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Alternatives to Traditional Transportation Fuels 2009

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Contacts

This report was prepared by the staff of the Manufacturing and Transportation Team, Office of Energy Consumption and Efficiency Statistics. Questions about the preparation and content of this report may be directed to Bob Adler, Team Leader, at e-mail bob.adler@eia.gov, (202) 586-1134 or Cynthia Amezcua at e-mail cynthia.amezcua@eia.gov, (202) 586-1658.

Preface

The U.S. Energy Information Administration (EIA) collects data on the following items: 1) the number of alternative fueled vehicles (AFVs) supplied each year; i.e., new AFVs and conventionally fueled vehicles converted to operate on an alternate fuel; 2) the number and type of advanced technology vehicles supplied each year; i.e., gasoline-electric hybrids and diesel-electric hybrids; 3) for a limited set of fleet user groups, the number of AFVs in use and the amount of alternate transportation fuel consumed. The user groups surveyed are: Federal and State governments, alternate fuel providers, and transit companies.

EIA combines these sets of data and other external information to develop an estimate of AFVs for the remaining users, municipal governments and private fleets. The result is a set of AFV supply and use data that represents all AFVs in the United States.

Three sets of AFV data tables are available: 1) AFVs Supplied; 2) AFVs in Use; and 3) Consumption of Alternative Transportation Fuels (ATFs).

Historical data on alternative fueled vehicles in use and alternative transportation fuel consumption may be found on the EIA website at http://www.eia.gov/cneaf/alternate/page/atftables/afv_hist_data.html

Definitions for terms used in this report can be found in EIA's Energy Glossary: http://www.eia.gov/tools/glossary/index.cfm?id=alternativefuels

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Table S1. Summary of Onroad Alternative Fueled and Hybrid Vehicles Made Available, by Fuel Type, Configuration, and Weight Class, 2009

Fuel Type	Light Duty	Medium Duty	Heavy Duty	Total
	Total	Total	Total	
Compressed Natural Gas (CNG)	418	815	2,537	3,770
Dedicated	410	775	2,537	3,722
Nondedicated	8	40	0	48
Electricity (EVC)[1]	2,226	4	25	2,255
Ethanol, 85 Percent (E85)[2]	793,251	12,424	102	805,777
Hydrogen (HYD)[3]	18	0	8	26
Liquefied Natural Gas (LNG)	0	0	126	126
Dedicated	0	0	126	126
Nondedicated	0	0	0	0
Liquefied Petroleum Gas (LPG)	184	117	560	861
Dedicated	2	5	558	565
Nondedicated	182	112	2	296
Diesel-Electric Hybrid (DSL)[4]	0	6	2,217	2,223
Gasoline-Electric Hybrid (GAS)[5]	261,140	0	172	261,312
Total Vehicles	**1,057,237**	**13,366**	**5,747**	**1,076,350**
Dedicated and Nonhybrid	**2,656**	**784**	**3,254**	**6,694**
Nondedicated and Hybrid	**1,054,581**	**12,582**	**2,493**	**1,069,656**

[1]Electric vehicles are battery powered and are considered dedicated.
[2]Ethanol vehicles are flexible-fueled and are considered nondedicated; the remaining portion of 85-percent ethanol is gasoline.
[3]Hydrogen fuel cells are considered dedicated hydrogen because hydrogen is the input fuel.
[4]Diesel-electric hybrids are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has Energy Policy Act of 1992 (EPACT92) implementation authority, ruled that diesel-electric hybrids are not "alternative fuel vehicles."
[5]Gasoline-electric hybrids are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that gasoline-electric hybrids are not "alternative fuel vehicles."

Notes: Dedicated vehicles are designed to operate exclusively on one alternative fuel.
Nondedicated vehicles and hybrid vehicles are configured to operate on more than one fuel.
Light Duty includes vehicles less than or equal to 8,500 GVWR, including neighborhood electric vehicles and motorcycles.
Medium Duty includes vehicles 8,501 to 26,000 GVWR.
Heavy Duty includes vehicles 26,001 and over GVWR.
Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S2. Number of Onroad Light-Duty Alternative Fueled and Hybrid Vehicles Made Available, by Fuel Type, Configuration, and Vehicle Type, 2009

Fuel Type / Configuration	Automobiles	Minivans	Vans	Pickups	SUVs	Trucks	Others	Total
Compressed Natural Gas (CNG)	379	0	6	30	1	0	2	418
Dedicated	379	0	0	29	0	0	2	410
Nondedicated	0	0	6	1	1	0	0	8
Electricity (EVC)[1]	0	0	2	2	0	0	2,222	2,226
Ethanol, 85 Percent (E85)[2]	226,245	49,306	4,213	299,868	213,352	267	0	793,251
Hydrogen (HYD)[3]	7	0	0	0	11	0	0	18
Liquefied Natural Gas (LNG)	0	0	0	0	0	0	0	0
Liquefied Petroleum Gas (LPG)	23	90	0	22	13	36	0	184
Dedicated	2	0	0	0	0	0	0	2
Nondedicated	21	90	0	22	13	36	0	182
Gasoline-Electric Hybrid (GAS)[4]	221,686	0	0	2,145	37,309	0	0	261,140
Total Vehicles	**448,340**	**49,396**	**4,221**	**302,067**	**250,686**	**303**	**2,224**	**1,057,237**
Dedicated and Nonhybrid	**388**	**0**	**2**	**31**	**11**	**0**	**2,224**	**2,656**
Nondedicated and Hybrid	**447,952**	**49,396**	**4,219**	**302,036**	**250,675**	**303**	**0**	**1,054,581**

[1]Electric vehicles are battery powered and are considered dedicated.

[2]Ethanol vehicles are flexible-fueled and are considered nondedicated; the remaining portion of 85-percent ethanol is gasoline.

[3]Hydrogen fuel cells are considered dedicated hydrogen because hydrogen is the input fuel.

[4]Gasoline-electric hybrids are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that gasoline-electric hybrids are not "alternative fuel vehicles."

Notes: Dedicated vehicles are designed to operate exclusively on one alternative fuel.

Nondedicated vehicles and hybrid vehicles are configured to operate on more than one fuel.

Other includes neighborhood electric vehicles and motorcycles.

Light Duty includes vehicles less than or equal to 8,500 GVWR.

Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S3. Number of Onroad Medium- and Heavy-Duty Alternative Fueled and Hybrid Vehicles Made Available, by Fuel Type, Configuration, and Vehicle Type, 2009

Fuel Type / Configuration	Medium Duty				Heavy Duty			
	Vans	Pickups	Trucks	Total	Trucks	Buses	Total	Total
Compressed Natural Gas (CNG)	664	142	9	815	945	1,592	2,537	3,352
Dedicated	664	110	1	775	945	1,592	2,537	3,312
Nondedicated	0	32	8	40	0	0	0	40
Electricity (EVC)[1]	0	0	4	4	0	25	25	29
Ethanol, 85 Percent (E85)[2]	12,424	0	0	12,424	0	102	102	12,526
Hydrogen (HYD)[3]	0	0	0	0	0	8	8	8
Liquefied Natural Gas (LNG)	0	0	0	0	125	1	126	126
Dedicated	0	0	0	0	125	1	126	126
Nondedicated	0	0	0	0	0	0	0	0
Liquefied Petroleum Gas (LPG)	2	98	17	117	21	539	560	677
Dedicated	0	1	4	5	20	538	558	563
Nondedicated	2	97	13	112	1	1	2	114
Diesel-Electric Hybrid (DSL)[4]	0	0	6	6	222	1,995	2,217	2,223
Gasoline-Electric Hybrid (GAS)[5]	0	0	0	0	0	172	172	172
Total Vehicles	**13,090**	**240**	**36**	**13,366**	**1,313**	**4,434**	**5,747**	**19,113**
Dedicated and Nonhybrid	**664**	**111**	**9**	**784**	**1,090**	**2,164**	**3,254**	**4,038**
Nondedicated and Hybrid	**12,426**	**129**	**27**	**12,582**	**223**	**2,270**	**2,493**	**15,075**

[1]Electric vehicles are battery powered and are considered dedicated.

[2]Ethanol vehicles are flexible-fueled and are considered nondedicated; the remaining portion of 85-percent ethanol is gasoline.

[3]Hydrogen fuel cells are considered dedicated hydrogen because hydrogen is the input fuel.

[4]Diesel-electric hybrids are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has Energy Policy Act of 1992 (EPACT92) implementation authority, ruled that diesel-electric hybrids are not "alternative fuel vehicles."

[5]Gasoline-electric hybrids are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that gasoline-electric hybrids are not "alternative fuel vehicles."

Notes: Dedicated vehicles are designed to operate exclusively on one alternative fuel.

Nondedicated vehicles and hybrid vehicles are configured to operate on more than one fuel.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S4. Number of Onroad Alternative Fueled and Hybrid Vehicles Made Available, by Detailed Vehicle Type, 2009

Vehicle Type	Vehicles
Automobiles	**448,340**
Auto-Subcompact	1
Auto-Compact[1]	244,184
Auto-Midsize[1]	77,030
Auto-Fullsize	127,125
Vans	**66,707**
Minivan	49,396
Light Duty Van	4,221
Medium Duty Van	13,090
Pickup Trucks	**302,307**
Light Duty Pickup[1]	302,067
Medium Duty Pickup	240
Other Trucks	**252,338**
Light Duty SUV[1]	250,686
Light Duty Truck	303
Medium Duty Truck	36
Heavy Duty Truck[2]	1,313
Buses	**4,434**
Bus-School	683
Bus-Transit (<27ft 6in)[1]	789
Bus-Transit (>27ft 6in)[1,2]	2,937
Bus-Trolley Bus	25
Other Onroad Vehicles	**2,224**
Low Speed Vehicle (NEV)	1,960
Motorcycle	264
Total	**1,076,350**

[1]Includes gasoline-electric hybrid vehicles which are outside the Energy Policy Act of 1992 (EPACT92) definition of alternative fuel vehicle. See Tables S2 and S3 for a breakdown of hybrids by fuel type and vehicle category.

[2]Includes diesel-electric hybrid vehicles which are outside EPACT92`s definition of alternative fuel vehicle. See Tables S2 and S3 for a breakdown of hybrids by fuel type and vehicle category.

Notes: Light Duty includes vehicles less than or equal to 8,500 GVWR.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S5. Number of Onroad Alternative Fueled and Hybrid Buses Made Available, by Vehicle Type and Fuel Type, 2005 - 2009

Vehicle Type / Fuel	2005	2006	2007	2008	2009
Transit Buses[1]	**1,465**	**1,524**	**1,564**	**2,203**	**3,751**
Compressed Natural Gas (CNG)	952	791	646	1,168	1,416
Electricity (EVC)[2]	1	188	188	58	25
Ethanol, 85 Percent (E85)	0	0	0	0	102
Hydrogen (HYD)	13	1	24	31	8
Liquefied Natural Gas (LNG)	43	8	5	0	1
Liquefied Petroleum Gas (LPG)	68	99	15	37	32
Diesel-Electric Hybrid (DSL)[2]	311	437	686	887	1,995
Gasoline-Electric Hybrid (GAS)	77	0	0	22	172
Intercity Buses	**0**	**0**	**0**	**0**	**0**
Compressed Natural Gas (CNG)	0	0	0	0	0
Electricity (EVC)	0	0	0	0	0
Liquefied Natural Gas (LNG)	0	0	0	0	0
Liquefied Petroleum Gas (LPG)	0	0	0	0	0
School Buses	**288**	**199**	**326**	**362**	**683**
Compressed Natural Gas (CNG)	250	161	324	194	176
Electricity (EVC)	0	0	0	0	0
Liquefied Natural Gas (LNG)	0	0	0	0	0
Liquefied Petroleum Gas (LPG)	38	38	2	168	507
Gasoline-Electric Hybrid (GAS)	0	0	0	0	0
Total Buses	**1,753**	**1,723**	**1,890**	**2,565**	**4,434**

[1]Includes shuttle buses and trolley replicas.

[2]Beginning in 2004, diesel-electric hybrids are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that diesel-electric hybrids are not "alternative fuel vehicles."

Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S6. Number of Onroad Alternative Fueled and Hybrid Vehicles Made Available, by Supplier Type and Vehicle Type, 2005 - 2009

Supplier Type / Vehicle Type	2005	2006	2007	2008	2009
Original Equipment Manufacturer (OEM)	**889,267**	**1,233,924**	**1,454,100**	**1,508,535**	**1,074,493**
Automobiles[1]	294,113	513,907	647,806	654,201	448,288
Vans & Minivans	7,995	12,441	43,877	174,211	65,945
Pickup Trucks	277,978	382,135	422,174	369,000	302,013
Light Duty Trucks & SUVs[1]	305,346	321,041	335,109	304,841	250,939
Medium Duty Trucks	12	0	13	2	7
Heavy Duty Trucks[2]	142	247	387	1,243	1,312
Buses[1,2]	1,639	1,629	1,773	2,278	3,765
Other	2,042	2,524	2,961	2,759	2,224
Converter	**1,014**	**731**	**583**	**998**	**1,857**
Automobiles	552	399	297	253	52
Vans & Minivans	60	29	10	79	762
Pickup Trucks	118	92	74	286	294
Light Duty Trucks & SUVs	108	63	41	50	50
Medium Duty Trucks	58	35	25	39	29
Heavy Duty Trucks	4	10	10	4	1
Buses	114	94	117	287	669
Other	0	9	9	0	0
Total Made Available (OEM plus Converter)	**890,281**	**1,234,655**	**1,454,683**	**1,509,533**	**1,076,350**
Automobiles[1]	294,665	514,306	648,103	654,454	448,340
Vans & Minivans	8,055	12,470	43,887	174,290	66,707
Pickup Trucks	278,096	382,227	422,248	369,286	302,307
Light Duty Trucks & SUVs[1]	305,454	321,104	335,150	304,891	250,989
Medium Duty Trucks	70	35	38	41	36
Heavy Duty Trucks[2]	146	257	397	1,247	1,313
Buses[1,2]	1,753	1,723	1,890	2,565	4,434
Other	2,042	2,533	2,970	2,759	2,224

[1]Includes gasoline-electric hybrid vehicles which are outside the Energy Policy Act of 1992 (EPACT92) definition of an alternative fueled vehicle.

[2]Includes diesel-electric hybrid vehicles which are outside EPACT92`s definition of an alternative fueled vehicle.

Notes: Beginning in 2001, EIA publishes light duty trucks and SUVs separately from pickup trucks.

Light Duty includes vehicles less than or equal to 8,500 GVWR.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Other includes neighborhood electric vehicles and motorcycles.

Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S7. Projected Number of Onroad Alternative Fueled and Hybrid Vehicles to be Made Available, by Fuel Type and Vehicle Type, 2010

Fuel Type	Automobiles	Vans & Minivans	Pickup Trucks	Light Duty Trucks & SUVs	Medium Duty Trucks	Heavy Duty Trucks	Buses	Other Onroad	Total
Compressed Natural Gas (CNG)	w	w	w	w	w	1,760	1,450	w	6,404
Electricity (EVC)	w	w	w	0	w	0	0	w	3,995
Ethanol, 85 Percent (E85)[1]	w	w	w	w	0	0	w	0	1,424,878
Hydrogen (HYD)	w	0	0	w	w	0	w	0	156
Liquefied Natural Gas (LNG)	0	0	0	0	0	432	w	w	443
Liquefied Petroleum Gas (LPG)	w	w	210	w	w	w	w	w	1,821
Diesel-Electric Hybrid (DSL)[2]	0	0	0	0	w	w	1,313	0	1,536
Gasoline-Electric Hybrid (GAS)[3]	w	0	w	48,327	0	0	90	0	331,812
Total	**677,463**	**118,163**	**561,701**	**404,279**	**155**	**2,518**	**3,853**	**2,913**	**1,771,045**

[1]The remaining portion of 85-percent ethanol (E85) is gasoline.

[2]Diesel-electric hybrid vehicles are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has Energy Policy Act of 1992 (EPACT92) implementation authority, ruled that diesel-electric hybrids are not "alternative fueled vehicles."

[3]Gasoline-electric hybrid vehicles are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT 1992 implementation authority, ruled that gasoline-electric hybrids are not "alternative fueled vehicles."

Notes: w = withheld to avoid disclosure of individual company data.

Light Duty includes vehicles less than or equal to 8,500 GVWR.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table V1. Estimated Number of Alternative Fueled Vehicles in Use in the United States, by Fuel Type, 2005 - 2009

Fuel Type	2005	2006	2007	2008	2009
Compressed Natural Gas (CNG)	117,699	116,131	114,391	113,973	114,270
Electricity (EVC)[1]	51,398	53,526	55,730	56,901	57,185
Ethanol, 85 percent (E85)[2,3]	246,363	297,099	364,384	450,327	504,297
Hydrogen (HYD)	119	159	223	313	357
Liquefied Natural Gas (LNG)	2,748	2,798	2,781	3,101	3,176
Liquefied Petroleum Gas (LPG)	173,795	164,846	158,254	151,049	147,030
Other Fuels (OTH)[4]	3	3	3	3	3
Total	**592,125**	**634,562**	**695,766**	**775,667**	**826,318**

[1]Excludes gasoline-electric and diesel-electric hybrids because the input fuel is gasoline or diesel rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that gasoline-electric and diesel-electric hybrids are not "alternative fuel vehicles."

[2]In 1997, some vehicle manufacturers began including E85 fueling capability in certain model lines of vehicles. For 2009, the EIA estimates that the number of E85 vehicles that are capable of operating on E85, gasoline, or both, is about 10 million. Many of these alternative fueled vehicles (AFVs) are sold and used as traditional gasoline-powered vehicles. In this table, AFVs in use include only those E85 vehicles believed to be used as AFVs. These are primarily fleet-operated vehicles.

[3]The remaining portion of 85-percent ethanol is gasoline.

[4]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

The estimated number of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) vehicles in use is zero for all years included in this table. Therefore, those fuels are not shown.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V2. Estimated Number of Alternative Fueled Vehicles in Use, by State, 2005 - 2009

State	2005	2006	2007	2008	2009
Alabama	9,560	8,935	9,884	11,109	11,254
Alaska	2,010	1,993	2,289	2,379	2,602
Arizona	18,904	26,862	32,978	36,943	40,828
Arkansas	2,932	2,817	3,588	3,697	3,802
California	93,930	105,594	117,199	117,000	136,409
Colorado	10,840	13,773	15,108	17,292	18,740
Connecticut	5,800	5,390	5,418	5,288	5,322
Delaware	2,131	2,115	2,098	2,397	2,236
District of Columbia	4,502	6,446	6,020	6,415	8,005
Florida	25,000	29,280	29,974	32,497	33,997
Georgia	17,072	17,677	21,147	24,426	24,670
Hawaii	2,747	3,838	5,907	6,447	5,870
Idaho	3,071	3,506	4,029	4,330	5,090
Illinois	17,054	17,744	19,550	22,285	25,571
Indiana	7,246	7,940	8,884	8,813	12,849
Iowa	4,710	4,885	6,140	5,976	6,206
Kansas	3,988	3,964	4,082	4,955	4,908
Kentucky	5,993	6,136	7,389	8,365	10,620
Louisiana	4,436	4,946	6,544	9,256	10,526
Maine	924	1,273	1,085	1,302	1,422
Maryland	10,495	11,624	12,972	16,278	17,029
Massachusetts	9,114	8,342	8,320	7,765	7,942
Michigan	14,879	14,437	16,410	19,731	21,507
Minnesota	9,195	9,593	10,161	11,310	10,962
Mississippi	5,067	5,162	6,153	8,365	9,197
Missouri	10,096	10,826	10,981	14,867	14,633
Montana	2,000	2,023	3,869	3,580	3,104
Nebraska	2,617	2,916	3,096	3,302	4,358
Nevada	10,854	10,881	11,268	11,029	10,552
New Hampshire	837	916	1,182	1,598	1,638
New Jersey	14,316	14,393	15,076	18,742	20,432
New Mexico	8,914	10,356	11,573	13,739	14,957
New York	30,320	28,064	27,597	31,325	29,942
North Carolina	19,816	18,969	29,335	33,133	32,764
North Dakota	1,521	1,759	3,345	3,318	3,215
Ohio	11,181	12,022	13,498	17,518	19,205
Oklahoma	12,401	12,406	8,295	8,131	9,470
Oregon	6,720	8,014	9,741	10,722	11,106
Pennsylvania	11,894	11,605	12,089	13,307	15,758
Rhode Island	2,471	2,787	2,789	2,782	2,491
South Carolina	9,241	9,642	12,877	16,553	15,703
South Dakota	1,039	1,186	3,650	4,842	5,284
Tennessee	7,803	9,503	9,554	11,870	11,823
Texas	91,590	92,968	88,135	100,393	94,929
Utah	6,014	6,549	7,030	8,022	8,089
Vermont	905	960	991	1,416	1,551
Virginia	11,266	14,606	18,308	21,505	24,279
Washington	12,217	14,815	14,864	13,850	15,083
West Virginia	1,567	1,544	1,803	2,256	2,319

Wisconsin	9,035	8,178	8,728	10,848	10,793
Wyoming	1,532	2,045	2,315	1,834	2,281
State Unknown	2,358	357	448	564	2,995
Total	**592,125**	**634,562**	**695,766**	**775,667**	**826,318**

Notes: Excludes gasoline-electric and diesel-electric hybrids.

Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V3. Estimated Number of Alternative Fueled Vehicles in Use, by State and Fuel Type, 2009

State	Compressed Natural Gas (CNG)	Electricity (EVC)[1]	Ethanol, 85 percent (E85)[2]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[3]	Total
Alabama	358	421	8,838	0	0	1,637	0	11,254
Alaska	463	20	2,066	0	0	53	0	2,602
Arizona	12,080	4,749	17,725	0	566	5,708	0	40,828
Arkansas	183	167	2,259	0	0	1,193	0	3,802
California	37,517	31,545	51,734	0	1,859	13,754	0	136,409
Colorado	1,197	195	12,986	0	0	4,362	0	18,740
Connecticut	1,088	0	3,932	0	0	302	0	5,322
Delaware	16	0	2,194	0	0	26	0	2,236
District of Columbia	1,659	0	6,346	0	0	0	0	8,005
Florida	2,846	181	25,439	0	0	5,531	0	33,997
Georgia	2,847	515	13,431	0	0	7,877	0	24,670
Hawaii	0	281	4,503	0	0	1,086	0	5,870
Idaho	218	0	4,242	0	114	516	0	5,090
Illinois	2,766	198	20,273	0	0	2,334	0	25,571
Indiana	1,544	0	8,226	0	0	3,079	0	12,849
Iowa	0	234	5,399	0	0	573	0	6,206
Kansas	243	0	3,821	0	0	844	0	4,908
Kentucky	126	0	9,353	0	0	1,141	0	10,620
Louisiana	361	431	7,089	0	0	2,645	0	10,526
Maine	12	0	965	0	0	445	0	1,422
Maryland	2,075	1,212	13,319	0	0	423	0	17,029
Massachusetts	1,982	1,746	3,829	0	0	385	0	7,942
Michigan	645	1,879	15,649	0	1	3,333	0	21,507
Minnesota	97	0	8,429	0	11	2,425	0	10,962
Mississippi	225	0	6,491	0	0	2,481	0	9,197
Missouri	88	0	10,895	0	0	3,650	0	14,633
Montana	21	105	2,593	0	0	385	0	3,104
Nebraska	366	0	3,699	0	0	293	0	4,358
Nevada	2,397	6	5,144	0	0	3,005	0	10,552
New Hampshire	138	269	1,034	0	0	197	0	1,638
New Jersey	3,894	38	13,215	0	0	3,285	0	20,432
New Mexico	866	0	12,191	0	0	1,900	0	14,957
New York	8,627	7,301	13,016	0	0	998	0	29,942
North Carolina	548	1,693	26,801	0	0	3,722	0	32,764
North Dakota	12	0	3,081	0	0	122	0	3,215
Ohio	929	470	14,647	0	0	3,159	0	19,205
Oklahoma	2,932	272	5,223	0	0	1,043	0	9,470
Oregon	1,675	1,310	7,704	0	0	417	0	11,106
Pennsylvania	1,863	17	12,749	0	2	1,127	0	15,758
Rhode Island	960	0	1,451	0	0	80	0	2,491
South Carolina	248	17	13,676	0	1	1,761	0	15,703
South Dakota	0	0	5,173	0	0	111	0	5,284
Tennessee	336	41	10,826	0	0	620	0	11,823
Texas	10,125	35	32,755	0	315	51,699	0	94,929
Utah	2,658	176	4,929	0	0	326	0	8,089
Vermont	23	745	666	0	0	117	0	1,551
Virginia	1,814	104	20,628	0	0	1,733	0	24,279
Washington	2,036	0	11,984	0	0	1,063	0	15,083

West Virginia	22	0	2,001	0	0	296	0	2,319
Wisconsin	782	17	7,936	0	0	2,058	0	10,793
Wyoming	329	17	1,741	0	0	194	0	2,281
State Unknown	33	778	1	357	307	1,516	3	2,995
Total	**114,270**	**57,185**	**504,297**	**357**	**3,176**	**147,030**	**3**	**826,318**

[1]Excludes gasoline-electric and diesel-electric hybrids.

