

Federal Fleets and Clean Cities: A Path Forward

August 21, 2008

NREL/PR-540-44257

Presented at the Clean Cities Webcast held August 21, 2008 online.

Agenda

Federal fleet requirements

Federal fleet compliance

Understanding the challenge

Effective petroleum reduction strategies

What are Federal agencies required to do?

Acquire alternative fuel vehicles (AFVs) as they turn over light-duty fleets (EPAAct 1992)

- Fleets of 20 or more vehicles located in cities
- 75% of acquisitions
- Excludes law enforcement, military tactical, emergency

Use alternative fuel in all dual-fuel AFVs (EPAAct 2005)

Reduce petroleum consumption by 2% annually through 2015 compared to 2005 (E.O. 13423)

Increase alternative fuel use by 10% annually (cumulative basis) compared to 2005 (E.O. 13423)

New requirements (EISA 2007, NDAA 2008)

Reduce petroleum use and increase alternative fuel use
(EISA 142)

- DOE conducting rulemaking
- Rule likely to look like E.O. 13423

Install renewable fuel pumps at Federal fleet fueling centers
(EISA 246)

Prohibited from acquiring high GHG-emitting vehicles
(EISA 141)

Prohibited from acquiring high GHG-emitting alternative or synthetic fuels (EISA 526)

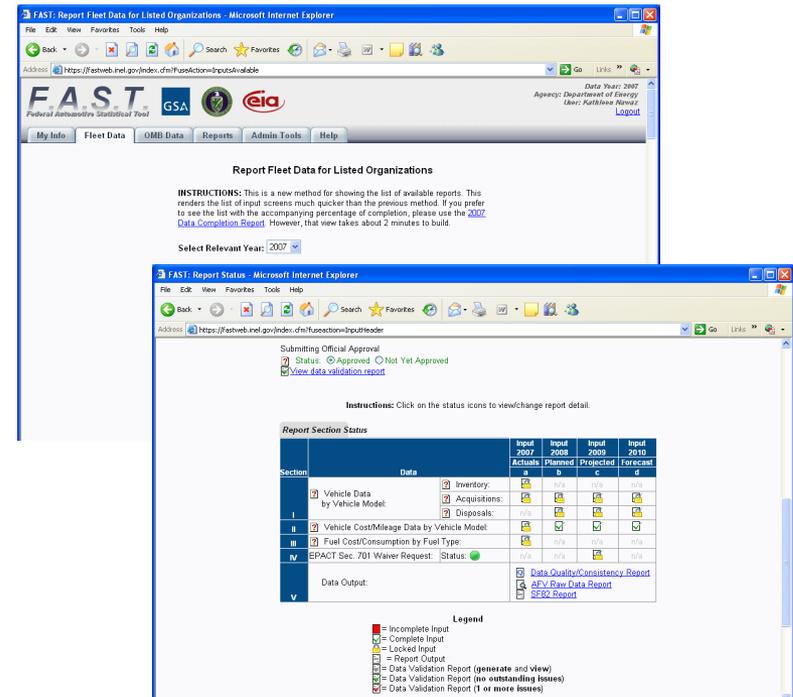
May get **EPA** credit for hybrid vehicles (NDAA)

Who is covered by these requirements?

- Department of Agriculture
- Department of Commerce
- Department of Defense
- Department of Energy
- Department of Health and Human Services
- Department of Homeland Security
- Department of Housing and Urban Development
- Department of Interior
- Department of Justice
- Department of Labor
- Department of State
- Department of Transportation
- Department of Treasury
- Department of Veteran Affairs
- Court Services and Offender Supervision
- Environmental Protection Agency
- General Services Administration
- National Aeronautics and Space Administration
- Smithsonian
- Social Security Administration
- U.S. Postal Service

Measuring Agency Compliance

- Vehicles, fuel use, and related data entered after close of fiscal year (FY)
- Data reported to Congress by agency each year
- Basis for OMB transportation scorecards



FAST: Report Status - Microsoft Internet Explorer

Submitting Official Approval
 Status: Approved Not Yet Approved
[View data validation report](#)

Instructions: Click on the status icons to view/change report detail.

Report Section Status

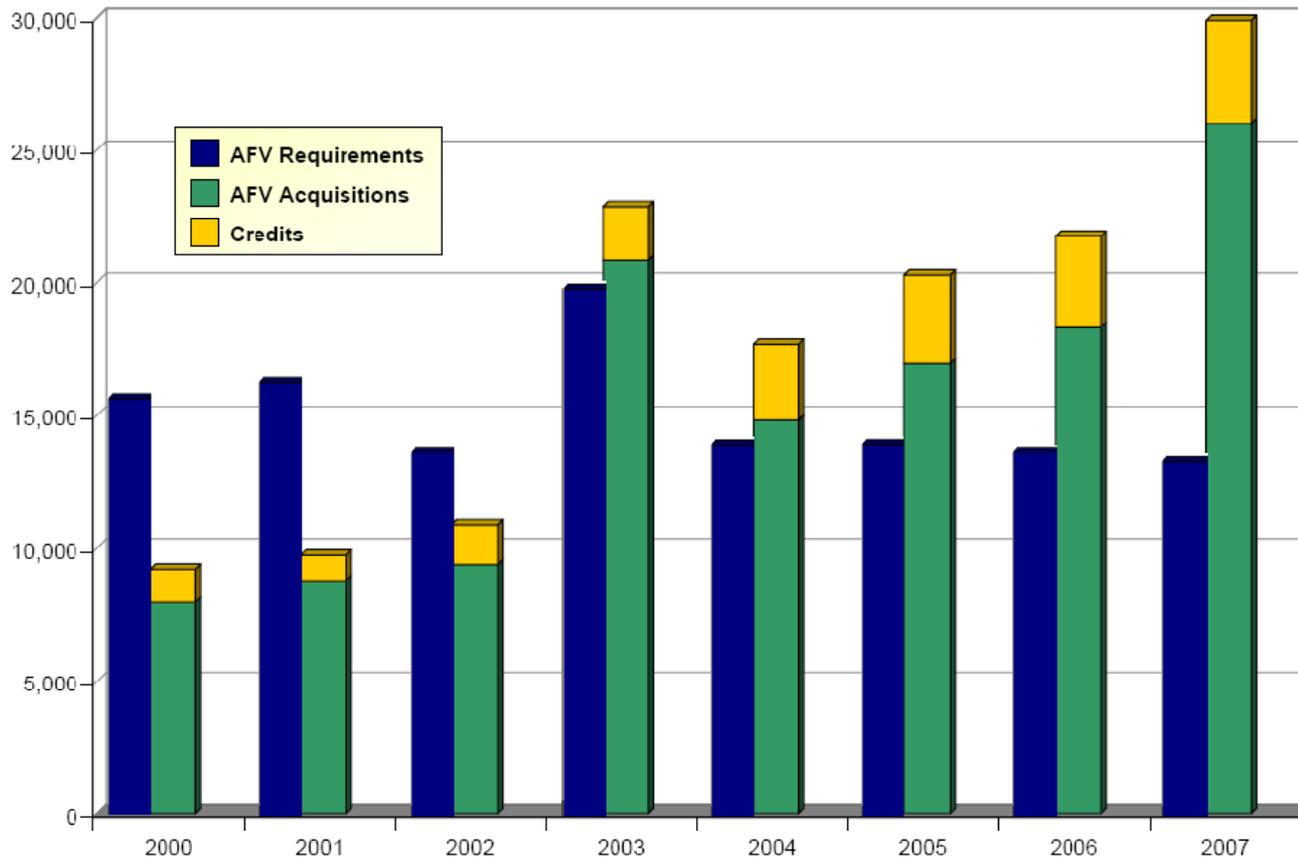
Section	Data	Inventory	Input 2007		Input 2008		Input 2009		Input 2010	
			a	b	c	d	e	f	g	h
I	Vehicle Data by Vehicle Model	Inventory								
		Acquisitions								
II	Vehicle Cost/Mileage Data by Vehicle Model	Disposals								
		Fuel Cost/Consumption by Fuel Type								
IV	EPACT Sec. 701 Waiver Request	Status:								
V	Data Output:	Data Quality/Consistency Report								
		EFV Raw Data Report								
		EFV Report								

