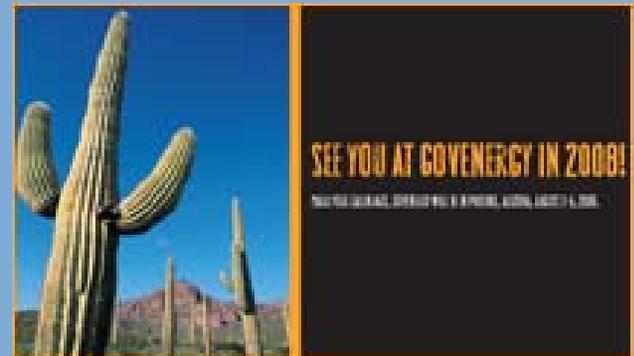




Alternative fueling stations

Options and best practices to improve federal vehicle access to alternative fuels

- Strategy and Tactics
- Best practices
- Tools
- Cost effectiveness





Clean Cities

- National US DOE voluntary program to promote energy independence in transportation
- 90 Coalitions nationwide
- One designated Coalition in Virginia (Hampton Roads)

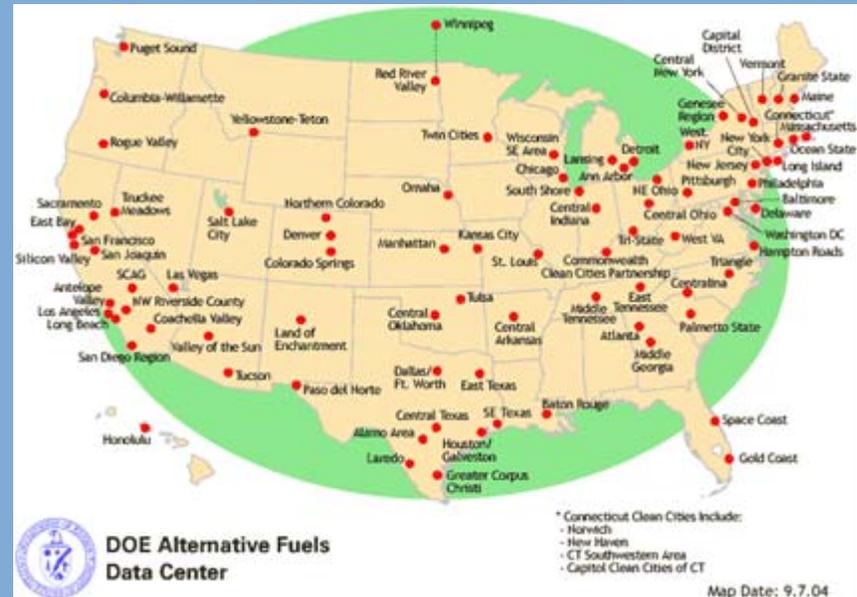


DOE Website:

<http://www.eere.energy.gov/cleancities/>

Virginia Clean Cities:

<http://www.hrccc.org>





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Petroleum Distribution





E85 in Virginia-Maryland-DC

- Objective: Use grants to encourage fuel distributors to provide 12 new public E85 dispensers for use by up to 15,000 private and government Flex Fuel Vehicles
- Financing: \$767,000
 - \$284,000 -- **US Energy Department grant**
 - \$200,000 -- Virginia and Maryland state funds
 - \$283,000 -- Fuel distributors



Strategy (for us)

- Broadly set by grant
 - “accelerate development of an AF market that is sustainable without continued federal subsidy”





Strategy (for us)

- Few requirements
 - “available to the public without restriction”
 - Corridor approach favored

First E85 Station Opening



Photo Above: U.S. Energy Secretary Samuel Bodman (left) pumps E85 ethanol fuel into a General Motors E85 FlexFuel vehicle as GM VP Beth Lowery looks on at the Georgetown Chevron station in Washington, DC Thursday, June 28, 2007. General Motors Photo/Mark Finkenstaedt.

