available for contracting / members*



Virginia Clean Cities at JMU



- Vehicles and Driver Choices that Increase Fuel Economy
 - Right-size, Idle Reduction – Bikes, Land Use, Transit
- Advanced (e.g., HEVs, PHEVs) Alternative Fuels & Vehicles

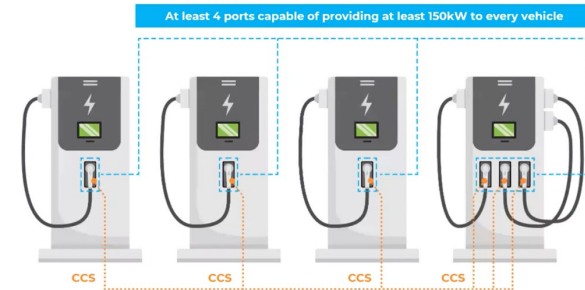


- Lower fuel use
 - Lower cost fuels at scale
 - Fuel our economy
 - Active Programs Formal Reports – New Programs
 - EMPOWER PLANNING for \$100 billion transition
 - Procurement Contract Example – also Sourcewell
- Incentives for Change
\$3.50 Gasoline to \$1 NetZero Fuel
Alternative Fuel Data Center

DOT Programs Set Direction for Nation

DC Fast 150kw Per Port -4 Ports

- 3-phase power
 - 600kw talk with your utility
 - Maybe Expensive
- We should like:
 - Directional Signage
 - Lighting
 - Convenient Fuel Experience



GAS (1), (2), (3)

CATEGORY I

3 miles max from interchange / intersection
Fuel, oil, tire repair (or info), compressed air
Public restroom with full sanitary facilities
16 hours/day - 7 days/week

Level L2: Also 4 ports

- 240 V 40 amp 6kw per port
- Can be very inexpensive

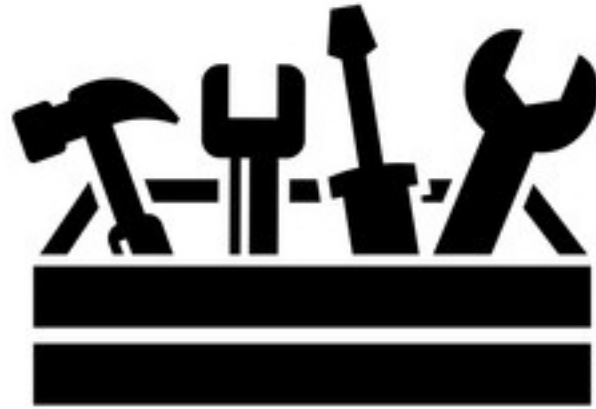


Compressed Natural Gas

Hydrogen

Propane (Heavy Duty)