[2]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[3]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Totals may not equal sum of components due to independent rounding.

The estimated number of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) vehicles in use is zero for all years included in this table. Therefore, those fuels are not shown.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V4. Estimated Number of Alternative Fueled Vehicles in Use, by Fuel Type and Weight Class, 2005 - 2009

Fuel Type	2005				2006				2007				2008				2009			
	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total
Compressed Natural Gas (CNG)	77,100	23,692	16,907	117,699	75,169	23,143	17,819	116,131	73,039	22,387	18,965	114,391	71,410	21,861	20,702	113,973	69,018	22,165	23,087	114,270
Electricity (EVC)[1]	50,506	84	808	51,398	52,605	85	836	53,526	54,825	86	819	55,730	55,982	87	832	56,901	56,280	88	817	57,185
Ethanol, 85 percent (E85)[2,3]	245,228	1,135	0	246,363	290,156	6,942	1	297,099	348,418	15,965	1	364,384	433,849	16,477	1	450,327	486,867	17,423	7	504,297
Hydrogen (HYD)	99	1	19	119	138	1	20	159	177	1	45	223	235	1	77	313	271	1	85	357
Liquefied Natural Gas (LNG)	186	174	2,388	2,748	182	166	2,450	2,798	175	158	2,448	2,781	188	151	2,762	3,101	181	144	2,851	3,176
Liquefied Petroleum Gas (LPG)	100,981	33,849	38,965	173,795	94,307	32,243	38,296	164,846	89,677	31,098	37,479	158,254	84,473	29,729	36,847	151,049	81,683	28,749	36,598	147,030
Other Fuels (OTH)[4]	3	0	0	3	3	0	0	3	3	0	0	3	3	0	0	3	3	0	0	3
Total	**474,103**	**58,935**	**59,087**	**592,125**	**512,560**	**62,580**	**59,422**	**634,562**	**566,314**	**69,695**	**59,757**	**695,766**	**646,140**	**68,306**	**61,221**	**775,667**	**694,303**	**68,570**	**63,445**	**826,318**

[1]Excludes gasoline-electric and diesel-electric hybrids.

[2]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[3]The remaining portion of 85-percent ethanol is gasoline.

[4]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

The estimated number of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) vehicles in use is zero for all years included in this table. Therefore, those fuels are not shown.

Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR).

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy duty includes vehicles 26,001 pounds and over GVWR.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V5. Estimated Number of Alternative Fueled Vehicles in Use, by Weight Class, Vehicle Type, and Fuel Type, 2009

Weight Class / Vehicle Type	Compressed Natural Gas (CNG)	Electricity (EVC)[1]	Ethanol, 85 percent (E85)[2]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[3]	Total
Light Duty Vehicles	69,018	56,280	486,867	271	181	81,683	3	694,303
Automobiles								
Subcompact	3,685	1,668	199	2	0	44	0	5,598
Compact	17,162	1,919	40,272	167	17	1,328	0	60,865
Midsize	3,099	312	77,927	0	0	4,590	0	85,928
Fullsize	5,796	0	53,777	23	0	4,612	0	64,208
Vans								
Minivans	1,911	229	79,309	0	2	6,074	0	87,525
Light-Duty Vans	10,865	64	16,398	0	7	18,465	0	45,799
Pickups	21,958	2,939	115,349	2	112	42,281	0	182,641
SUVs	536	942	103,534	77	4	1,057	3	106,153
Trucks	3,984	741	101	0	2	3,163	0	7,991
Low Speed Vehicles	13	45,320	0	0	37	42	0	45,412
Motorcycles	8	2,146	1	0	0	27	0	2,182
Other Vehicles	1	0	0	0	0	0	0	1
Medium Duty Vehicles	22,165	88	17,423	1	144	28,749	0	68,570
Vans	7,558	2	2,334	1	8	8,751	0	18,654
Pickups	8,736	0	14,025	0	0	8,601	0	31,362
Trucks	5,871	86	1,064	0	136	11,397	0	18,554
Heavy Duty Vehicles	23,087	817	7	85	2,851	36,598	0	63,445
Trucks	4,641	35	0	0	1,339	30,798	0	36,813
Buses	18,446	782	7	85	1,512	5,800	0	26,632
Total	**114,270**	**57,185**	**504,297**	**357**	**3,176**	**147,030**	**3**	**826,318**

[1]Excludes gasoline-electric and diesel-electric hybrids.

[2]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[3]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR).

Medium duty includes vehicles 8,501 to 26,000 pounds GVWR.

Heavy duty includes vehicles 26,001 pounds and over GVWR.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V6. Estimated Number of Alternative Fueled Vehicles in Use, by Vehicle Category, Configuration, and Fuel Type, 2009

Vehicle Category / Configuration	Compressed Natural Gas (CNG)	Electricity (EVC)[1]	Ethanol, 85 percent (E85)[2]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[3]	Total
Automobiles	29,742	3,899	172,175	192	17	10,574	0	216,599
Dedicated	12,622	3,899	0	25	0	3,603	0	20,149
Non-dedicated	17,120	0	172,175	167	17	6,971	0	196,450
Vans[4]	20,334	295	98,041	1	17	33,290	0	151,978
Dedicated	10,922	295	0	1	8	7,941	0	19,167
Non-dedicated	9,412	0	98,041	0	9	25,349	0	132,811
Pickup Trucks[5]	30,694	2,939	129,374	2	112	50,882	0	214,003
Dedicated	5,881	2,939	0	2	4	6,298	0	15,124
Non-dedicated	24,813	0	129,374	0	108	44,584	0	198,879
Other Trucks[6]	15,032	1,804	104,699	77	1,481	46,415	3	169,511
Dedicated	5,124	1,804	0	4	1,141	36,369	0	44,442
Non-dedicated	9,908	0	104,699	73	340	10,046	3	125,069
Buses	18,446	782	7	85	1,512	5,800	0	26,632
Dedicated	17,125	782	0	72	1,475	4,382	0	23,836
Non-dedicated	1,321	0	7	13	37	1,418	0	2,796
Other Vehicles[7]	22	47,466	1	0	37	69	0	47,595
Dedicated	13	47,466	0	0	37	44	0	47,560
Non-dedicated	9	0	1	0	0	25	0	35
Total	114,270	57,185	504,297	357	3,176	147,030	3	826,318
Dedicated	51,687	57,185	0	104	2,665	58,637	0	170,278
Non-dedicated	62,583	0	504,297	253	511	88,393	3	656,040

[1]Excludes gasoline-electric and diesel-electric hybrids.

[2]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[3]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

[4]Includes minivans, light duty vans, and medium duty vans.

[5]Includes light duty and medium duty pickup trucks.

[6]Includes SUVs, heavy-duty trucks, and all light- and medium-duty trucks except pickup trucks.

[7]Includes motorcycles, low speed vehicles (e.g., neighborhood electric vehicles), and other unspecified vehicles.

Notes: Dedicated vehicles are designed to operate exclusively on one alternative fuel. Non-dedicated vehicles are configured to operate on more than one fuel.

Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V7. Estimated Number of Alternative Fueled Vehicles in Use, by User Group, 2005 - 2009

User Group	2005	2006	2007	2008	2009
Federal Agencies	89,182	107,125	122,288	137,809	149,326
State Agencies	63,391	71,798	79,261	93,221	99,321
Electric Fuel Providers	9,034	9,003	9,679	9,370	9,844
Natural Gas Fuel Providers	7,867	7,078	6,051	5,707	5,468
Propane Fuel Providers	14,666	13,100	10,303	7,875	7,407
Transit Agencies	11,210	11,651	11,280	11,924	11,777
Other Private & Municipal Governments[1]	396,775	414,807	456,904	509,761	543,175
Total	**592,125**	**634,562**	**695,766**	**775,667**	**826,318**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Excludes gasoline-electric and diesel-electric hybrids.

Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V8. Estimated Number of Alternative Fueled Vehicles in Use, by User Group and Fuel Type, 2009

User Group	Compressed Natural Gas (CNG)	Electricity (EVC)[1]	Ethanol, 85 percent (E85)[2]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[3]	Total
Federal Agencies	6,476	56	142,589	4	20	181	0	149,326
State Agencies	7,237	2,020	83,462	2	0	6,600	0	99,321
Electric Fuel Providers	3,276	431	5,621	10	6	500	0	9,844
Natural Gas Fuel Providers	3,677	43	1,535	4	77	132	0	5,468
Propane Fuel Providers	4	2	4	0	9	7,388	0	7,407
Transit Agencies	9,728	102	1,152	7	523	265	0	11,777
Other Private & Municipal Governments[4]	83,872	54,531	269,934	330	2,541	131,964	3	543,175
Total	**114,270**	**57,185**	**504,297**	**357**	**3,176**	**147,030**	**3**	**826,318**

[1]Excludes gasoline-electric and diesel-electric hybrids.

[2]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[3]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

[4]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V9. Estimated Number of Compressed Natural Gas Vehicles in Use, by State and User Group, 2009

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	71	3	0	26	0	50	208	358
Alaska	57	14	29	0	0	0	363	463
Arizona	124	478	457	192	0	270	10,559	12,080
Arkansas	36	7	0	21	0	0	119	183
California	1,473	1,619	1,608	967	0	5,123	26,727	37,517
Colorado	96	2	3	87	0	46	963	1,197
Connecticut	68	133	30	14	0	0	843	1,088
Delaware	0	0	0	1	0	0	15	16
District of Columbia	85	204	37	0	0	461	872	1,659
Florida	537	112	10	58	0	8	2,121	2,846
Georgia	143	155	38	7	0	593	1,911	2,847
Hawaii	0	0	0	0	0	0	0	0
Idaho	38	1	8	0	0	26	145	218
Illinois	108	0	169	14	0	73	2,402	2,766
Indiana	10	0	127	77	0	0	1,330	1,544
Iowa	0	0	0	0	0	0	0	0
Kansas	12	5	0	82	0	0	144	243
Kentucky	22	0	0	0	0	0	104	126
Louisiana	52	0	47	3	0	0	259	361
Maine	1	0	0	0	0	0	11	12
Maryland	476	106	0	17	0	96	1,380	2,075
Massachusetts	32	404	1	53	0	392	1,100	1,982
Michigan	16	10	20	0	0	93	506	645
Minnesota	7	0	0	19	0	4	67	97
Mississippi	57	0	0	1	0	0	167	225
Missouri	16	3	3	11	0	0	55	88
Montana	3	0	1	0	4	0	13	21
Nebraska	19	0	0	57	0	0	290	366
Nevada	96	120	0	88	0	150	1,943	2,397
New Hampshire	0	37	0	0	0	0	101	138
New Jersey	45	1,064	66	14	0	76	2,629	3,894
New Mexico	51	96	0	40	0	86	593	866
New York	425	1,668	10	495	0	1,173	4,856	8,627
North Carolina	74	6	11	41	0	0	416	548
North Dakota	1	0	0	0	0	0	11	12
Ohio	26	17	248	1	0	57	580	929
Oklahoma	218	18	40	580	0	0	2,076	2,932
Oregon	15	182	41	117	0	65	1,255	1,675
Pennsylvania	69	96	85	23	0	86	1,504	1,863
Rhode Island	0	247	0	41	0	15	657	960
South Carolina	25	45	1	10	0	0	167	248
South Dakota	0	0	0	0	0	0	0	0
Tennessee	18	0	52	18	0	0	248	336
Texas	1,440	70	10	97	0	504	8,004	10,125
Utah	38	94	0	295	0	0	2,231	2,658
Vermont	1	0	0	8	0	0	14	23
Virginia	289	179	4	19	0	30	1,293	1,814
Washington	50	0	91	36	0	251	1,608	2,036

West Virginia	9	0	0	0	0	0	13	22
Wisconsin	21	41	29	4	0	0	687	782
Wyoming	6	1	0	43	0	0	279	329
State Unknown	0	0	0	0	0	0	33	33
Total	**6,476**	**7,237**	**3,276**	**3,677**	**4**	**9,728**	**83,872**	**114,270**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V10. Estimated Number of Electric Vehicles in Use, by State and User Group, 2009