The first recipient of money from the Virginia-Maryland-DC managed by Virginia Clean Cities will be Mid-Atlantic Petrol Properties LLC for adding the renewable corn-based fuel to Wisconsin Avenue in the tony Georgetown neighborhood of DC. Mid-Atlantic converted an existing diesel tank at the Chevron branded location, one of about 50 retail locations owned or operated by the company. Owners Carlos and May-May Horcasitas have plans to add E85 soon to as many as five or six additional Mid-Atlantic stations along the Capital Beltway, mostly in DC.

Many thanks for making E85 publicly available in DC to Mid-Atlantic Petroleum and to grant partner General Motors for bringing Verasun Energy, the second largest US ethanol producer, and Rent-A-Car, owner of the world's largest light-duty fleet, which is its premier "E85 flex-fuel branch," where 50 GM FFVs will be available to customers who may refuel with E85 at the nearby Georgetown station.

Verasun's VEB5 brand of the ethanol blended fuel also now is available at Virginia's only public E85 pump, located at the Navy Exchange on Joyce Street in Arlington, across from the Pentagon.

at Virginia's only public E85 pump, located at the Navy Exchange on Joyce Street in Arlington, across from the Pentagon.



Strategy (for us)

Initial investment outlay

tank	20,000	(20,000.00)
other	5,000	(5,000.00)
dispenser	12,000	(12,000.00)
other	13,000	(13,000.00)
installation	25,000	(25,000.00)
	total	(75,000.00)

incremental operating cash flow

	monthly	annually	margin	
E85 sales (month)*	30,000	360,000	0.05	18,000
gasoline (month)	500,000	6,000,000	0.05	
2 % novelty effect**		120,000	0.05	6,000
fixed cost(here it is 1/4 of kiosk attendant)			5,000.00	(5,000)
grant (requires equal match)				15,000
federal tax credit (30 % after grant deducted)				18,000
depreciation (assumes 5 % but could vary)				(3,750)
earnings before taxes				48,250
tax rate	25.00%			(12,063)
net income				36,188
add back depreciation				3,750
<u>incremental operating cash flows</u>				39,938

- “Demonstrate a sound business approach that offers potential profit and revenue growth to private industry”



Strategy (for you – federal fleet)

- EPACT 2005, the Energy Independence and Security Act of 2007 (EISA) and the 2007 Executive Order, 13423 *Strengthening Federal Environmental, Energy, and Transportation Management*, challenge agencies to lead the nation to reduce dependence on foreign oil and conserve resources. They establish aggressive goals that promote energy efficiency and the use of renewable energy resources.



Tactics and tools

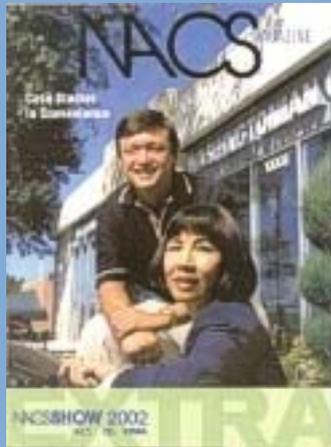
- Form a coalition of stakeholders
 - Technical and financial support
 - DOE and Clean Cities (Can liaison with long list of others)
 - Supply chain (top to bottom)
 - Refiner/Producer of the alternative fuel
 - Distributor (in addition to all key agency fuel supply sources)
 - Retailer
 - Vehicle and Fuel Equipment supplier/contractor
 - Users
 - Your department, agency or group of agencies
 - Buy-in from highest level and drivers is essential
 - Other fuel users who can increase market size