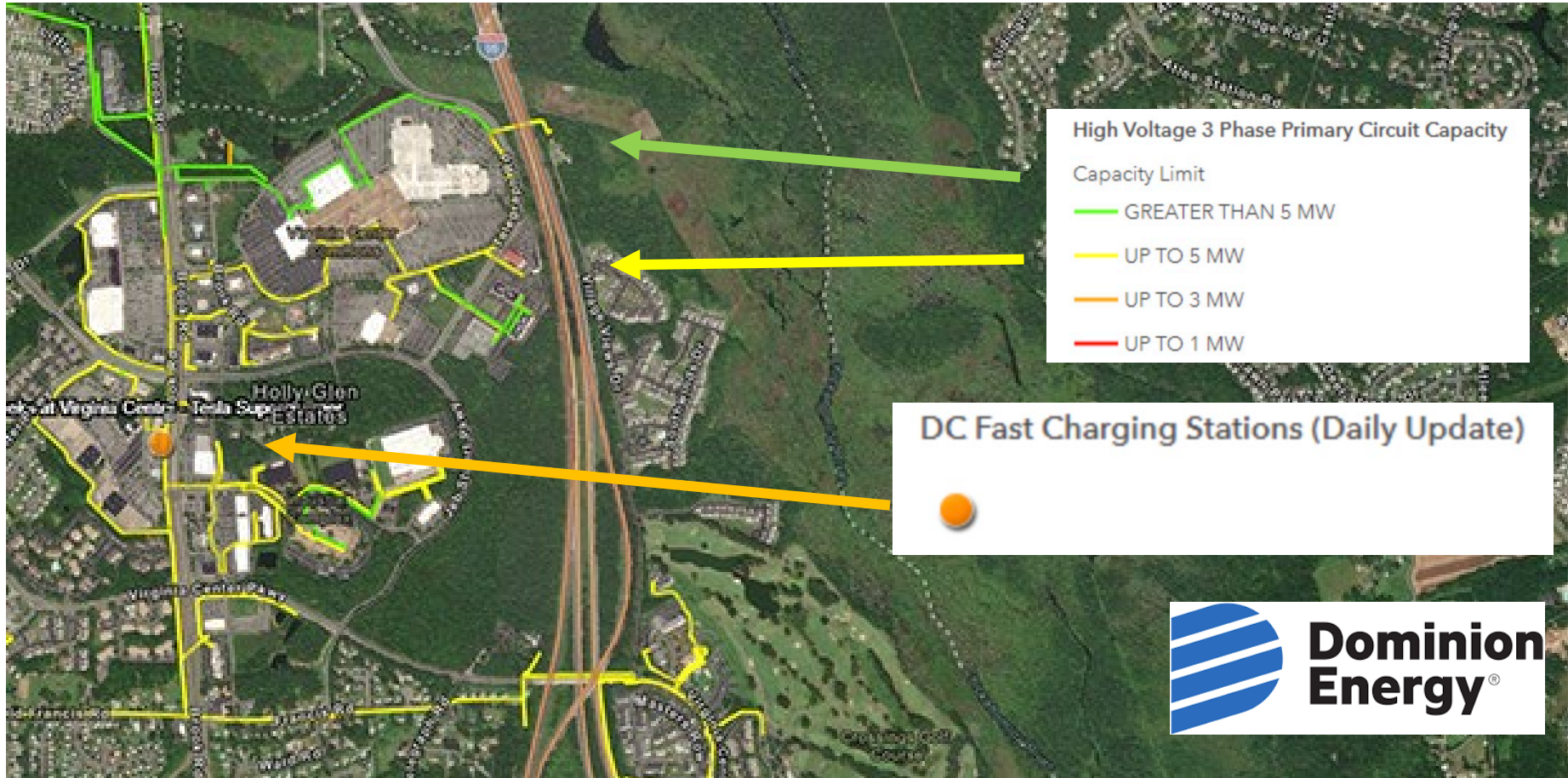
Gratis Infrastructure Plan Toolbox:

- 1) VCC at JMU
- 2) Procurement +Sourcewell
- 3) Station Locator

- 4) Grid Capacity
- 5) Evaluate VA
- 6) EVI Pro Tool Lite



Dominion Energy Charge Capacity Tool



Atlas EvaluateVA



atlaspolicy.com/evaluateva/



Newsroom About

Market Overview

EV and charging station deployment across the state of Virginia.