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	3	0	23	0	0	0	395	421
Alaska	2	0	0	0	0	0	18	20
Arizona	2	157	77	3	0	10	4,500	4,749
Arkansas	2	0	0	0	0	0	165	167
California	0	947	297	38	0	20	30,243	31,545
Colorado	1	8	1	0	0	0	185	195
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	8	0	2	0	171	181
Georgia	5	2	12	0	0	0	496	515
Hawaii	0	2	0	0	0	0	279	281
Idaho	0	0	0	0	0	0	0	0
Illinois	0	5	0	0	0	0	193	198
Indiana	0	0	0	0	0	0	0	0
Iowa	0	12	1	0	0	0	221	234
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	24	0	0	0	0	407	431
Maine	0	0	0	0	0	0	0	0
Maryland	0	65	0	0	0	0	1,147	1,212
Massachusetts	0	95	0	0	0	0	1,651	1,746
Michigan	4	91	0	0	0	0	1,784	1,879
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	2	0	0	0	0	0	103	105
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	2	0	0	4	6
New Hampshire	0	13	0	0	0	0	256	269
New Jersey	0	0	2	0	0	0	36	38
New Mexico	0	0	0	0	0	0	0	0
New York	30	396	1	0	0	0	6,874	7,301
North Carolina	0	84	0	0	0	0	1,609	1,693
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	12	2	0	0	57	399	470
Oklahoma	1	15	0	0	0	0	256	272
Oregon	0	72	1	0	0	0	1,237	1,310
Pennsylvania	1	0	0	0	0	0	16	17
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	1	0	0	0	16	17
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	15	26	41
Texas	0	0	0	0	0	0	35	35
Utah	1	5	0	0	0	0	170	176
Vermont	0	14	4	0	0	0	727	745
Virginia	2	0	0	0	0	0	102	104
Washington	0	0	0	0	0	0	0	0

West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	1	0	0	0	16	17
Wyoming	0	1	0	0	0	0	16	17
State Unknown	0	0	0	0	0	0	778	778
Total	**56**	**2,020**	**431**	**43**	**2**	**102**	**54,531**	**57,185**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V11. Estimated Number of Ethanol (E85) Vehicles in Use, by State and User Group, 2009

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	2,501	1,952	6	31	0	0	4,348	8,838
Alaska	812	0	0	0	0	0	1,254	2,066
Arizona	2,888	1,476	632	152	0	244	12,333	17,725
Arkansas	1,028	0	92	5	0	0	1,134	2,259
California	12,153	9,052	92	11	0	8	30,418	51,734
Colorado	3,986	1,097	104	116	0	63	7,620	12,986
Connecticut	906	1,782	4	0	0	0	1,240	3,932
Delaware	219	1,190	0	0	0	5	780	2,194
District of Columbia	2,460	469	22	0	0	0	3,395	6,346
Florida	8,296	2,914	246	0	0	0	13,983	25,439
Georgia	4,024	1,878	225	12	0	177	7,115	13,431
Hawaii	1,924	0	0	0	0	0	2,579	4,503
Idaho	1,171	721	70	0	0	0	2,280	4,242
Illinois	6,236	2,960	478	266	0	63	10,270	20,273
Indiana	2,040	1,486	140	0	2	0	4,558	8,226
Iowa	1,181	1,644	187	0	2	0	2,385	5,399
Kansas	1,807	162	195	8	0	0	1,649	3,821
Kentucky	2,296	1,055	96	149	0	20	5,737	9,353
Louisiana	1,893	1,956	107	32	0	0	3,101	7,089
Maine	415	50	0	0	0	0	500	965
Maryland	4,725	1,604	12	0	0	381	6,597	13,319
Massachusetts	1,770	351	2	13	0	52	1,641	3,829
Michigan	3,781	4,081	232	0	0	0	7,555	15,649
Minnesota	2,417	2,408	63	10	0	48	3,483	8,429
Mississippi	1,736	982	49	20	0	0	3,704	6,491
Missouri	3,933	2,217	144	68	0	0	4,533	10,895
Montana	875	175	1	12	0	0	1,530	2,593
Nebraska	919	937	59	41	0	0	1,743	3,699
Nevada	1,782	167	0	95	0	11	3,089	5,144
New Hampshire	288	143	0	1	0	0	602	1,034
New Jersey	3,378	3,540	30	0	0	0	6,267	13,215
New Mexico	2,987	2,021	82	29	0	0	7,072	12,191
New York	4,718	2,067	135	16	0	0	6,080	13,016
North Carolina	3,863	6,733	155	64	0	0	15,986	26,801
North Dakota	767	508	6	0	0	0	1,800	3,081
Ohio	4,260	3,690	95	0	0	0	6,602	14,647
Oklahoma	1,417	1,358	173	6	0	0	2,269	5,223
Oregon	1,894	1,669	8	62	0	0	4,071	7,704
Pennsylvania	4,670	1,778	181	0	0	0	6,120	12,749
Rhode Island	484	288	0	3	0	0	676	1,451
South Carolina	2,359	4,231	279	12	0	0	6,795	13,676
South Dakota	888	1,240	68	0	0	0	2,977	5,173
Tennessee	2,796	2,706	0	20	0	0	5,304	10,826
Texas	10,937	1,955	584	270	0	45	18,964	32,755
Utah	1,468	981	0	0	0	0	2,480	4,929
Vermont	293	0	0	0	0	0	373	666
Virginia	6,788	1,314	331	7	0	15	12,173	20,628
Washington	4,300	597	205	3	0	20	6,859	11,984

West Virginia	915	0	29	0	0	0	1,057	2,001
Wisconsin	2,338	1,759	0	0	0	0	3,839	7,936
Wyoming	607	118	2	1	0	0	1,013	1,741
State Unknown	0	0	0	0	0	0	1	1
Total	**142,589**	**83,462**	**5,621**	**1,535**	**4**	**1,152**	**269,934**	**504,297**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V12. Estimated Number of Hydrogen Vehicles in Use, by State and User Group, 2009

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	0	0	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0	0	0
California	0	0	0	0	0	0	0	0
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0

West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	4	2	10	4	0	7	330	357
Total	**4**	**2**	**10**	**4**	**0**	**7**	**330**	**357**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V13. Estimated Number of Liquefied Natural Gas Vehicles in Use, by State and User Group, 2009

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	7	0	0	0	0	0	559	566
Arkansas	0	0	0	0	0	0	0	0
California	0	0	6	77	0	327	1,449	1,859
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	13	0	0	0	0	0	101	114
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	1	1
Minnesota	0	0	0	0	8	0	3	11
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	2	2
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	1	0	0	1
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	196	119	315
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0

West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	0	0	0	0	0	0	307	307
Total	**20**	**0**	**6**	**77**	**9**	**523**	**2,541**	**3,176**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V14. Estimated Number of Liquefied Petroleum Gas Vehicles in Use, by State and User Group, 2009

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	1	0	8	0	313	0	1,315	1,637
Alaska	1	0	0	0	7	0	45	53
Arizona	7	106	78	0	272	35	5,210	5,708
Arkansas	0	10	4	0	158	0	1,021	1,193
California	10	1,260	46	20	493	22	11,903	13,754
Colorado	2	11	1	1	139	30	4,178	4,362
Connecticut	0	0	0	0	43	0	259	302
Delaware	0	0	0	0	4	0	22	26
District of Columbia	0	0	0	0	0	0	0	0
Florida	33	69	0	0	403	0	5,026	5,531
Georgia	2	170	16	0	237	0	7,452	7,877
Hawaii	7	0	1	0	31	0	1,047	1,086
Idaho	6	6	1	0	63	0	440	516
Illinois	0	0	0	2	245	0	2,087	2,334
Indiana	0	0	0	16	296	0	2,767	3,079
Iowa	0	0	0	0	72	0	501	573
Kansas	0	0	0	4	97	0	743	844
Kentucky	0	0	0	0	151	0	990	1,141
Louisiana	22	0	2	0	53	0	2,568	2,645
Maine	0	3	0	0	14	37	391	445
Maryland	0	0	0	0	69	0	354	423
Massachusetts	0	4	0	0	40	7	334	385
Michigan	2	2	0	8	359	0	2,962	3,333
Minnesota	0	0	1	8	137	1	2,278	2,425
Mississippi	0	392	0	0	227	0	1,862	2,481
Missouri	0	29	3	0	401	0	3,217	3,650
Montana	6	0	0	0	45	0	334	385
Nebraska	0	0	0	0	42	0	251	293
Nevada	0	122	0	0	42	0	2,841	3,005
New Hampshire	0	0	0	0	46	0	151	197
New Jersey	0	49	0	1	71	0	3,164	3,285
New Mexico	0	126	9	0	140	0	1,625	1,900
New York	0	11	0	0	110	0	877	998
North Carolina	0	152	1	0	425	0	3,144	3,722
North Dakota	1	0	0	0	19	0	102	122
Ohio	0	4	0	0	303	0	2,852	3,159
Oklahoma	2	0	0	0	184	0	857	1,043
Oregon	1	0	0	0	28	0	388	417
Pennsylvania	36	0	0	0	124	0	967	1,127
Rhode Island	0	0	0	0	8	0	72	80
South Carolina	0	57	9	0	150	0	1,545	1,761
South Dakota	0	0	0	0	28	0	83	111
Tennessee	0	0	0	3	90	24	503	620
Texas	4	4,017	315	67	549	109	46,638	51,699
Utah	31	0	0	0	35	0	260	326
Vermont	0	0	0	0	23	0	94	117
Virginia	4	0	5	0	183	0	1,541	1,733
Washington	1	0	0	0	122	0	940	1,063

West Virginia	2	0	0	0	36	0	258	296
Wisconsin	0	0	0	2	228	0	1,828	2,058
Wyoming	0	0	0	0	33	0	161	194
State Unknown	0	0	0	0	0	0	1,516	1,516
Total	**181**	**6,600**	**500**	**132**	**7,388**	**265**	**131,964**	**147,030**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V15. Estimated Number of Alternative Fueled Vehicles in Use by Federal Agencies, by Agency, Weight Class, and Fuel Type, 2009

Agency	Light Duty							Medium Duty							Heavy Duty							
	Compressed Natural Gas (CNG)	Electricity (EVC)[1]	Ethanol, 85 Percent (E85)	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Total	Compressed Natural Gas (CNG)	Electricity (EVC)[1]	Ethanol, 85 Percent (E85)	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Total	Compressed Natural Gas (CNG)	Electricity (EVC)[1]	Ethanol, 85 Percent (E85)	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Total	Grand Total
Consumer Product Safety Commission	0	0	35	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
Corps of Engineers, Civil Works	6	0	2,344	0	0	0	2,350	0	0	8	0	0	0	8	0	0	0	0	0	0	0	2,358
Court Services and Offender Supervision Agency	0	0	51	0	0	0	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51
Defense Agencies	29	0	2,135	0	0	0	2,164	16	0	25	0	0	0	41	0	0	0	0	0	0	0	2,205
Department of Agriculture	29	0	9,129	0	0	17	9,175	0	0	20	0	0	0	20	1	0	0	0	0	0	1	9,196
Department of Air Force	287	11	6,466	0	0	0	6,764	248	0	273	0	0	0	521	21	0	0	0	0	0	21	7,306
Department of Army	131	0	26,785	0	0	10	26,926	190	0	400	0	0	38	628	4	0	0	0	0	1	5	27,559
Department of Commerce	21	0	591	0	0	0	612	11	1	5	0	0	0	17	0	0	0	0	0	0	0	629
Department of Education	0	0	33	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Department of Energy	142	0	4,982	0	7	3	5,134	71	0	85	0	0	0	156	0	0	0	0	6	0	6	5,296
Department of Health and Human Services	3	0	1,487	0	0	0	1,490	3	0	20	0	0	0	23	0	0	0	0	0	0	0	1,513
Department of Homeland Security	4	0	9,031	0	0	1	9,036	8	3	439	0	0	0	450	0	1	0	0	0	1	2	9,488
Department of Housing and Urban Development	0	0	77	0	0	0	77	0	0	1	0	0	0	1	0	0	0	0	0	0	0	78
Department of Justice	56	0	4,235	0	0	0	4,291	4	0	102	0	0	0	106	2	0	0	0	0	0	2	4,399
Department of Labor	0	0	1,753	0	0	0	1,753	3	0	0	0	0	0	3	0	0	0	0	0	0	0	1,756
Department of Navy	432	0	10,319	0	0	0	10,751	126	0	800	0	0	0	926	22	0	0	0	0	0	22	11,699
Department of State	4	0	555	0	0	0	559	10	0	0	0	0	0	10	5	0	0	0	0	0	5	574
Department of the Interior	58	7	3,793	0	0	17	3,875	43	1	67	0	0	1	112	33	2	0	0	7	32	74	4,061
Department of Transportation	5	0	2,864	0	0	0	2,869	5	0	13	0	0	0	18	2	0	0	0	0	0	2	2,889
Department of Treasury	0	0	397	0	0	0	397	1	0	0	0	0	0	1	0	0	0	0	0	0	0	398
Department of Veterans Affairs	6	0	5,557	0	0	0	5,563	3	0	98	0	0	0	101	3	0	0	0	0	0	3	5,667
Environmental Protection Agency	1	0	462	1	0	0	464	2	0	10	0	0	0	12	0	0	0	0	0	0	0	476
Equal Employment Opportunity Commission	0	0	39	0	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Federal Communications Commission	0	0	79	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79
Federal Housing Finance Agency	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
General Services Administration	3	0	842	0	0	0	845	2	0	0	0	0	0	2	0	0	0	0	0	0	0	847
Library of Congress	0	0	6	0	0	0	6	2	0	0	0	0	0	2	0	0	0	0	0	0	0	8
National Aeronautics and Space Administration	123	0	1,451	0	0	20	1,594	69	0	22	0	0	6	97	0	0	0	0	0	0	0	1,691
National Archives & Records Administration	0	0	34	0	0	0	34	0	0	2	0	0	0	2	0	0	0	0	0	0	0	36
National Labor Relations Board	0	0	16	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
National Science Foundation	0	0	20	0	0	0	20	0	0	1	0	0	0	1	0	0	0	0	0	0	0	21
Nuclear Regulatory Commission	0	0	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Office of Personnel Management	0	0	684	0	0	0	684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	684
Peace Corps	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Small Business Administration	0	0	15	0	0	0	15	0	0	1	0	0	0	1	0	0	0	0	0	0	0	16