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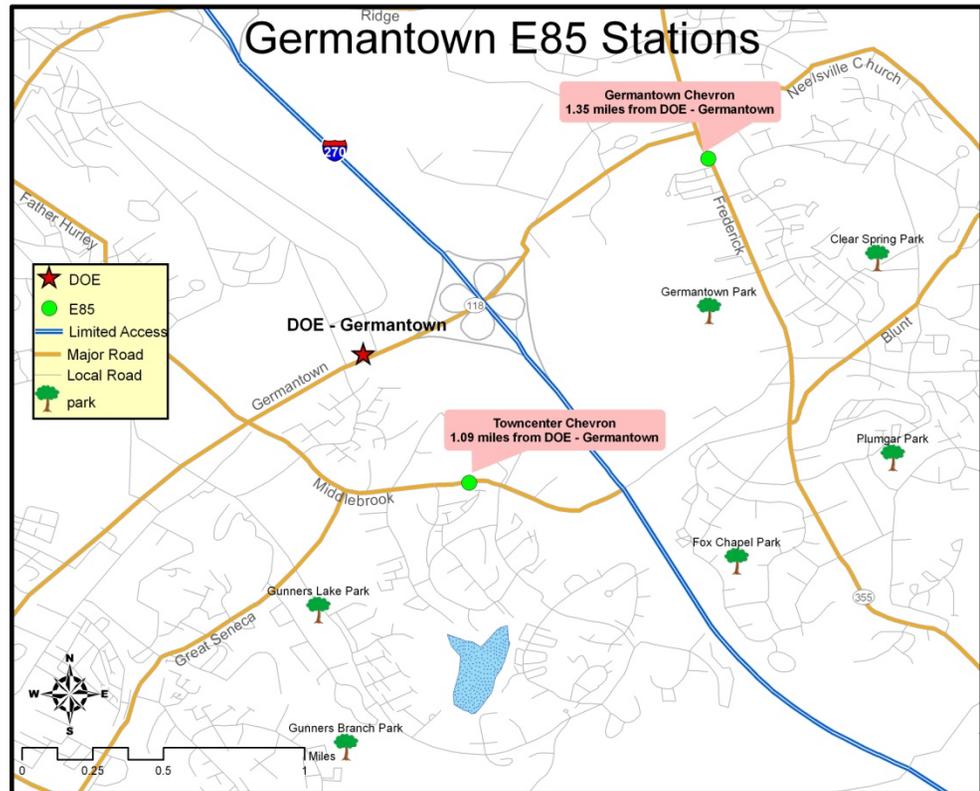


E85 movers and shakers





Where, Oh where is my E85?





Use public fueling stations

- Use publicly available infrastructure, like the six new E85 dispensers that will open inside the Capital Beltway in the next few months. These are privately owned and operated stations/convenience stores, several of which are located near federal fleets. They have been partially financed with federal corridor infrastructure grants at a tiny fraction of what this infrastructure would cost if installed for private use by government fleets.



Make it public

- Alternative refueling infrastructure that is financed with public money and provided to serve a government fleet – if that cannot be avoided in favor of publicly available refueling provided by the private sector – should be open to the public.
 - There are many successful examples throughout the country. Yet, there still is an overwhelming tendency to build this expensive and precious infrastructure behind chain link fences and deny public access.