66,044

EVs on the Road

0.74%

EV Share of Light-Duty Vehicles on the Road

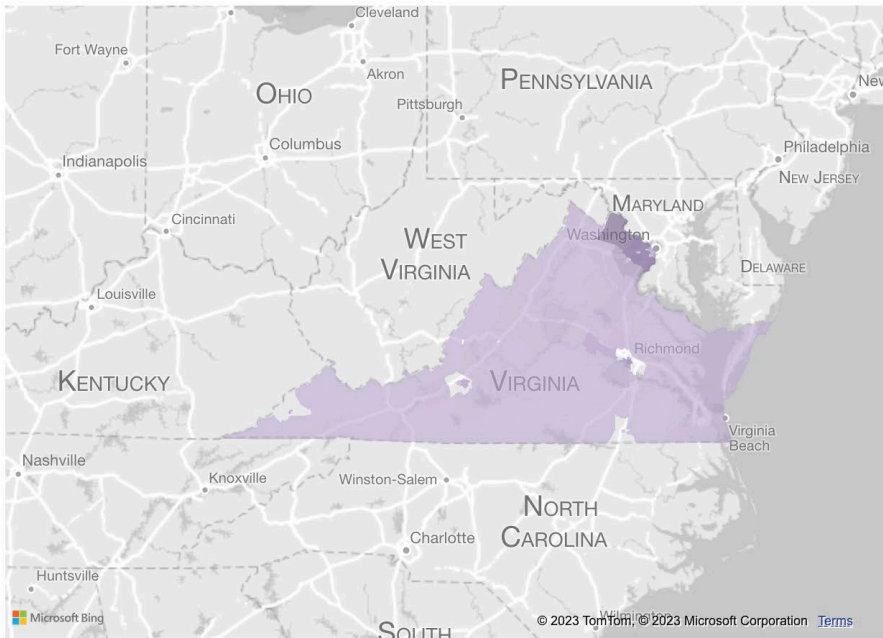
12/31/2022

Latest DMV Snapshot Date

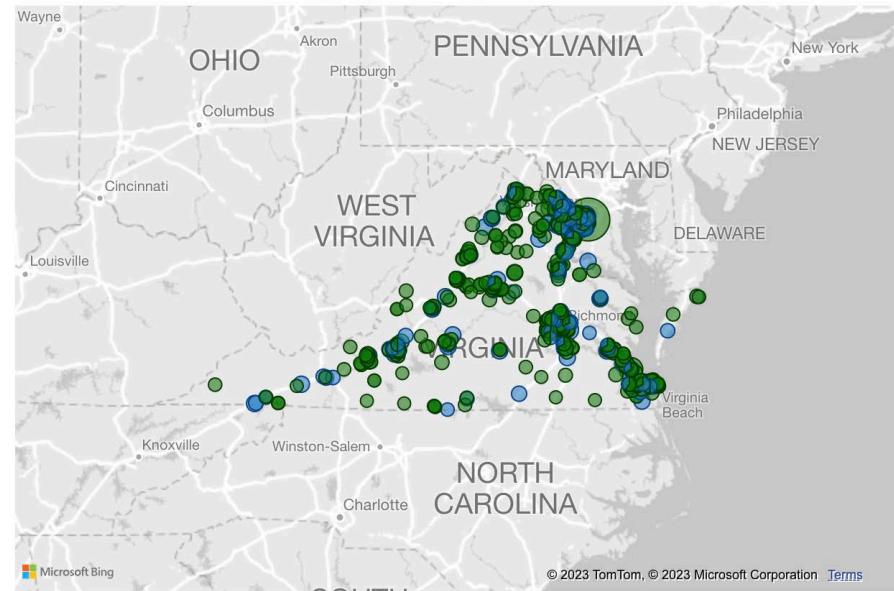
EVs on the Road

BEV	PHEV
46,129	19,853

EVs on the Road



Charging Ports by Power Level



Charging Level ● DC Fast Charge Ports ● Level 2 Ports

DOE EVI Pro Tool Lite



Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite

This tool provides a simple way to estimate how much electric vehicle charging you might need and how it affects your charging load profile.



Charging Need



Load Profile

How Much Electric Vehicle Charging Do I Need in My Area?