Smithsonian Institution	6	0	62	0	0	0	68	8	0	1	0	0	0	9	0	0	0	0	0	0	0	77
Social Security Administration	0	0	328	0	0	0	328	2	0	4	0	0	0	6	0	0	0	0	0	0	0	334
Tennessee Valley Authority	0	0	194	0	0	0	194	2	0	6	0	0	0	8	0	0	0	0	0	0	0	202
U.S. Postal Service	3,655	0	40,588	0	0	34	44,277	53	30	3	0	0	0	86	6	0	0	0	0	0	6	44,369
United States Marine Corps	392	0	2,563	3	0	0	2,958	84	0	153	0	0	0	237	18	0	0	0	0	0	18	3,213
Total	**5,393**	**18**	**140,030**	**4**	**7**	**102**	**145,554**	**966**	**35**	**2,559**	**0**	**0**	**45**	**3,605**	**117**	**3**	**0**	**0**	**13**	**34**	**167**	**149,326**

[1]Excludes gasoline-electric and diesel-electric hybrids.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year.

Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR).

Medium duty includes vehicles 8,501 to 26,000 pounds GVWR.

Heavy duty includes vehicles 26,001 pounds and over GVWR.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C1. Estimated Consumption of Vehicle Fuels in the United States, by Fuel Type, 2005 - 2009

(Thousand Gasoline-Equivalent Gallons)

Fuel Type	2005	2006	2007	2008	2009
Alternative Fuels					
Compressed Natural Gas (CNG)	166,878	172,011	178,565	189,358	199,513
Electricity (EVC)	5,219	5,104	5,037	5,050	4,956
Ethanol, 85 percent (E85)[1]	38,074	44,041	54,091	62,464	71,213
Hydrogen (HYD)	25	41	66	117	140
Liquefied Natural Gas (LNG)	22,409	23,474	24,594	25,554	25,652
Liquefied Petroleum Gas (LPG)	188,171	173,130	152,360	147,784	129,631
Other Fuels (OTH)[2]	2	2	2	2	2
Subtotal	420,778	417,803	414,715	430,329	431,107
Biodiesel (BIO)	93,281	267,623	367,764	324,329	325,102
Oxygenates					
Methyl Tertiary Butyl Ether (MTBE) and Other Oxygenate[3]	1,654,500	435,000	0	0	0
Ethanol in Gasohol	2,765,663	3,729,168	4,694,304	6,442,781	7,343,133
Total Alternative and Replacement Fuels[4]	4,934,222	4,849,594	5,476,783	7,197,439	8,099,342
Traditional Fuels Used On-Highway					
Gasoline (GAS)[5]	138,723,000	140,146,000	140,646,000	134,644,492	134,385,175
Diesel (DSL)[5]	43,042,000	44,247,000	44,533,000	41,434,412[R]	37,701,896
Total Fuel Consumption[6]	182,185,778	184,810,803	185,593,715	176,509,233[R]	172,518,178

[1]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[2]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

[3]Other Oxygenates are assumed to be primarily Tertiary Amyl Methyl Ether (TAME).

[4]A replacement fuel is the portion of any motor fuel that is methanol, ethanol, or other alcohols, natural gas, liquefied petroleum gases, hydrogen, coal-derived liquid fuels, electricity (including electricity from solar energy), ethers, biodiesel, or any other fuel the Secretary of Energy determines, by rule, is substantially not petroleum and would yield substantial energy security benefits and substantial environmental benefits.

[5]Gasoline consumption includes ethanol in gasohol and MTBE. Diesel includes biodiesel.

[6]Total fuel consumption is the sum of alternative fuel, gasoline, and diesel consumption. Oxygenate consumption is included in gasoline consumption. Biodiesel is included in diesel consumption.

Notes: R = Revised

Fuel quantities are expressed in a common base unit of gasoline-equivalent gallons to allow comparisons of different fuel types. Gasoline-equivalent gallons do not represent gasoline displacement.

The estimated consumption of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) is zero for the year included in this table. Therefore, those fuels are not shown.

Totals may not equal sum of components due to independent rounding.

Sources: Unless otherwise noted, volume data are obtained from Table C2 and converted to gasoline-gallon equivalents using higher heating values for each fuel. See Table C2 for sources of data in native units.

Biodiesel: U.S. Energy Information Administration, Monthly Energy Review January 2011, Table 10.2b.

Gasoline and Ethanol Higher Heating Values: U.S. Energy Information Administration, Monthly Energy Review January 2011, Table A3.

MTBE: Argonne National Laboratory GREET Model, Table A.1.

Other Oxygenates: Argonne National Laboratory GREET Model, Table A.1. Assumed to be tertiary amyl methyl ether (TAME).

Ethanol: U.S. Energy Information Administration, Monthly Energy Review, January 2011, Table A3.

Diesel Higher Heating Value: Annual Energy Outlook 2010, Table 128. Highway diesel in 2004 and 2005 was assumed to be low-sulfur diesel fuel. Highway diesel in 2006 was assumed to be 20% ultra-low-sulfur diesel fuel and 80% low-sulfur diesel fuel by volume. Highway diesel in 2007-2009 was assumed to be 80% ultra-low-sulfur diesel fuel and 20% low-sulfur diesel fuel by volume.

Table C2. Estimated Consumption of Vehicle Fuels in Native Units, by Fuel Type, 2005 - 2009

Fuel Type	Units	2005	2006	2007	2008	2009
Alternative Fuels						
Compressed Natural Gas (CNG)	million cubic feet	20,106	20,724	21,514	22,814	24,038
Electricity (EVC)	thousand kwh	173,967	170,133	167,900	168,333	165,200
Ethanol, 85 percent (E85)[1]	thousand gallons	52,881	61,168	75,126	86,756	98,907
Hydrogen (HYD)	thousand kilograms	23	37	60	107	128
Liquefied Natural Gas (LNG)	thousand gallons	33,953	35,567	37,264	38,718	38,867
Liquefied Petroleum Gas (LPG)	thousand gallons	254,285	233,959	205,892	199,708	175,177
Other Fuels (OTH)[2]		na	na	na	na	na
Biodiesel (BIO)	thousand gallons	90,827	260,584	358,156	315,796	316,549
Oxygenates						
Methyl Tertiary Butyl Ether (MTBE) and Other Oxygenate[3]	thousand gallons	2,035,320	534,912	0	0	0
Ethanol in Gasohol	thousand gallons	4,013,679	5,429,217	6,885,690	9,435,428	10,753,990
Traditional Fuels Used On-Highway						
Gasoline (GAS)[4]	thousand gallons	138,723,000	140,146,000	140,646,000	134,644,492	134,385,175
Diesel (DSL)[4]	thousand gallons	38,054,000	39,120,000	39,373,000	37,528,464[R]	34,147,806

[1]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[2]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

[3]Other Oxygenates are assumed to be primarily Tertiary Amyl Methyl Ether (TAME).

[4]Gasoline consumption includes ethanol in gasohol and MTBE. Diesel includes biodiesel. Gasoline and diesel values are rounded to the nearest million gallons.

Notes: R = Revised, na=not applicable, kwh=kilowatt hours.

Totals may not equal sum of components due to independent rounding.

Sources: Gasoline: U.S. Energy Information Administration, Petroleum Supply Annual Volume 1, Table 1, Product Supplied. The fraction of gasoline used on-highway was determined from the Federal Highway Administration`s "Highway Statistics" for the years 2004 through 2008. Highway use of gasoline and total use of gasoline are found in Table MF-21 for the applicable year. Aviation gasoline use is found in Table MF-24 for the applicable year. The fraction is calculated as (total highway use of gasoline)/(total use of gasoline - aviation gasoline). The estimated fractions of gasoline use that were on-highway are 0.969, 0.968, 0.967, 0.970, and 0.974 for 2004 through 2008, respectively. The 2008 value was carried over for 2009.

Biodiesel: U.S. Energy Information Administration, Monthly Energy Review, January 2011, Table 10.4, Consumption.

MTBE: U.S. Energy Information Administration, Petroleum Supply Annual Volume 1, Table 15, html version, Refinery and Blender Net Inputs. Highway use of MTBE estimated by applying the fraction of gasoline used on-highway for each year to the MTBE quantity.

All Other Oxygenates: U.S. Energy Information Administration, Petroleum Supply Annual Volume 1, Table 15, html version, Refinery and Blender Net Inputs. Fuel ethanol is not included in this category. Highway use of All Other Oxygenates estimated by applying the fraction of gasoline used on-highway for each year to the All Other Oxygenates quantity.

Ethanol: U.S. Energy Information Administration, Monthly Energy Review, January 2011 Table 10.3, Consumption. Highway use of ethanol estimated by applying the fraction of gasoline used on-highway for each year to the ethanol quantity.

Diesel: U.S.Energy Information Administration, Fuel Oil and Kerosene Sales 2009, Table 1, Sales of Distillate Fuel Oil, On-Highway.

Table C3. Estimated Consumption of Alternative Fuels, by State, 2005 - 2009

(Thousand Gasoline-Equivalent Gallons)

State	2005	2006	2007	2008	2009
Alabama	6,276	5,175	4,562	4,386	4,447
Alaska	619	433	526	558	278
Arizona	20,617	22,865	23,095	23,714	23,871
Arkansas	2,551	2,547	2,718	2,775	2,597
California	96,086	100,170	109,114	116,010	127,586
Colorado	5,714	6,569	7,274	7,546	8,431
Connecticut	1,708	1,505	1,572	1,576	1,361
Delaware	493	373	345	332	325
District of Columbia	1,617	1,600	1,358	1,181	8,589
Florida	11,291	11,019	10,778	10,303	10,417
Georgia	15,282	15,114	16,010	16,881	15,642
Hawaii	786	432	758	1,072	908
Idaho	2,423	2,534	2,543	1,988	1,896
Illinois	8,916	8,100	7,830	7,827	8,415
Indiana	5,717	6,158	5,900	5,370	6,824
Iowa	2,353	2,256	2,487	1,989	1,587
Kansas	2,253	2,046	2,074	2,103	2,241
Kentucky	2,777	2,726	2,956	3,021	3,366
Louisiana	1,949	1,812	1,921	2,051	1,653
Maine	683	918	1,030	1,250	1,421
Maryland	7,271	9,925	10,125	10,395	4,338
Massachusetts	8,108	7,381	7,228	7,549	7,186
Michigan	7,564	7,176	7,487	7,677	8,290
Minnesota	6,068	6,350	7,013	6,178	4,940
Mississippi	5,597	5,290	4,867	5,072	4,544
Missouri	7,084	6,841	6,795	7,359	6,836
Montana	1,332	1,116	1,681	1,314	1,142
Nebraska	984	981	1,020	987	1,133
Nevada	7,864	8,509	8,349	8,608	11,176
New Hampshire	751	550	631	604	626
New Jersey	5,417	4,548	3,504	3,873	3,189
New Mexico	5,089	5,030	4,660	4,985	4,968
New York	23,906	26,790	26,229	31,707	28,629
North Carolina	10,078	8,875	9,867	10,426	9,516
North Dakota	647	557	978	952	853
Ohio	10,331	9,910	9,434	9,235	9,056
Oklahoma	11,900	9,563	5,721	4,016	4,059
Oregon	4,182	3,951	4,138	3,850	3,088
Pennsylvania	6,637	6,055	6,076	5,786	5,867
Rhode Island	1,437	1,451	1,310	1,001	916
South Carolina	3,978	3,737	3,739	4,269	4,210
South Dakota	498	528	1,143	1,375	1,464
Tennessee	2,894	3,130	3,043	3,276	3,350
Texas	65,152	60,038	49,449	51,973	42,111
Utah	2,635	2,728	3,025	3,459	2,775
Vermont	629	638	495	548	425
Virginia	6,297	6,566	7,181	6,924	6,880
Washington	8,151	8,416	7,623	7,347	7,860
West Virginia	873	779	793	769	855
Wisconsin	5,238	4,689	4,670	4,770	4,299
Wyoming	1,053	1,144	1,279	885	870
State Unknown	1,022	209	311	1,227	3,801
Total	**420,778**	**417,803**	**414,715**	**430,329**	**431,107**