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Clean
Cities

Private retail station

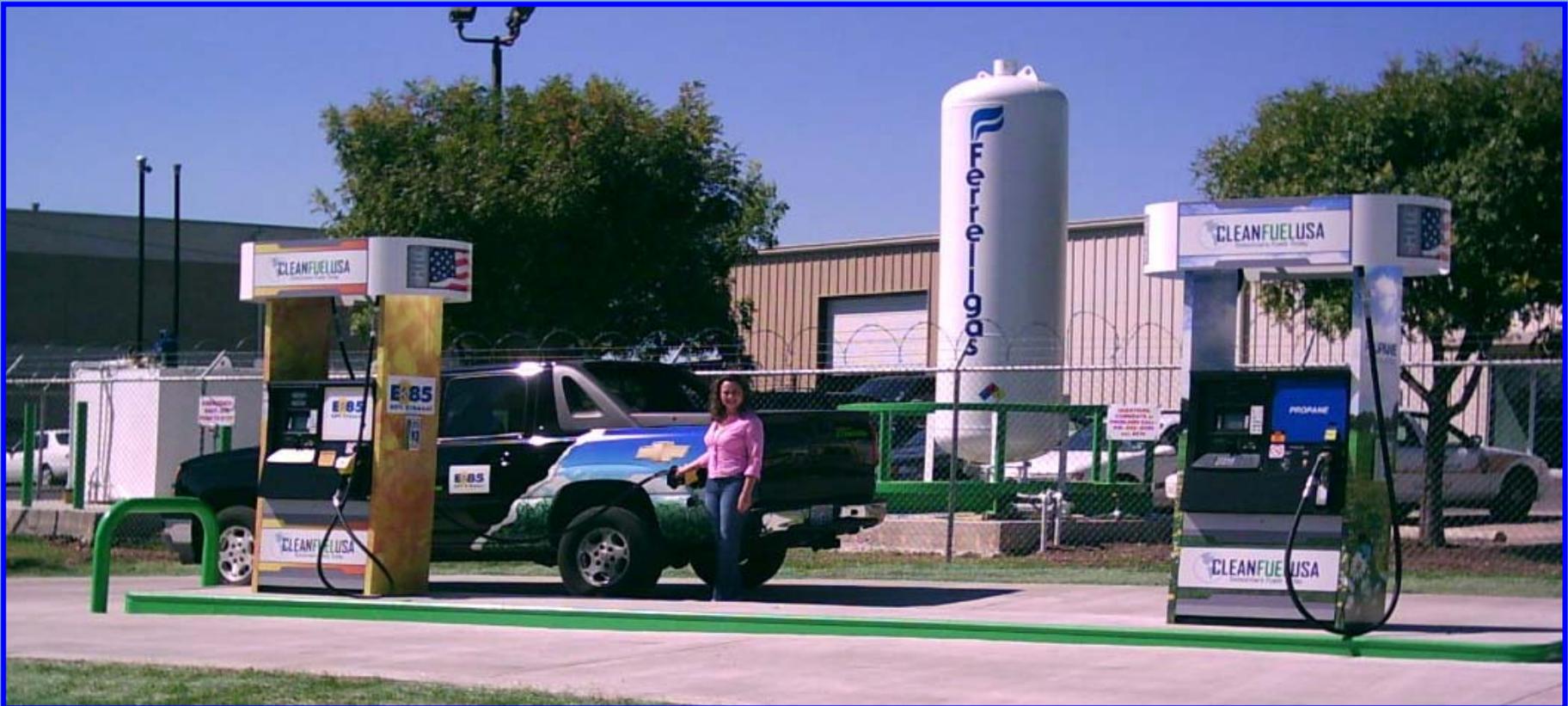




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Private 3rd party operator





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Public use of government stations



Defense Supply Center
Richmond VA made
E85 available to anyone
with base access.



Montgomery County MD
allows public access to an E85
dispenser at a county refueling
site in Rockville.



If you have to build your own?

- Make it public
 - Use retail E85 even if it is 20 miles away
 - Convert your existing petroleum tank to AF and buy the conventional petroleum at commercial gas stations
 - Use biodiesel blends.
- That doesn't require huge infrastructure investment