Legend

- = Incomplete Input
- = Complete Input
- = Locked Input
- = Report Output
- = Data Validation Report (generate and view)
- = Data Validation Report (no outstanding issues)
- = Data Validation Report (1 or more issues)

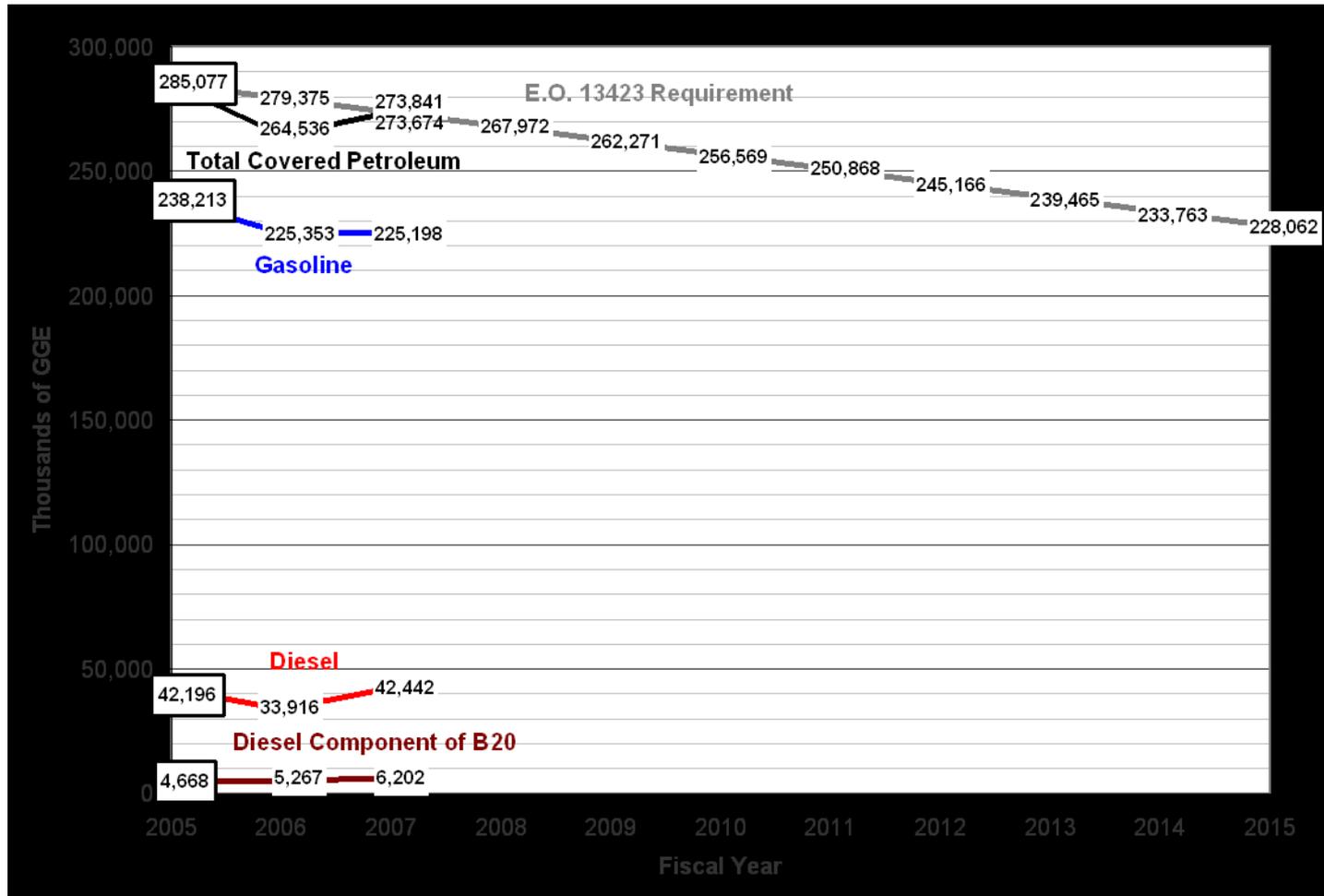
<https://fastweb.inel.gov/>

Federal Fleet Compliance* – EPA Act



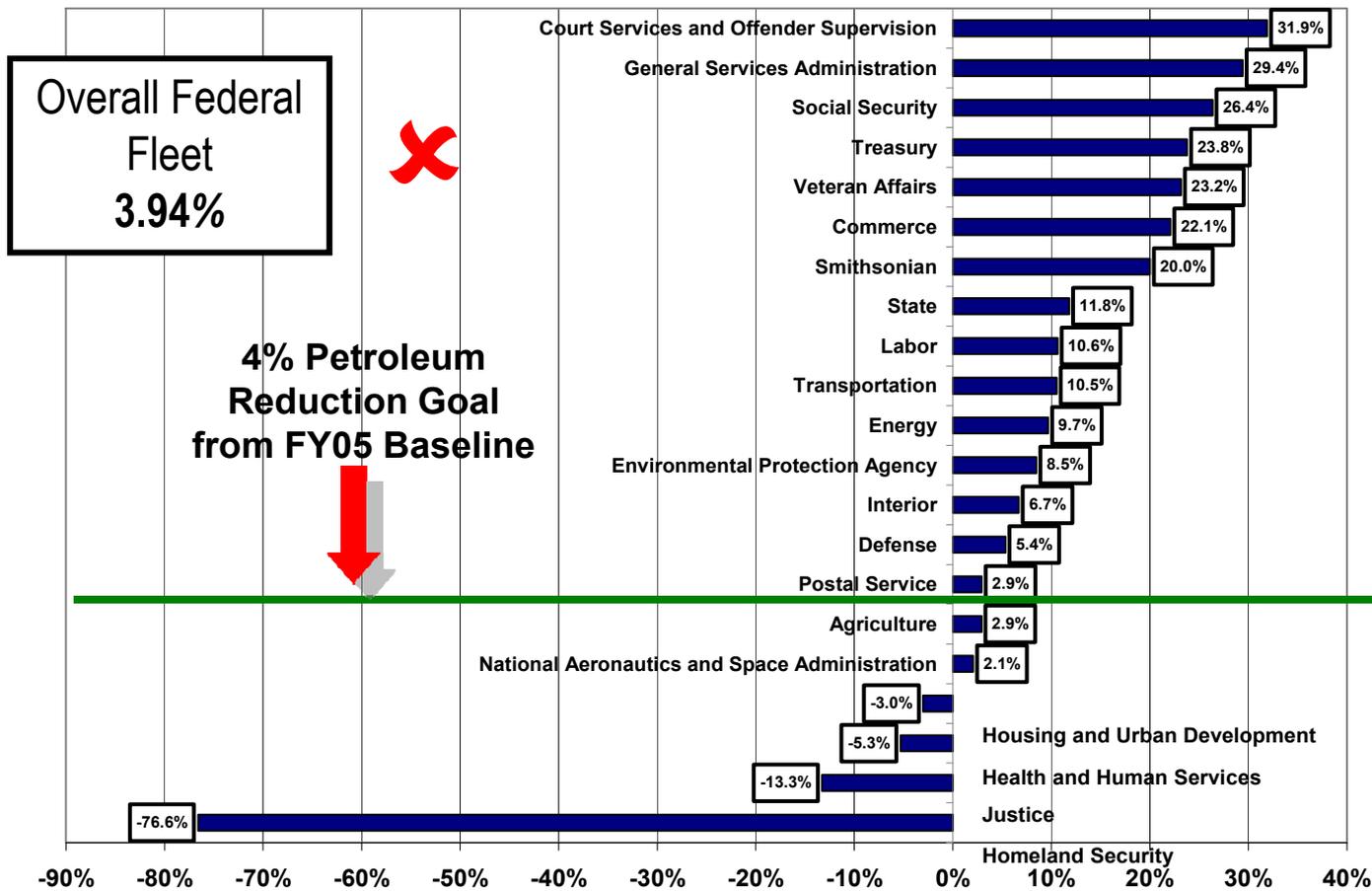