STATEWIDE

Get estimates



METROPOLITAN AREA

Get estimates

VCC Regional EV Infrastructure Information EVI



[Blacksburg-Area-EV-Charging-Report](#) [Download](#)

[Bristol-Area-EV-Charging-Report](#) [Download](#)

[Charlottesville-Area-EV-Charging-Report](#) [Download](#)

[Fredericksburg-Area-EV-Charging-Report](#) [Download](#)

[Harrisonburg-Area-EV-Charging-Report](#) [Download](#)

[Lynchburg-Area-EV-Charging-Report](#) [Download](#)

[Richmond-Area-EV-Charging-Report](#) [Download](#)

[Roanoke-Area-EV-Charging-Report](#) [Download](#)

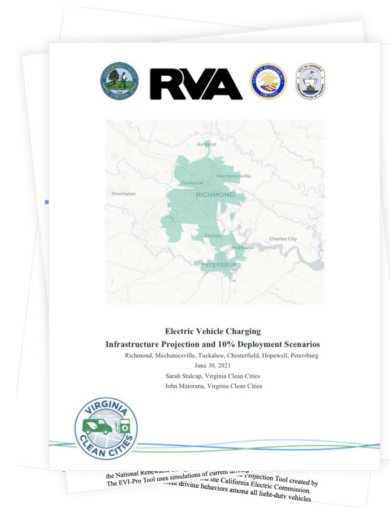
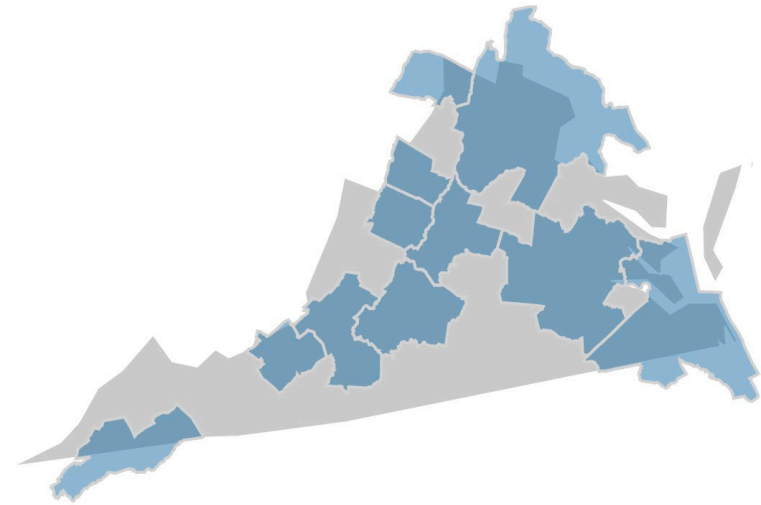
[Stauton.Waynesboro-Area-EV-Charging-Report](#) [Download](#)

[Virginia-Beach-Area-EV-Charging-Report](#) [Download](#)

[Williamsburg-Area-EV-Charging-Report](#) [Download](#)

[Winchester-Area-EV-Charging-Report](#) [Download](#)

[UPDATED: Washington-DC-Area-EV-Report](#) [Download](#)





How many EV Chargers will we need? Electric Vehicle Infrastructure Projection Tool

10% Electrification in Virginia (2030)

In Virginia, to support 733,000 plug-in electric vehicles you would need:

91,158 Workplace Level 2 Charging Plugs

57,960 Public Level 2 Charging Plugs
There are currently 1,814 plugs with an average of 2.3 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).

6,484 Public DC Fast Charging Plugs
There are currently 677 plugs with an average of 4.2 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).

- 60% of Virginians lack an outlet within 20 feet of where they park
 - 293,236 home chargers needed for 10% electrification
- Currently: Around
 - 1800 public L2 charging plugs
 - 1%
 - 700 DCFC charging plugs
 - 10%

Do Both/And In Your Communities

Plan: Where What When Why How How Much



Gratis Toolbox:

- 1) VCC at JMU
- 2) Sourcewell
- 3) Station Locator
- 4) Grid Capacity
- 5) Evaluate VA
- 6) EVI Pro Tool Lite
(And More)



Alleyn Harned
Virginia Clean Cities
Executive Director
www.calendly.com/alleynaharned
aharned@vacleancities.org
(540) 568-8896 Desk
(804) 539 9425 Cell

Bonus: 54,800 EV station locations in US 1,178 in VA