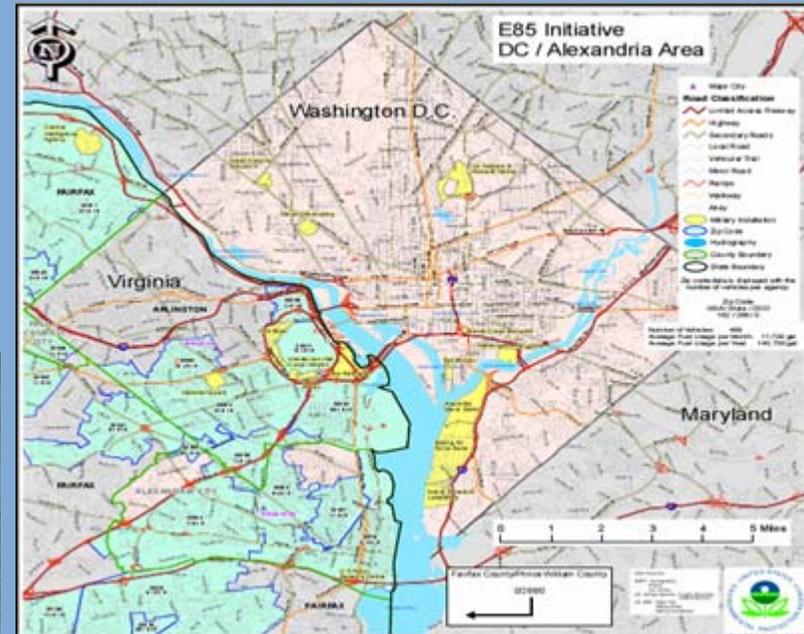
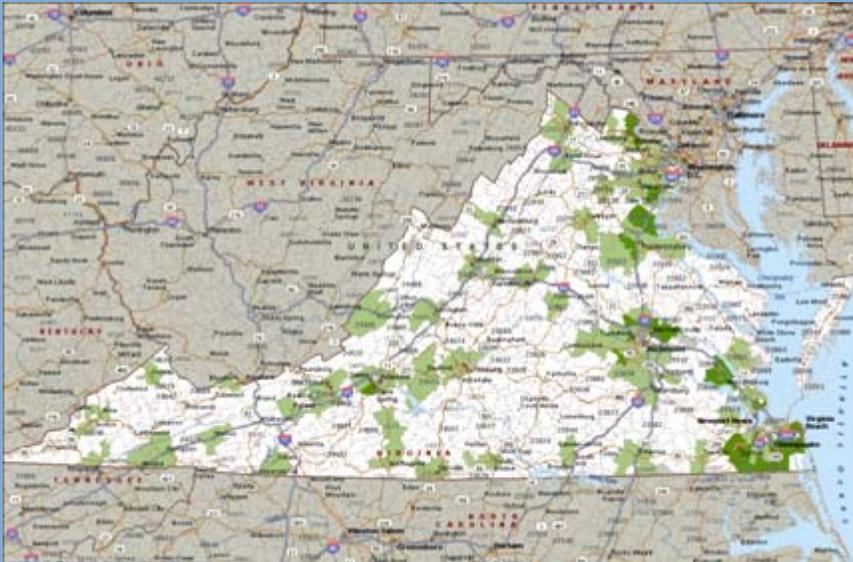


Go to Congress and negotiate a compromise



Where is the federal fleet?

- 718 FFVs Richmond
- 466 Hampton Roads
- 1511 Franconia





701 Waiver fleets (E85 only)

Agency Name	Fleet Name	State	Waiver ZIP	# Vehicles
Department of Navy	NAVFAC MIDLANT	VA	23511	919
	Headquarters - GSA Supplied			
Department of Army	Data Domestic	VA	22060	242
	Headquarters - GSA Supplied			
Department of Army	Data Domestic	VA	23801	109
	Defense Logistics Agency -			
Defense Agencies	Domestic	VA	23297	91
	Headquarters - GSA Supplied			
Department of Army	Data Domestic	VA	23604	88