*Preliminary data for FY 2007

Federal Fleet Petroleum Consumption (FY07)*



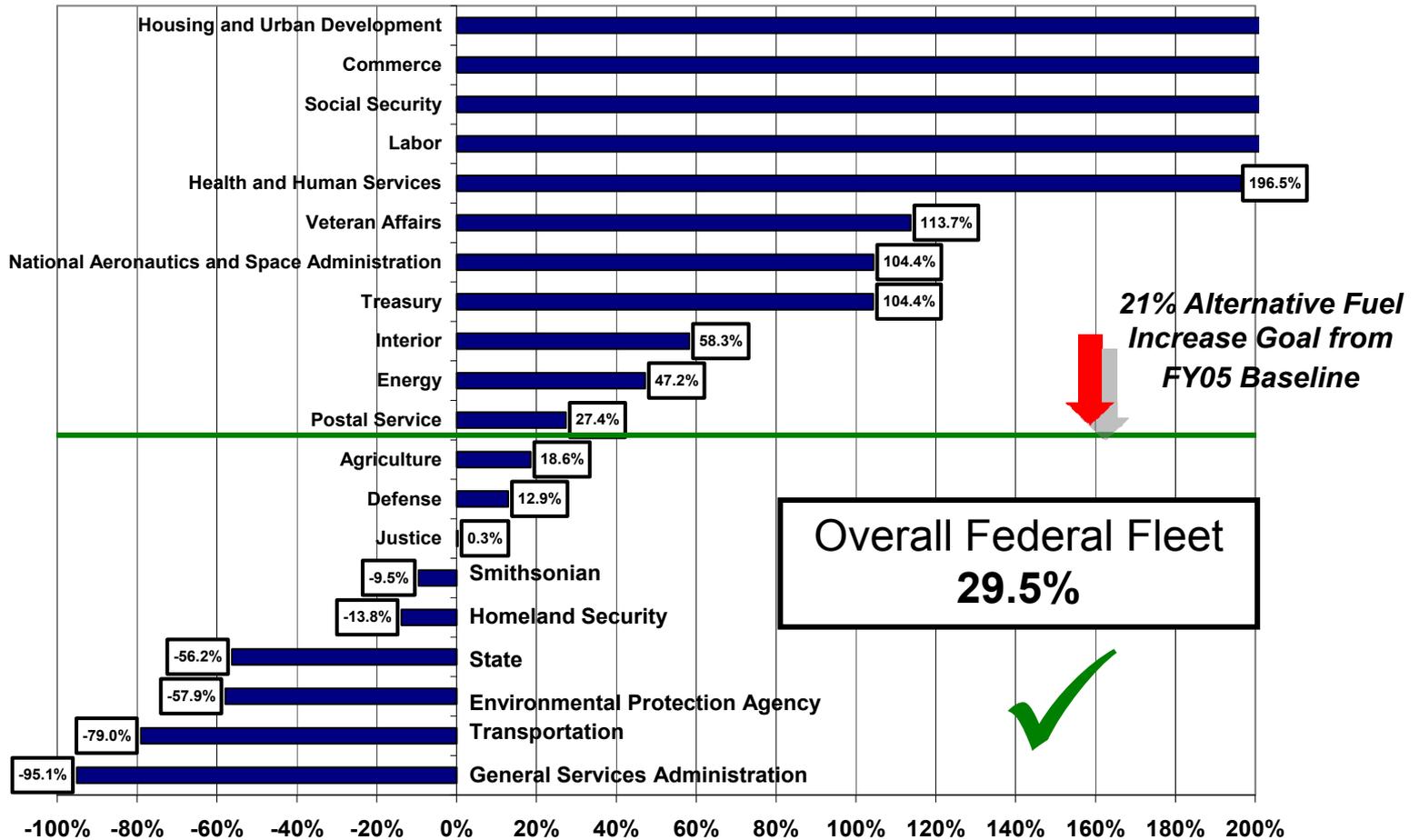
* Preliminary data

E.O. 13423 Petroleum Reduction (FY07)*



*In covered Federal agencies; preliminary data

E.O. 13423 Alternative Fuel Use (FY07)*



*In covered Federal agencies; preliminary data

Understanding the Challenge

Annually, each fleet is mandated to:

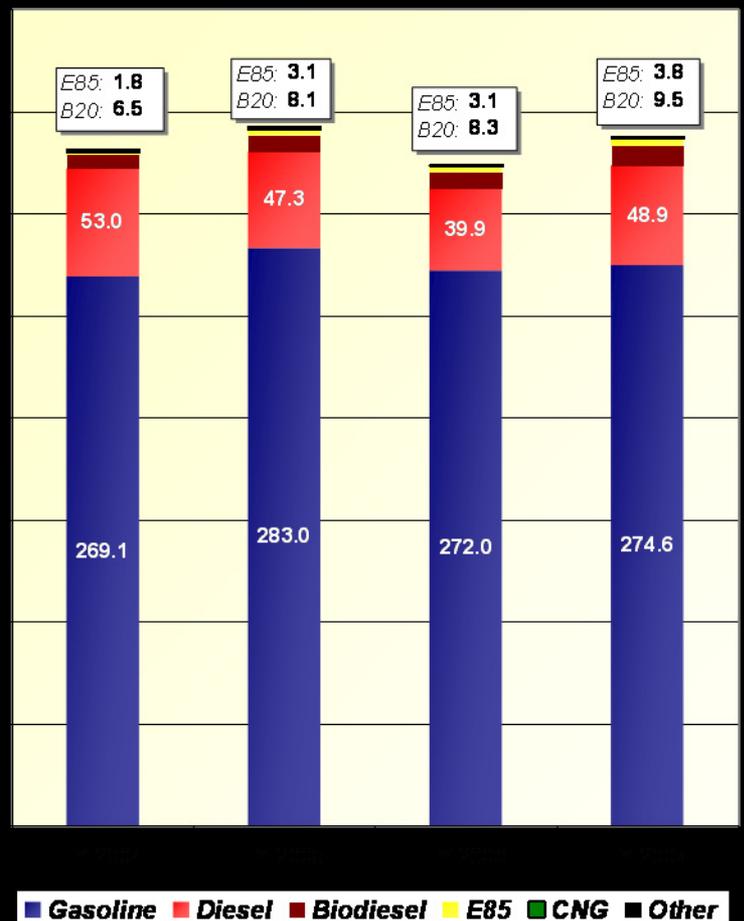
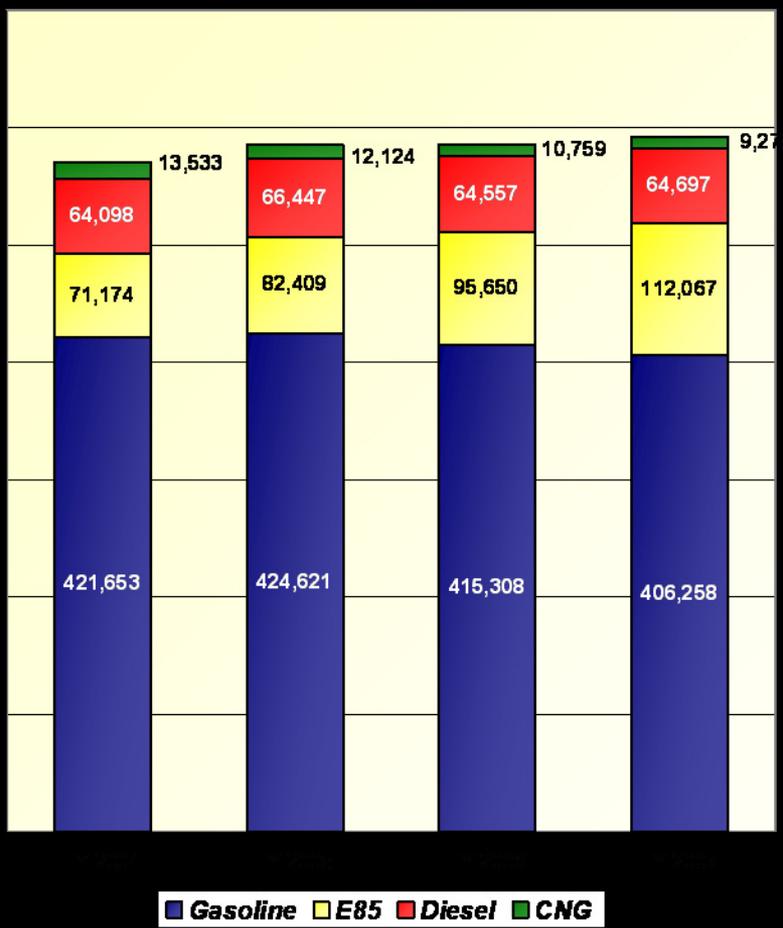
- Reduce total petroleum consumption by 2%
- Increase alternative fuel consumption by 10% (cumulative)

But how? *By implementing a comprehensive fleet-specific petroleum reduction strategy that includes the following elements:*

- Buying vehicles capable of using alternative fuels
- Building new alternative fuel infrastructure
- Ensuring AFVs and diesel vehicles use available infrastructure
- Buying hybrid vehicles
- Right-sizing the fleet
- Increasing fuel economy of fleet
- Fleet efficiencies (e.g., reducing vehicle miles traveled)

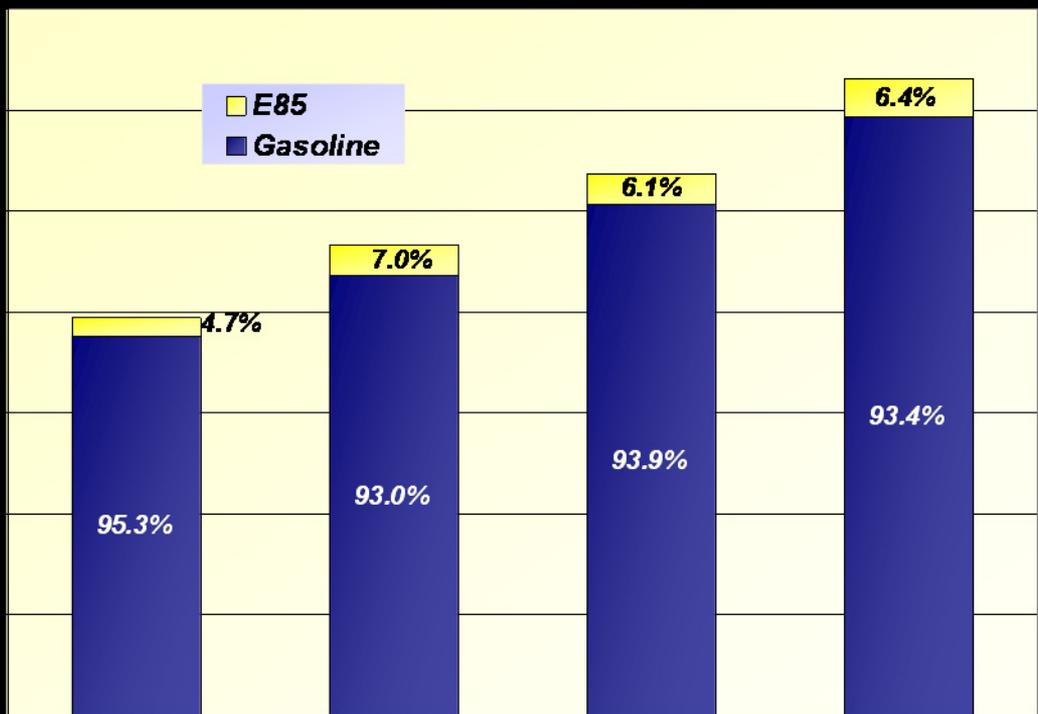
There are 121,778 AFVs in the Federal Fleet (21% of all FY07 vehicles)