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C4. Estimated Consumption of Alternative Fuels, by State and Fuel Type, 2009

(Thousand Gasoline-Equivalent Gallons)

State	Compressed Natural Gas (CNG)	Electricity (EVC)	Ethanol, 85 percent (E85)[1]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[2]	Total
Alabama	658	8	1,087	0	0	2,694	0	4,447
Alaska	177	4	1	0	0	96	0	278
Arizona	9,451	92	2,945	0	7,710	3,673	0	23,871
Arkansas	93	44	300	0	0	2,160	0	2,597
California	92,917	2,102	7,858	0	12,513	12,196	0	127,586
Colorado	2,046	16	1,788	0	0	4,581	0	8,431
Connecticut	402	0	367	0	0	592	0	1,361
Delaware	7	0	259	0	0	59	0	325
District of Columbia	6,887	3	1,682	0	0	17	0	8,589
Florida	950	12	3,584	0	0	5,871	0	10,417
Georgia	8,831	81	1,744	0	0	4,986	0	15,642
Hawaii	0	82	23	0	0	803	0	908
Idaho	464	0	673	0	65	694	0	1,896
Illinois	1,937	4	2,757	0	0	3,717	0	8,415
Indiana	629	0	2,078	0	0	4,117	0	6,824
Iowa	0	7	796	0	0	784	0	1,587
Kansas	75	0	434	0	0	1,732	0	2,241
Kentucky	31	0	1,361	0	0	1,974	0	3,366
Louisiana	95	6	841	0	0	711	0	1,653
Maine	3	0	41	0	0	1,377	0	1,421
Maryland	1,714	292	1,729	0	0	603	0	4,338
Massachusetts	6,366	125	142	0	0	553	0	7,186
Michigan	1,968	101	2,032	0	4	4,185	0	8,290
Minnesota	78	0	1,756	0	24	3,082	0	4,940
Mississippi	63	0	835	0	0	3,646	0	4,544
Missouri	27	0	1,332	0	0	5,477	0	6,836
Montana	8	31	410	0	0	693	0	1,142
Nebraska	192	0	622	0	0	319	0	1,133
Nevada	6,309	3	633	0	0	4,231	0	11,176
New Hampshire	263	26	8	0	0	329	0	626
New Jersey	1,140	10	192	0	0	1,847	0	3,189
New Mexico	1,651	0	1,898	0	0	1,419	0	4,968
New York	25,364	168	1,535	0	0	1,562	0	28,629
North Carolina	221	137	3,819	0	0	5,339	0	9,516
North Dakota	3	0	711	0	0	139	0	853
Ohio	1,088	1,008	1,862	0	0	5,098	0	9,056
Oklahoma	2,088	4	620	0	0	1,347	0	4,059
Oregon	1,468	23	1,024	0	0	573	0	3,088
Pennsylvania	2,208	9	1,536	0	7	2,107	0	5,867
Rhode Island	716	0	29	0	0	171	0	916
South Carolina	79	0	2,052	0	4	2,075	0	4,210
South Dakota	0	0	1,266	0	0	198	0	1,464
Tennessee	136	45	1,838	0	0	1,331	0	3,350
Texas	13,347	0	4,409	0	4,548	19,807	0	42,111
Utah	1,246	32	597	0	0	900	0	2,775
Vermont	6	191	9	0	0	219	0	425
Virginia	1,161	31	2,629	0	0	3,059	0	6,880
Washington	4,216	0	1,774	0	0	1,870	0	7,860
West Virginia	6	0	244	0	0	605	0	855
Wisconsin	538	0	1,196	0	0	2,565	0	4,299
Wyoming	120	0	385	0	0	365	0	870
State Unknown	70	259	1,470	140	777	1,083	2	3,801
Total	**199,513**	**4,956**	**71,213**	**140**	**25,652**	**129,631**	**2**	**431,107**

[1]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[2]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

Notes: The estimated consumption of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) is zero for the year included in this table. Therefore, those fuels are not shown.

Totals may not equal sum of components due to independent rounding.

Some fuel categories show zero fuel consumption in states where vehicle inventory exists. In these situations, the vehicles are non-dedicated vehicles operating on traditional fuel (e.g., gasoline or diesel fuel).

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C5. Estimated Consumption of Alternative Fuels, by Fuel Type and Vehicle Weight Class, 2005 - 2009

(Thousand Gasoline-Equivalent Gallons)

Fuel Type	2005				2006				2007				2008				2009			
	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total
Compressed Natural Gas (CNG)	28,725	18,907	119,246	166,878	26,946	15,461	129,604	172,011	26,037	17,862	134,666	178,565	24,765	18,516	146,077	189,358	22,823	17,465	159,225	199,513
Electricity (EVC)	3,607	44	1,568	5,219	3,402	30	1,672	5,104	3,370	32	1,635	5,037	3,276	22	1,752	5,050	3,190	18	1,748	4,956
Ethanol, 85 percent (E85)[1]	37,770	304	0	38,074	41,952	2,088	1	44,041	49,581	4,509	1	54,091	57,526	4,937	1	62,464	66,274	4,935	4	71,213
Hydrogen (HYD)	11	0	14	25	17	0	24	41	29	0	37	66	30	0	87	117	42	0	98	140
Liquefied Natural Gas (LNG)	59	193	22,157	22,409	58	183	23,233	23,474	55	173	24,366	24,594	67	166	25,321	25,554	63	158	25,431	25,652
Liquefied Petroleum Gas (LPG)	48,139	55,911	84,121	188,171	44,519	39,855	88,756	173,130	33,393	32,611	86,356	152,360	33,681	29,455	84,648	147,784	22,760	24,053	82,818	129,631
Other Fuels (OTH)[2]	2	0	0	2	2	0	0	2	2	0	0	2	2	0	0	2	2	0	0	2
Total	**118,313**	**75,359**	**227,106**	**420,778**	**116,896**	**57,617**	**243,290**	**417,803**	**112,467**	**55,187**	**247,061**	**414,715**	**119,347**	**53,096**	**257,886**	**430,329**	**115,154**	**46,629**	**269,324**	**431,107**

[1]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[2]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

Notes: The estimated consumption of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) is zero for the year included in this table. Therefore, those fuels are not shown.

Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR).

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy duty includes vehicles 26,001 pounds and over GVWR.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C6. Estimated Consumption of Alternative Fuels, by Weight Class, Vehicle Type, and Fuel Type, 2009

(Thousand Gasoline-Equivalent Gallons)

Weight Class / Vehicle Type	Compressed Natural Gas (CNG)	Electricity (EVC)	Ethanol, 85 percent (E85)[1]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[2]	Total
Light Duty Vehicles	22,823	3,190	66,274	42	63	22,760	2	115,154
Automobiles								
Subcompact	583	383	24	0	0	14	0	1,004
Compact	2,738	465	3,794	24	4	114	0	7,139
Midsize	688	86	6,210	0	0	1,065	0	8,049
Fullsize	2,442	0	7,655	6	0	3,678	0	13,781
Vans								
Minivans	2,575	57	8,739	0	0	1,116	0	12,487
Light-Duty Vans	5,325	23	2,361	0	2	4,264	0	11,975
Pickups	6,760	874	15,932	2	44	9,972	0	33,584
SUVs	226	348	20,051	10	2	272	2	20,911
Trucks	1,422	185	30	0	2	2,222	0	3,861
Low Speed Vehicles[3]	6	722	0	0	9	1	0	738
Other Vehicles	58	47	1,478	0	0	42	0	1,625
Medium Duty Vehicles	17,465	18	4,935	0	158	24,053	0	46,629
Vans	4,405	1	496	0	3	3,838	0	8,743
Pickups	6,064	0	4,271	0	0	5,231	0	15,566
Trucks	6,996	17	168	0	155	14,984	0	22,320
Heavy Duty Vehicles	159,225	1,748	4	98	25,431	82,818	0	269,324
Trucks	6,729	20	0	0	4,965	71,148	0	82,862
Buses	152,496	1,728	4	98	20,466	11,670	0	186,462
Total	**199,513**	**4,956**	**71,213**	**140**	**25,652**	**129,631**	**2**	**431,107**

[1]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[2]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

[3]Includes motorcycles, low speed vehicles (e.g., neighborhood electric vehicles), and other unspecified vehicles.

Notes: Some fuel categories show zero fuel consumption in states where vehicle inventory exists. In these situations, the vehicles are non-dedicated vehicles operating on traditional fuel (e.g., gasoline or diesel fuel).

Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR).

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy duty includes vehicles 26,001 pounds and over GVWR.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C7. Estimated Consumption of Alternative Fuels, by Vehicle Category, Configuration, and Fuel Type, 2009

(Thousand Gasoline-Equivalent Gallons)

Vehicle Category / Configuration	Compressed Natural Gas (CNG)	Electricity (EVC)	Ethanol, 85 percent (E85)[1]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[2]	Total
Automobiles	6,451	934	17,683	30	4	4,871	0	29,973
Dedicated	4,499	934	0	6	0	4,121	0	9,560
Non-dedicated	1,952	0	17,683	24	4	750	0	20,413
Vans[3]	12,305	81	11,596	0	5	9,218	0	33,205
Dedicated	9,377	81	0	0	3	6,430	0	15,891
Non-dedicated	2,928	0	11,596	0	2	2,788	0	17,314
Pickup Trucks[4]	12,824	874	20,203	2	44	15,203	0	49,150
Dedicated	4,833	874	0	2	3	4,130	0	9,842
Non-dedicated	7,991	0	20,203	0	41	11,073	0	39,308
Other Trucks[5]	15,373	570	20,249	10	5,124	88,626	2	129,954
Dedicated	11,700	570	0	0	3,767	80,075	0	96,112
Non-dedicated	3,673	0	20,249	10	1,357	8,551	2	33,842
Buses	152,496	1,728	4	98	20,466	11,670	0	186,462
Dedicated	150,101	1,728	0	72	20,378	9,926	0	182,205
Non-dedicated	2,395	0	4	26	88	1,744	0	4,257
Other Vehicles[6]	64	769	1,478	0	9	43	0	2,363
Dedicated	6	766	0	0	9	1	0	782
Non-dedicated	58	3	1,478	0	0	42	0	1,581
Total	199,513	4,956	71,213	140	25,652	129,631	2	431,107
Dedicated	180,516	4,953	0	80	24,160	104,683	0	314,392
Non-dedicated	18,997	3	71,213	60	1,492	24,948	2	116,715

[1]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[2]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

[3]Includes minivans, light duty vans, and medium duty vans.

[4]Includes light duty and medium duty pickup trucks.

[5]Includes SUVs, heavy-duty trucks, and all light- and medium-duty trucks except pickup trucks.

[6]Includes motorcycles, low speed vehicles (e.g., neighborhood electric vehicles), and other unspecified vehicles.

Note: Dedicated vehicles are designed to operate exclusively on one alternative fuel. Non-dedicated vehicles are configured to operate on more than one fuel.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C8. Estimated Consumption of Alternative Fuels, by User Group, 2005 - 2009

(Thousand Gasoline-Equivalent Gallons)

User Group	2005	2006	2007	2008	2009
Federal Agencies	12,088	13,119	13,995	7,466	8,582
State Agencies	15,062	18,126	17,635	20,095	19,557
Electric Fuel Providers	3,866	3,793	4,004	3,981	4,036
Natural Gas Fuel Providers	4,744	3,875	3,331	3,046	2,737
Propane Fuel Providers	38,134	27,115	21,230	17,174	15,776
Transit Agencies	105,914	115,540	112,352	117,509	120,831
Other Private & Municipal Governments[1]	240,970	236,235	242,168	261,058	259,588
Total	**420,778**	**417,803**	**414,715**	**430,329**	**431,107**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Beginning in 2008, consumption data for federal agencies came directly from the DOE/GSA Federal Automotive Statistical Tool (FAST).