701 Waiver fleets (E85 only)

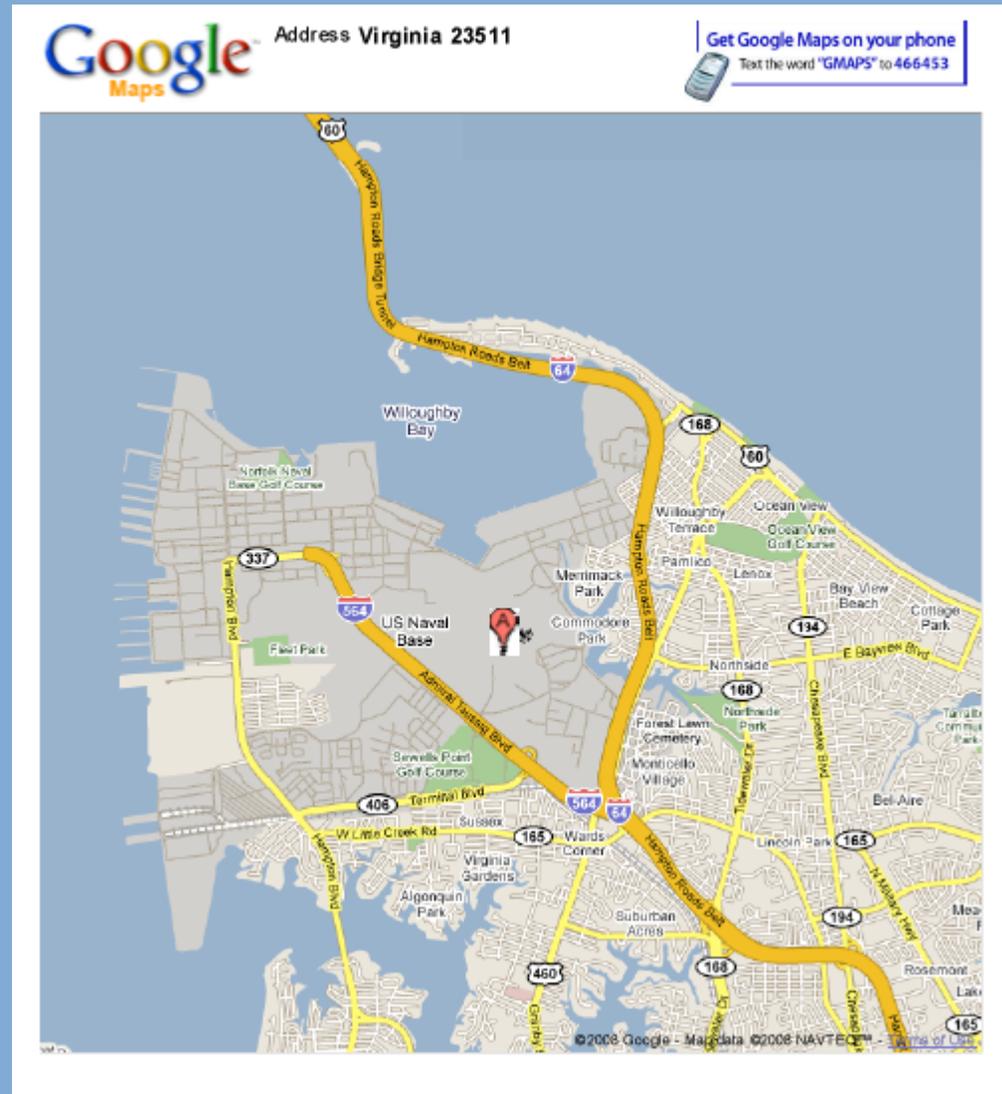
Agency Name	Fleet Name	State	Waiver ZIP	# Vehicles
Department of Navy	NAVFAC MIDLANT Headquarters - GSA Supplied	VA	23511	919
Department of Army	Data Domestic Headquarters - GSA Supplied	VA	22060	242
Department of Army	Data Domestic Defense Logistics Agency -	VA	23801	109
Defense Agencies	Domestic Headquarters - GSA Supplied	VA	23297	91
Department of Army	Data Domestic	VA	23604	88



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ZIP 23511 is Norfolk Naval Base, which has 919 FFVs, according to the FEMP database