Alternative fuel use is small (7,025,521 GGE or 2.6% of fuel use in FY07)



Low Use of E85 in Federal FFVs

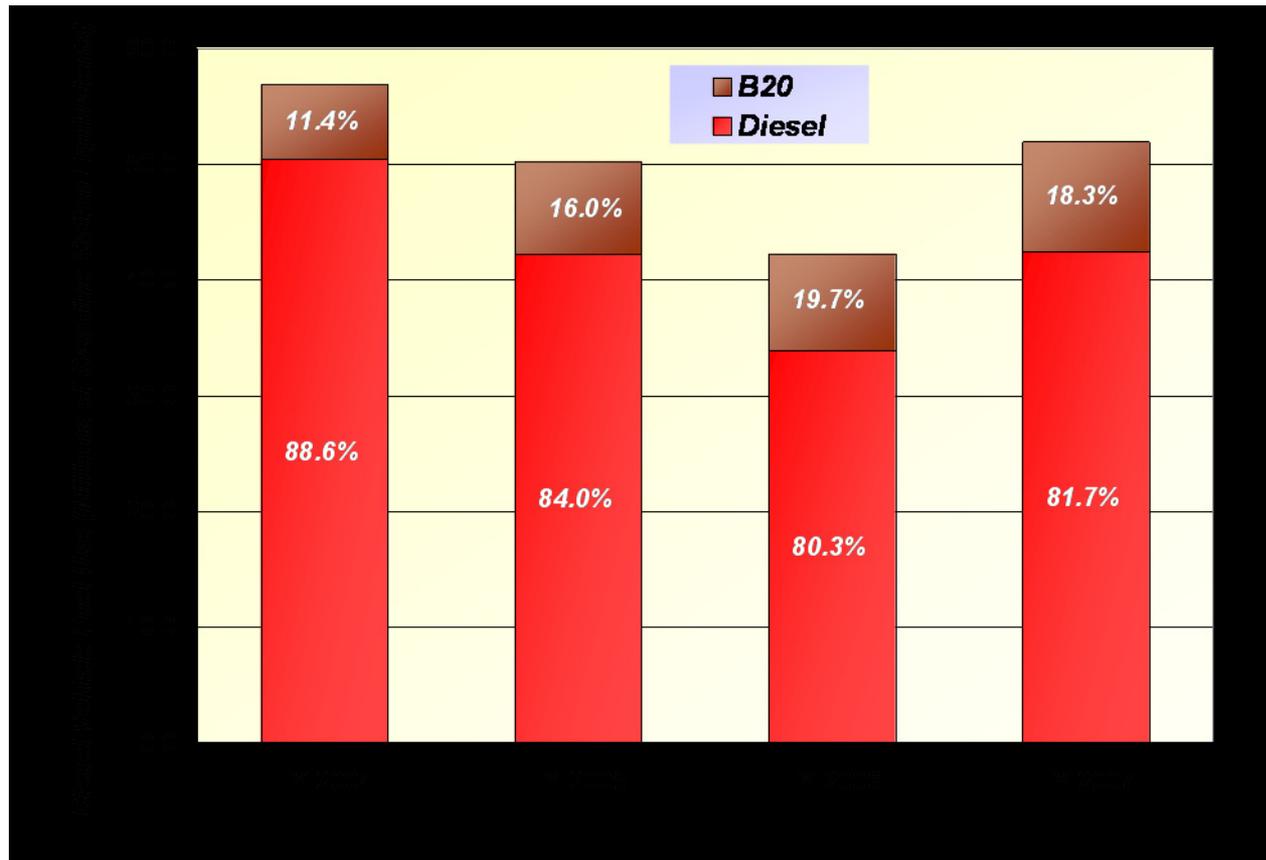
(6.4% in FY07)



- Lack of commercial infrastructure
- Lack of E85 pumps at Federal Fueling Centers
- Limited use of existing infrastructure

Higher use of B20 in Federal Diesel Vehicles

(but still low—18.3% in FY07)



High DOD use
(Marines and Air
Force) and USPS
More B20 use at
Federal Fueling
Centers
Lack of commercial
infrastructure
Limited use of
existing
infrastructure

DOE's TEAM Initiative

- Focus on top 20 DOE sites
- Objective is to exceed EPACT and E.O. 13423 requirements
- Strategy for cutting petroleum use in DOE fleets 2.4M GGE (36%) by FY12

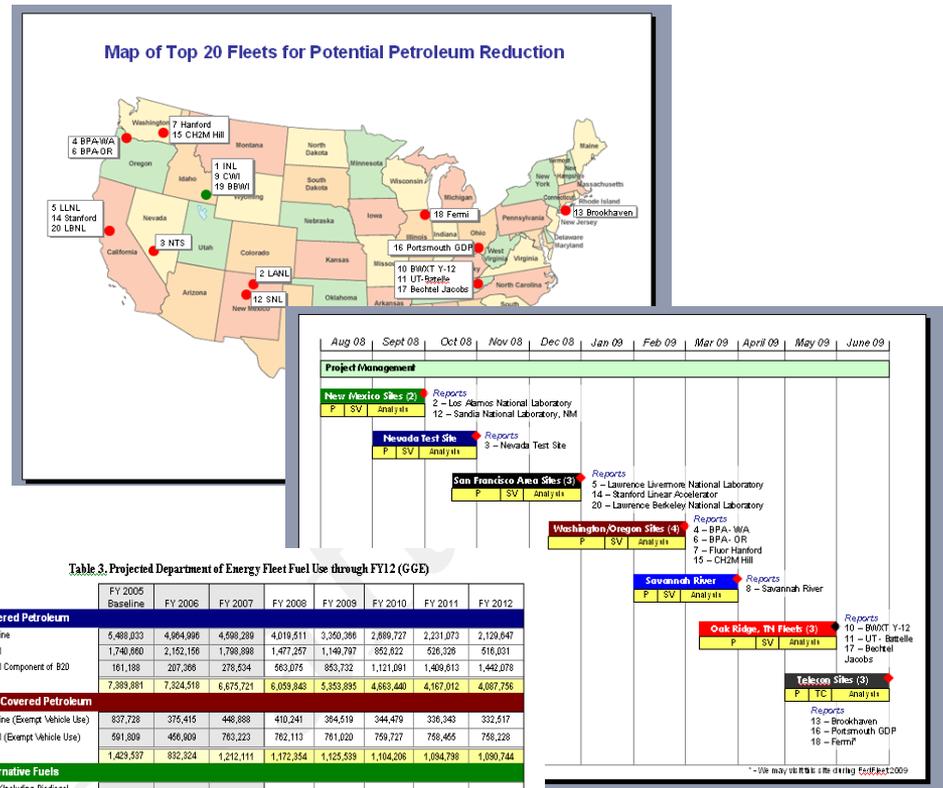


Table 3. Projected Department of Energy Fleet Fuel Use through FY12 (GGE)