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C9. Estimated Consumption of Alternative Fuels, by User Group and Fuel Type, 2009

(Thousand Gasoline-Equivalent Gallons)

User Group	Compressed Natural Gas (CNG)	Electricity (EVC)	Ethanol, 85 percent (E85)[1]	Hydrogen (HYD)	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels (OTH)[2]	Total
Federal Agencies	491	3	7,849	0	34	205	0	8,582
State Agencies	9,395	58	7,901	0	0	2,203	0	19,557
Electric Fuel Providers	2,096	82	1,361	8	21	468	0	4,036
Natural Gas Fuel Providers	1,990	3	355	3	231	155	0	2,737
Propane Fuel Providers	2	2	3	0	20	15,749	0	15,776
Transit Agencies	112,169	270	251	12	7,383	746	0	120,831
Other Private & Municipal Governments[3]	73,370	4,538	53,493	117	17,963	110,105	2	259,588
Total	**199,513**	**4,956**	**71,213**	**140**	**25,652**	**129,631**	**2**	**431,107**

[1]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[2]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1992.

[3]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Beginning in 2008, consumption data for federal agencies came directly from the DOE/GSA Federal Automotive Statistical Tool (FAST).

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C10. Estimated Consumption of Compressed Natural Gas (CNG) by Vehicles, by State and User Group, 2009

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	0	1	0	10	0	540	107	658
Alaska	6	3	14	0	0	0	154	177
Arizona	157	107	183	94	0	2,901	6,009	9,451
Arkansas	0	10	0	12	0	0	71	93
California	135	1,353	1,290	454	0	60,420	29,265	92,917
Colorado	1	0	3	44	0	520	1,478	2,046
Connecticut	0	13	28	9	0	0	352	402
Delaware	0	0	0	1	0	0	6	7
District of Columbia	25	50	6	0	0	5,839	967	6,887
Florida	39	19	4	33	0	34	821	950
Georgia	2	123	35	3	0	6,478	2,190	8,831
Hawaii	0	0	0	0	0	0	0	0
Idaho	0	0	5	0	0	329	130	464
Illinois	34	0	129	6	0	574	1,194	1,937
Indiana	1	0	68	39	0	0	521	629
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	32	0	0	43	75
Kentucky	0	0	0	0	0	0	31	31
Louisiana	0	0	21	1	0	0	73	95
Maine	0	0	0	0	0	0	3	3
Maryland	3	14	0	8	0	1,179	510	1,714
Massachusetts	1	346	0	48	0	4,965	1,006	6,366
Michigan	0	2	6	0	0	606	1,354	1,968
Minnesota	0	0	0	8	0	51	19	78
Mississippi	2	0	0	0	0	0	61	63
Missouri	0	0	1	8	0	0	18	27
Montana	0	0	0	0	2	0	6	8
Nebraska	0	0	0	43	0	0	149	192
Nevada	13	47	0	43	0	1,235	4,971	6,309
New Hampshire	0	52	0	0	0	0	211	263
New Jersey	1	176	27	6	0	570	360	1,140
New Mexico	1	200	0	19	0	1,015	416	1,651
New York	18	6,541	2	327	0	14,805	3,671	25,364
North Carolina	2	2	6	26	0	0	185	221
North Dakota	0	0	0	0	0	0	3	3
Ohio	3	5	100	1	0	722	257	1,088
Oklahoma	3	4	16	291	0	0	1,774	2,088
Oregon	0	35	17	64	0	790	562	1,468
Pennsylvania	1	67	56	6	0	1,023	1,055	2,208
Rhode Island	0	117	0	34	0	190	375	716
South Carolina	1	13	5	5	0	0	55	79
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	21	9	0	0	106	136
Texas	1	32	6	41	0	3,940	9,327	13,347
Utah	0	32	0	214	0	0	1,000	1,246
Vermont	0	0	0	2	0	0	4	6
Virginia	10	17	2	10	0	327	795	1,161

Washington	0	0	34	18	0	3,116	1,048	4,216
West Virginia	0	0	0	0	0	0	6	6
Wisconsin	1	14	11	0	0	0	512	538
Wyoming	0	0	0	21	0	0	99	120
State Unknown	30	0	0	0	0	0	40	70
Total	**491**	**9,395**	**2,096**	**1,990**	**2**	**112,169**	**73,370**	**199,513**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Some fuel categories show zero fuel consumption in states where vehicle inventory exists. In these situations, the vehicles are non-dedicated vehicles operating on traditional fuel (e.g., gasoline or diesel fuel).

Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C11. Estimated Consumption of Electricity by Vehicles, by State and User Group, 2009

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	0	0	0	0	0	0	8	8
Alaska	0	0	0	0	0	0	4	4
Arizona	0	2	1	1	0	0	88	92
Arkansas	0	0	0	0	0	0	44	44
California	0	17	79	1	0	23	1,982	2,102
Colorado	0	0	0	0	0	0	16	16
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	3	0	0	0	0	0	0	3
Florida	0	0	0	0	2	0	10	12
Georgia	0	0	0	0	0	0	81	81
Hawaii	0	0	0	0	0	0	82	82
Idaho	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	4	4
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	7	7
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	6	6
Maine	0	0	0	0	0	0	0	0
Maryland	0	5	0	0	0	0	287	292
Massachusetts	0	3	0	0	0	0	122	125
Michigan	0	1	0	0	0	0	100	101
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	31	31
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	1	0	0	2	3
New Hampshire	0	0	0	0	0	0	26	26
New Jersey	0	0	1	0	0	0	9	10
New Mexico	0	0	0	0	0	0	0	0
New York	0	6	0	0	0	0	162	168
North Carolina	0	21	0	0	0	0	116	137
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	228	780	1,008
Oklahoma	0	0	0	0	0	0	4	4
Oregon	0	1	0	0	0	0	22	23
Pennsylvania	0	0	0	0	0	0	9	9
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	19	26	45
Texas	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	32	32
Vermont	0	2	1	0	0	0	188	191
Virginia	0	0	0	0	0	0	31	31

Washington	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	0	0	0	0	0	0	259	259
Total	**3**	**58**	**82**	**3**	**2**	**270**	**4,538**	**4,956**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C12. Estimated Consumption of Ethanol (E85) by Vehicles, by State and User Group, 2009

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	19	202	1	7	0	0	858	1,087
Alaska	0	0	0	0	0	0	1	1
Arizona	58	134	156	36	0	49	2,512	2,945
Arkansas	44	0	22	1	0	0	233	300
California	242	1,027	23	2	0	2	6,562	7,858
Colorado	119	101	25	27	0	14	1,502	1,788
Connecticut	4	137	0	0	0	0	226	367
Delaware	8	99	0	0	0	1	151	259
District of Columbia	971	42	4	0	0	0	665	1,682
Florida	436	302	57	0	0	0	2,789	3,584
Georgia	116	177	54	3	0	37	1,357	1,744
Hawaii	0	0	0	0	0	0	23	23
Idaho	94	69	17	0	0	0	493	673
Illinois	269	256	109	60	0	15	2,048	2,757
Indiana	227	250	56	0	1	0	1,544	2,078
Iowa	139	147	41	0	2	0	467	796
Kansas	41	13	45	2	0	0	333	434
Kentucky	88	100	23	36	0	4	1,110	1,361
Louisiana	16	176	26	8	0	0	615	841
Maine	18	0	0	0	0	0	23	41
Maryland	162	153	3	0	0	81	1,330	1,729
Massachusetts	24	4	0	3	0	1	110	142
Michigan	136	368	54	0	0	0	1,474	2,032
Minnesota	249	327	24	3	0	16	1,137	1,756
Mississippi	18	93	12	5	0	0	707	835
Missouri	197	188	34	15	0	0	898	1,332
Montana	47	14	0	3	0	0	346	410
Nebraska	42	116	18	12	0	0	434	622
Nevada	175	10	0	16	0	1	431	633
New Hampshire	1	1	0	0	0	0	6	8
New Jersey	91	10	0	0	0	0	91	192
New Mexico	175	186	24	6	0	0	1,507	1,898
New York	122	176	32	3	0	0	1,202	1,535
North Carolina	115	615	36	16	0	0	3,037	3,819
North Dakota	117	52	2	0	0	0	540	711
Ohio	293	314	22	0	0	0	1,233	1,862
Oklahoma	29	112	41	1	0	0	437	620
Oregon	26	150	2	15	0	0	831	1,024
Pennsylvania	188	143	43	0	0	0	1,162	1,536
Rhode Island	4	8	0	1	0	0	16	29
South Carolina	278	379	62	3	0	0	1,330	2,052
South Dakota	79	192	26	0	0	0	969	1,266
Tennessee	139	380	0	6	0	0	1,313	1,838
Texas	193	216	132	64	0	12	3,792	4,409
Utah	18	87	0	0	0	0	492	597
Vermont	0	0	0	0	0	0	9	9
Virginia	77	111	80	1	0	3	2,357	2,629

Washington	294	49	48	0	0	15	1,368	1,774
West Virginia	23	0	7	0	0	0	214	244
Wisconsin	135	202	0	0	0	0	859	1,196
Wyoming	24	13	0	0	0	0	348	385
State Unknown	1,469	0	0	0	0	0	1	1,470
Total	**7,849**	**7,901**	**1,361**	**355**	**3**	**251**	**53,493**	**71,213**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C13. Estimated Consumption of Hydrogen by Vehicles, by State and User Group, 2009

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	0	0	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0	0	0
California	0	0	0	0	0	0	0	0
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0

Washington	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	0	0	8	3	0	12	117	140
Total	**0**	**0**	**8**	**3**	**0**	**12**	**117**	**140**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C14. Estimated Consumption of Liquefied Natural Gas (LNG) by Vehicles, by State and User Group, 2009

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	1	0	0	0	0	0	7,709	7,710
Arkansas	0	0	0	0	0	0	0	0
California	0	0	21	231	0	4,578	7,683	12,513
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	33	0	0	0	0	0	32	65
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	4	4
Minnesota	0	0	0	0	16	0	8	24
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	7	7
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	4	0	0	4
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	2,805	1,743	4,548
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0

Washington	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	0	0	0	0	0	0	777	777
Total	**34**	**0**	**21**	**231**	**20**	**7,383**	**17,963**	**25,652**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C15. Estimated Consumption of Liquefied Petroleum Gas (LPG) by Vehicles, by State and User Group, 2009

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[1]	Total
Alabama	0	0	24	0	576	0	2,094	2,694
Alaska	0	0	0	0	17	0	79	96
Arizona	11	34	31	0	559	12	3,026	3,673
Arkansas	0	13	2	0	353	0	1,792	2,160
California	29	375	49	1	1,080	132	10,530	12,196
Colorado	2	3	1	0	385	35	4,155	4,581
Connecticut	0	0	0	0	103	0	489	592
Delaware	0	0	0	0	13	0	46	59
District of Columbia	17	0	0	0	0	0	0	17
Florida	0	19	0	0	920	0	4,932	5,871
Georgia	0	47	7	0	519	0	4,413	4,986
Hawaii	0	0	4	0	38	0	761	803
Idaho	0	4	0	0	118	0	572	694
Illinois	0	0	0	6	560	0	3,151	3,717
Indiana	0	0	0	29	573	0	3,515	4,117
Iowa	0	0	0	0	130	0	654	784
Kansas	0	0	0	6	260	0	1,466	1,732
Kentucky	0	0	0	0	347	0	1,627	1,974
Louisiana	0	0	1	0	96	0	614	711
Maine	0	1	0	0	21	204	1,151	1,377
Maryland	0	0	0	0	153	0	450	603
Massachusetts	0	4	0	0	69	42	438	553
Michigan	0	0	0	18	640	0	3,527	4,185
Minnesota	0	0	4	13	296	1	2,768	3,082
Mississippi	0	490	0	0	473	0	2,683	3,646
Missouri	0	18	2	0	825	0	4,632	5,477
Montana	0	0	0	0	108	0	585	693
Nebraska	0	0	0	0	58	0	261	319
Nevada	0	92	0	0	91	0	4,048	4,231
New Hampshire	0	0	0	0	77	0	252	329
New Jersey	0	11	0	1	180	0	1,655	1,847
New Mexico	0	33	4	0	224	0	1,158	1,419
New York	0	4	0	0	252	0	1,306	1,562
North Carolina	0	35	2	0	957	0	4,345	5,339
North Dakota	1	0	0	0	25	0	113	139
Ohio	0	2	0	0	730	0	4,366	5,098
Oklahoma	0	0	0	0	323	0	1,024	1,347
Oregon	0	0	0	0	57	0	516	573
Pennsylvania	0	0	0	0	315	0	1,792	2,107
Rhode Island	0	0	0	0	25	0	146	171
South Carolina	0	37	4	0	329	0	1,705	2,075
South Dakota	0	0	0	0	52	0	146	198
Tennessee	0	0	0	11	198	144	978	1,331
Texas	0	981	331	67	1,076	176	17,176	19,807
Utah	134	0	0	0	88	0	678	900
Vermont	0	0	0	0	46	0	173	219
Virginia	0	0	2	0	516	0	2,541	3,059