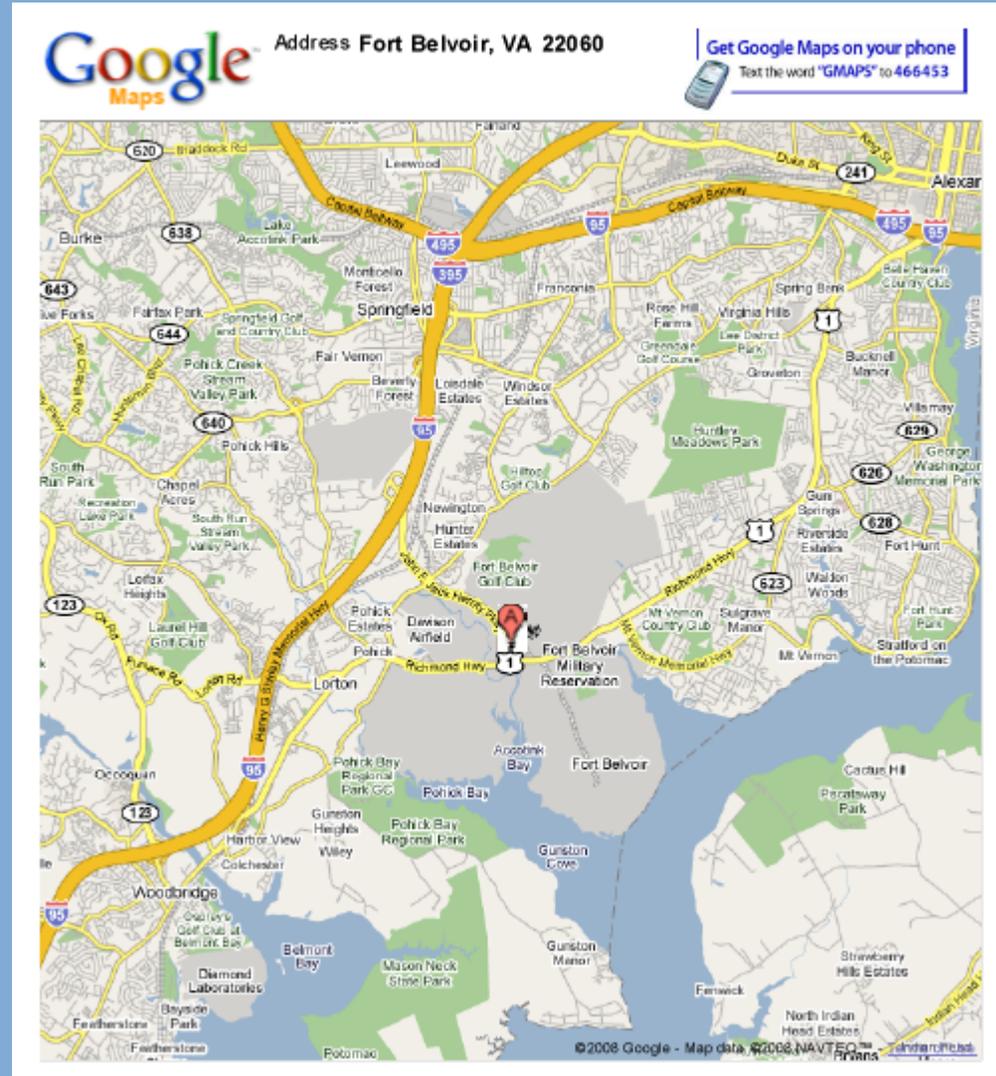


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Department of Navy	NAVFAC MIDLANT	VA	23511	919
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	Defense Logistics Agency -			
Defense Agencies	Domestic	VA	23297	91
	Headquarters - GSA Supplied			
Department of Army	Data Domestic	VA	23604	88