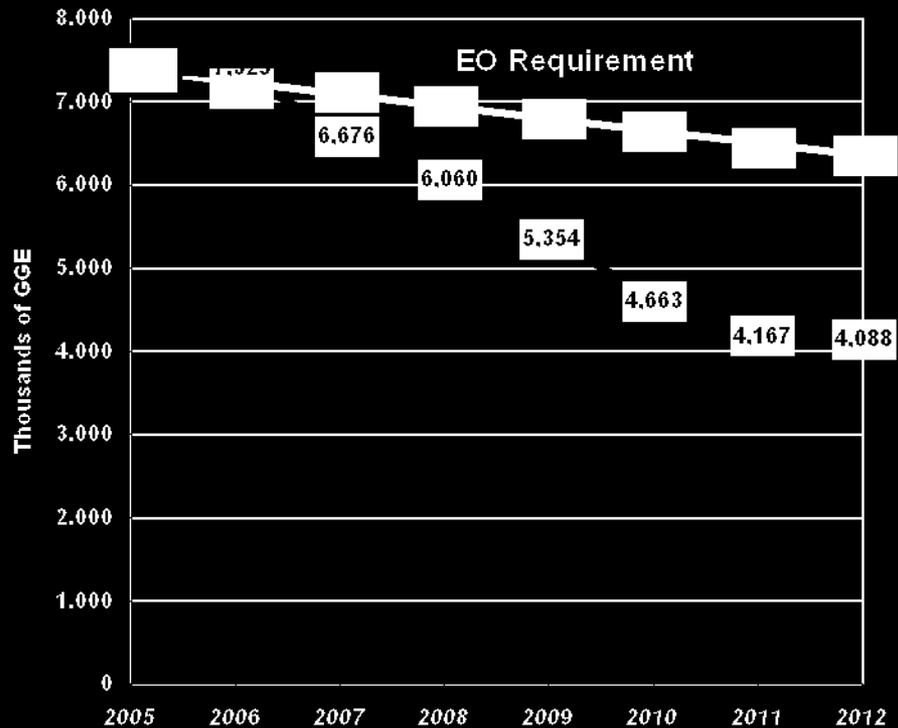
	FY 2005 Baseline	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Covered Petroleum								
Gasoline	5,488,033	4,994,996	4,698,289	4,019,511	3,350,388	2,889,727	2,231,073	2,129,647
Diesel	1,740,660	2,152,156	1,798,898	1,477,287	1,149,797	852,822	526,326	516,031
Diesel Component of B20	161,188	207,368	278,634	563,075	853,732	1,121,091	1,409,813	1,442,078
Total	7,389,881	7,324,510	6,675,221	6,059,842	5,353,915	4,863,440	4,167,012	4,087,756
Non-Covered Petroleum								
Gasoline (Exempt Vehicle Use)	837,728	375,415	446,888	410,241	364,519	344,479	326,343	332,517
Diesel (Exempt Vehicle Use)	561,809	466,909	783,223	782,113	761,020	759,727	756,465	758,228
Total	1,429,537	832,324	1,212,111	1,172,354	1,125,539	1,104,206	1,084,788	1,090,744
Alternative Fuels								
B100 (Including Biodiesel Component of B20)	102,304	107,814	153,644	228,078	308,767	378,262	467,470	471,140
CNG	69,546	58,096	40,371	97,131	157,335	163,074	188,360	174,307
Electric	417	0	0	0	0	0	0	0
E85	401,895	525,168	679,967	1,123,816	1,661,468	2,220,395	2,570,960	2,666,033
LNG	37,147	37,195	44,173	43,731	43,290	42,848	42,406	41,964
LPG	12,468	321	205	203	201	199	197	195
Total	623,780	728,534	918,360	1,493,959	2,169,050	2,805,767	3,239,392	3,253,640
All Fuels								
TOTAL	9,443,198	8,885,436	8,806,192	8,726,156	8,648,484	8,673,413	8,501,203	8,432,140

TEAM Strategy Elements

1. Acquire AFVs and use alternative fuel
2. Use biodiesel blends
3. Acquire hybrids
4. Implement fleet efficiency measures

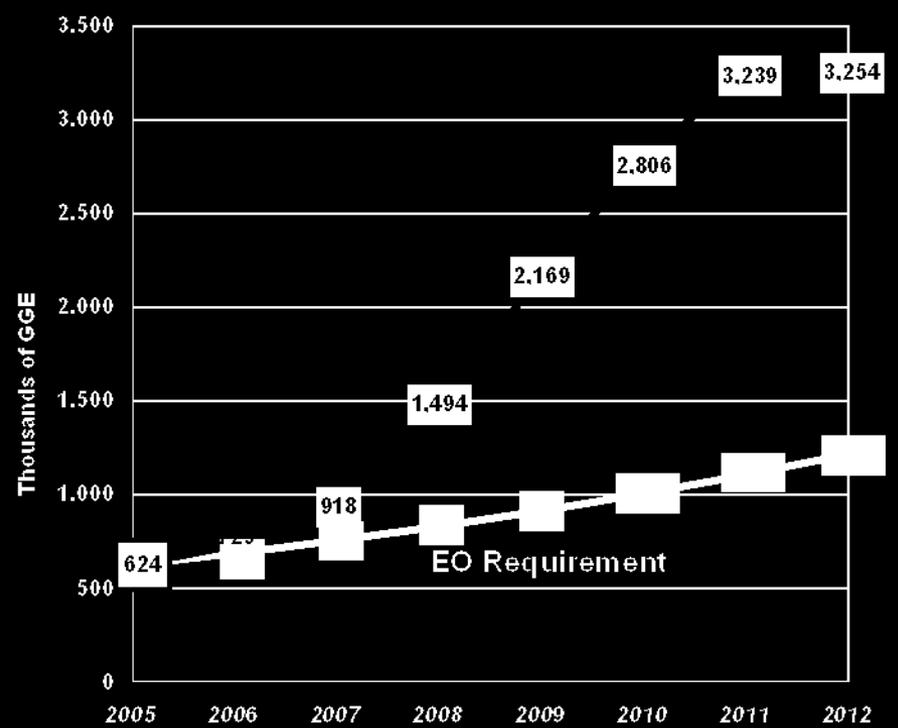
Projected Covered Petroleum Compliance

This strategy will reduce covered petroleum use by 39 %



Projected Alternative Fuel Compliance

And increase alternative fuel use by 254% compared to use in FY 2007



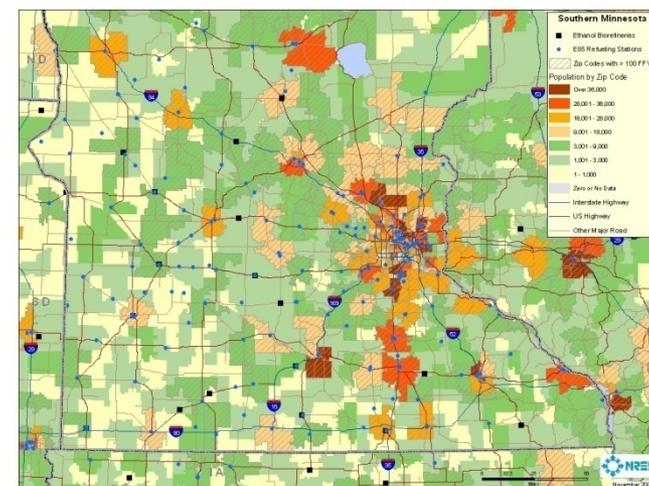
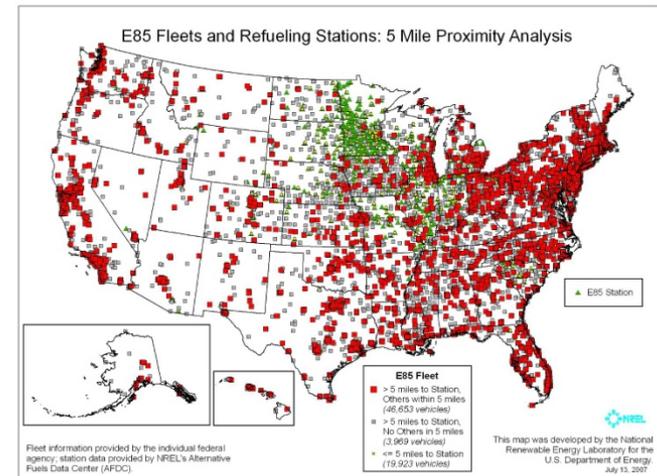
Expanding Alternative Fuel Infrastructure

DOE held “Industry Day” on June 12, bringing together Federal fleets and fuel providers

DOE analyzed location information on AFVs lacking infrastructure

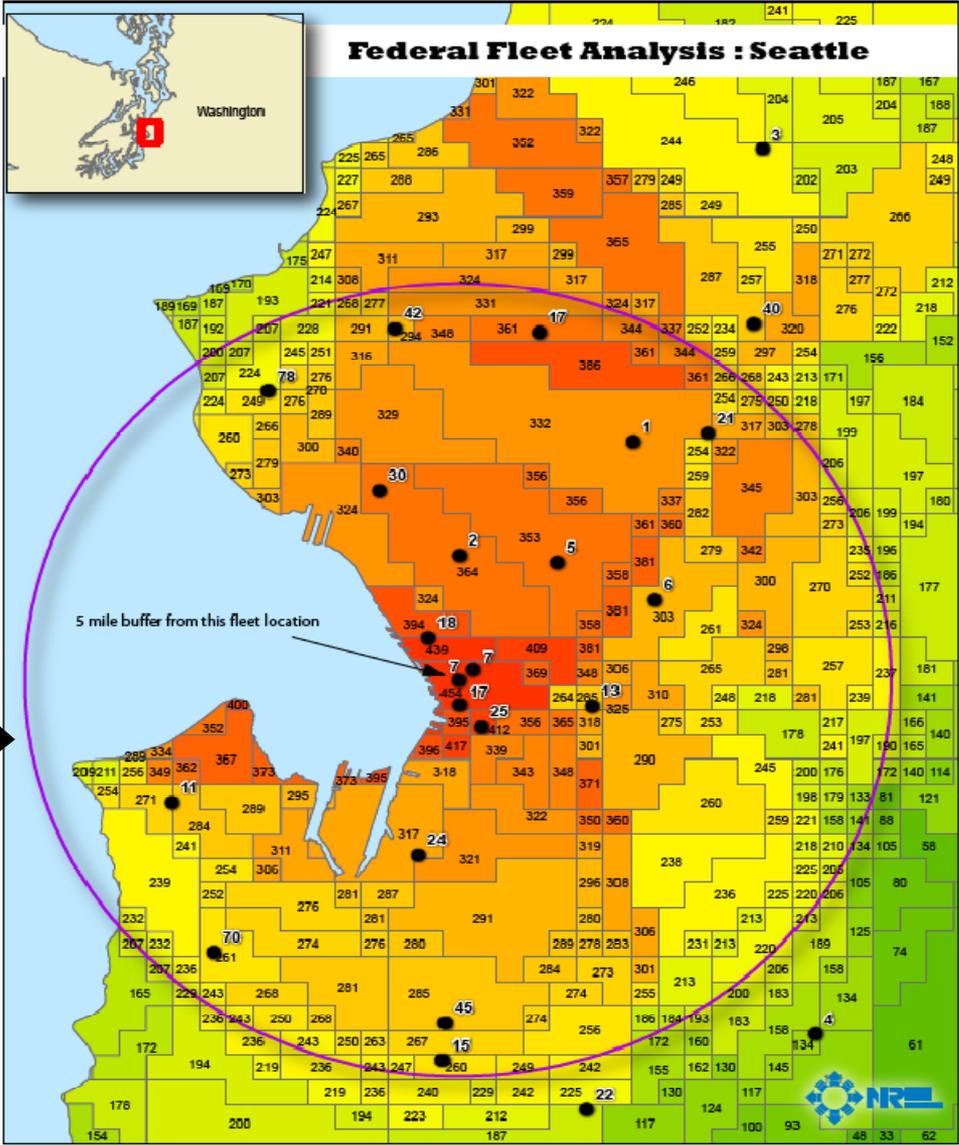
Fuel providers have approached DOE eager to supply these fleets

Opened dialog for evaluating contract and other mechanisms for making AF available to fleets