ZIP 22060 is Ft. Belvoir, which has 242 FFVs, according to the FEMP database





701 Waiver fleets (E85 only)

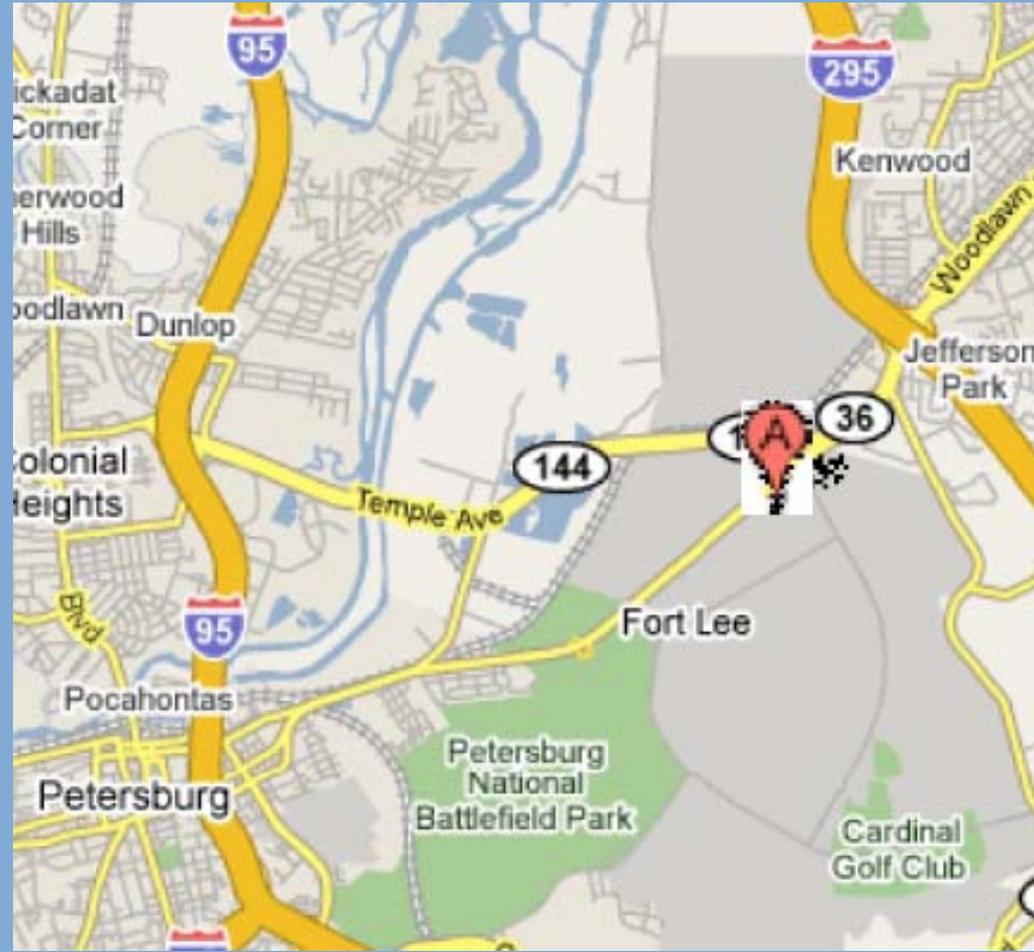
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Department of Army	Data Domestic	VA	23801	109
	Defense Logistics Agency -			
Defense Agencies	Domestic	VA	23297	91
	Headquarters - GSA Supplied			
Department of Army	Data Domestic	VA	23604	88



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ZIP 23801 is Ft. Lee
in Petersburg VA,
which has 109 FFVs,
according to the
FEMP database





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Clean
Cities

Don't do this

Alternative fuel infrastructure is too costly to be dedicated to a single fleet and made off limits to public use.





Tools from Energy Department

A national laboratory of the U.S. Department of Energy
Office of Energy Efficiency & Renewable Energy

NREL National Renewable Energy Laboratory
Innovation for Our Energy Future

E85 Retail Business Case: Why and When to Sell E85

Caley Johnson and Margo Melendez,
Center for Transportation Technologies and Systems

NREL is operated by Midwest Research Institute • Battelle

Conclusion: Checklist for E85 Favorability

1. Robust competition in the gasoline market= need to differentiate
2. Large Potential Throughput of E85
3. Have mid-grade tank that can be changed out
4. Access to lower E85 wholesale costs
5. Low M&O costs due to quality or warranty
6. State Incentives or cost-share for E85 Installation
 - See AFDC website for state incentives
7. Have low and declining sales of premium grade

NREL National Renewable Energy Laboratory



Tools from Energy Department



Alternative Fuels & Advanced Vehicles Data Center

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This site is sponsored by the U.S. Department of Energy's [Clean Cities](#) initiative.



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Our [Data, Analysis, and Trends](#) section provides industry trends and facts based on data analysis.

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