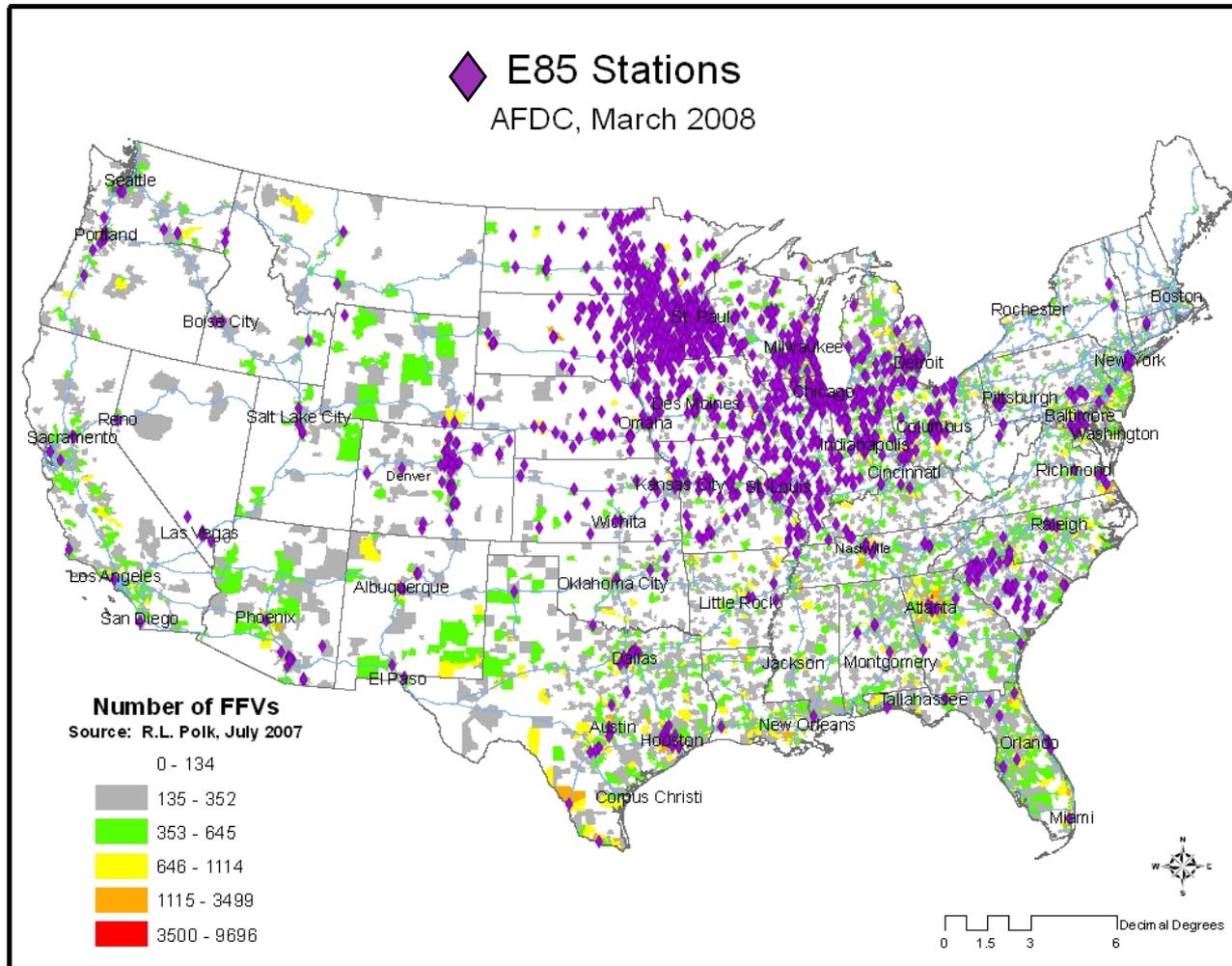


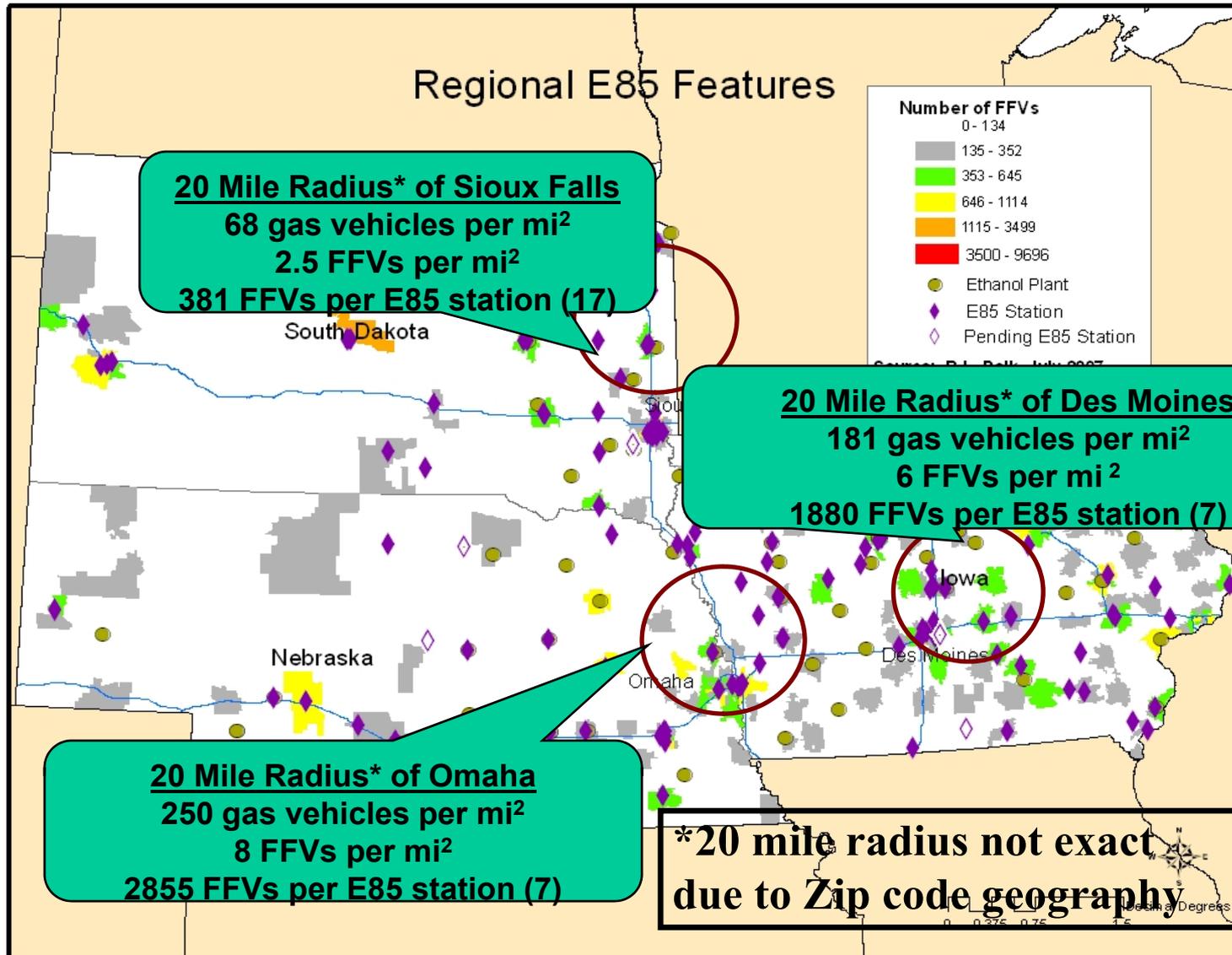
Proximity of Federal fleet FFVs to hypothetical E85 station

14 of 21 Federal agencies garage vehicles within this 5 mile radius



Public Sector Potential





Summary of status

- DOE now knows where the waived Federal AFVs are located (about 70,000 FFVs) – intent is to release this location data shortly
- NREL has identified “hot spots” of opportunity for infrastructure – will conduct further detailed GIS analyses
- NREL has location dataset of DMV-registered AFVs
- DOE has initiated dialog with industry and Federal fleet representatives; established working group



Opportunities for collaboration

Feds and Clean Cities Coalitions (CCCs) are a natural partnership

- Common goals of increased alternative fuel use and infrastructure

Feds can assist CCCs:

- Provide high density Federal fleet location data to CCCs
- \$ (?)
- Guarantee alternative fuel use via long-term contracts

CCCs can assist Feds:

- Identify other fleets in the local area that could use AF
- Act as liaison between fuel providers and fleets
- Participate in working group

QUESTIONS?

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