Washington	0	0	0	0	287	0	1,583	1,870
West Virginia	0	0	0	0	96	0	509	605
Wisconsin	0	0	0	3	442	0	2,120	2,565
Wyoming	0	0	0	0	73	0	292	365
State Unknown	11	0	0	0	0	0	1,072	1,083
Total	**205**	**2,203**	**468**	**155**	**15,749**	**746**	**110,105**	**129,631**

[1]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Figure 1. Estimated Number of Alternative Fueled Vehicles in Use in the U.S., 2005-2009

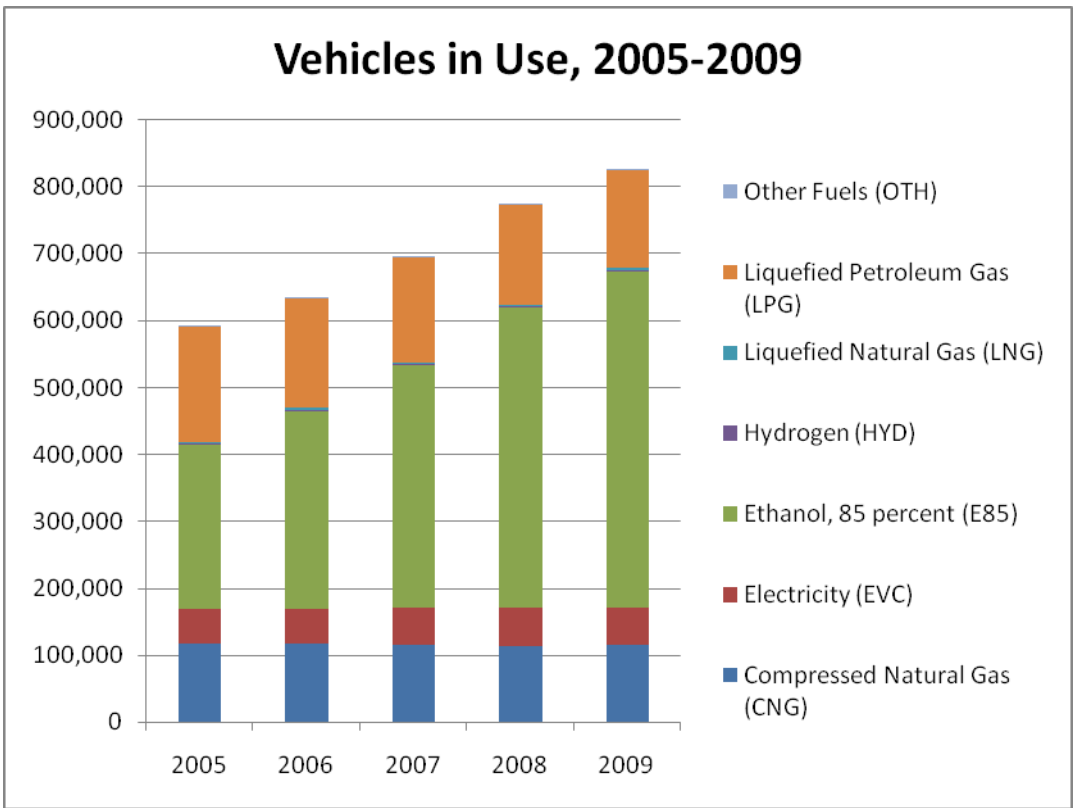


Figure 2. Alternative Fueled and Hybrid Vehicles Made Available by Vehicle Type, 2009

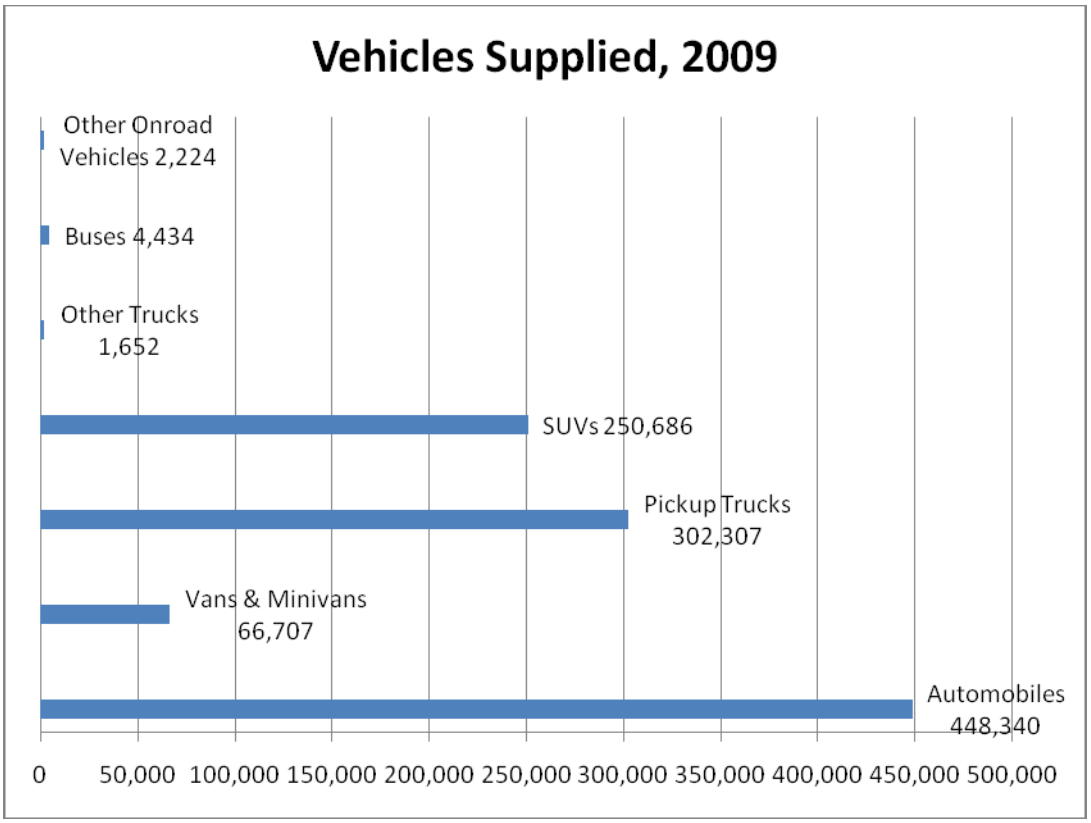
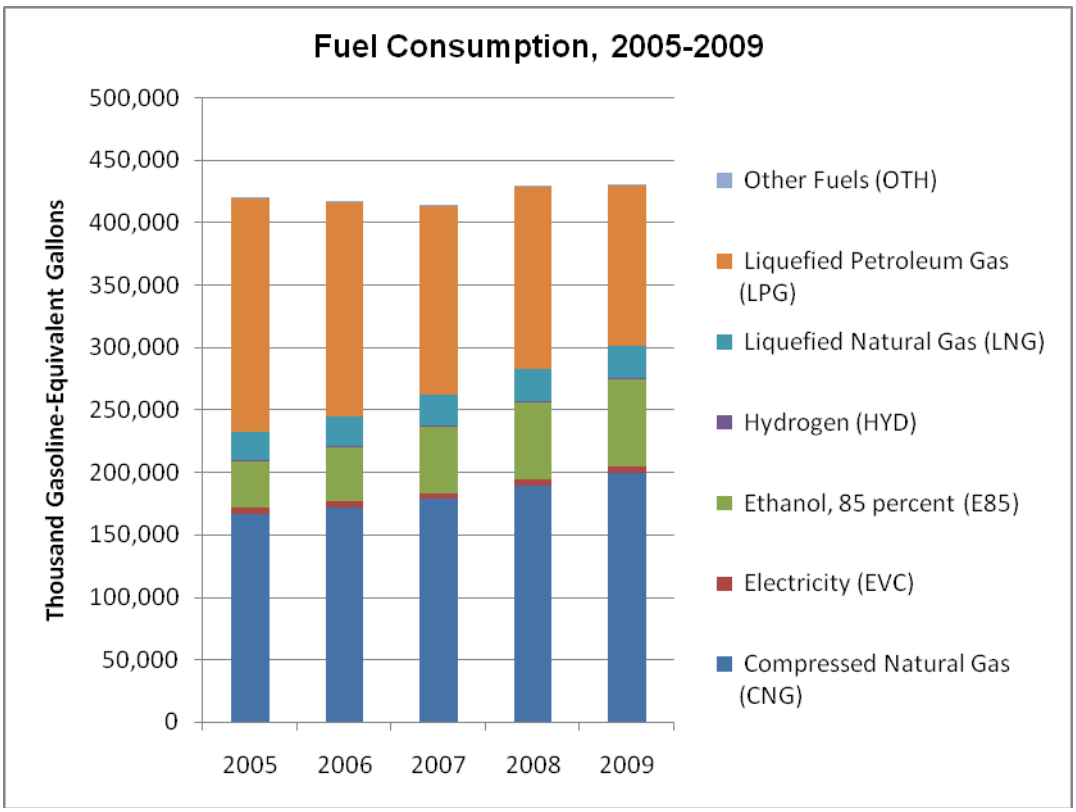


Figure 3. Estimated Consumption of Alternative Fuels in the U.S. by Fuel Type, 2005-2009



Revision to Estimates of Alternative Fuel Vehicles in Use and Alternative Transportation Fuel Consumption

Summary

During 2003, the U.S. Energy Information Administration (EIA) revised the method used to estimate both the current number of alternative fueled vehicles (AFVs) in use and alternate transportation fuel (ATF) consumption. It also revised the data table format used to present this information. The method of estimating AFVs in use was revised for 4 reasons:

- To eliminate confusion between information previously provided about total AFVs in use (estimated) and about the portion of AFVs reported in use by fleets on Form EIA-886.
- To provide more detailed data and to revise historical data, including using more current data.
- To make the estimation methodology as consistent as possible with data collected on Form EIA-886.
- To automate the process and make it easier to customize the value of various estimation parameters to a particular fleet, fuel type, etc.

The discussion of these items will proceed as follows. First is an explanation of the changes to the data resulting from the above activities. Following will be a discussion of the revised methodology. The report will close with a description of the new data tables- why the format changed and what new data is contained in them. While the automation of the estimation process was a significant undertaking, it had very little impact on the actual estimates themselves and therefore will not be discussed.

Changes in Estimates of AFVs in Use

The changes in the number of AFVs reported in use compared with the estimates of AFVs in use previously published are, at the total level for each fuel, largely the result of data revisions and not methodological changes. Vehicle in use data were revised for the following reasons:

- Previously, data published for 2003 were preliminary and data for 2004 were "projected." The revised estimates of AFVs in use now include final 2003 survey data. EIA no longer makes year-ahead projections of AFVs in use.
- Data by vehicle type and weight category were revised due to apparent respondent misclassification of vehicles. One example of misclassification is that several Form EIA-886 respondents originally reported many pick-up trucks as "medium-duty" pickups, when in fact they were actually light duty. Another is that respondents sometimes reported pick-up trucks as "other trucks." These revisions impacted estimates of AFVs in use by weight category and/or vehicle type, but very little for the total number of AFVs in use by fuel. An exception is methanol, which was determined to be no longer in use as a vehicle fuel.
- The total number of propane (LPG) vehicles estimated in use was reduced as a result of information from the 2002 Census Vehicle Inventory Utilization Survey (VIUS). VIUS surveys trucks, pick-ups, and vans in private fleets. Historically,

Form EIA-886 has not surveyed private fleets other than alternate fuel providers, and most propane (LPG) vehicles are trucks or pick-ups in private fleets. The number of propane (LPG) vehicles that were reported in use between the 1997 and 2002 VIUS surveys dropped considerably.

- The state distribution of AFVs has changed considerably in some cases.

The "benchmarking" revisions (converting to final survey data and using the VIUS survey) clearly had a major impact on 2004 and 2005 estimates as well. The misreporting problems tend to be similar from one year to the next, so 2004 estimates tend to be revised in a manner similar to 2003. However, revisions due to changing the state distribution of AFVs were not as consistent across the years 2003-2005.

Revisions to the Method of Estimating AFVs in Use and Alternate Transportation Fuel Consumption - Background

When EIA's alternate fuels work began in 1993, the first effort was to develop estimates of the number, type, and geographic distribution of AFVs in use as required in Section 503 of the Energy Policy Act of 1992 (EPACT92). At that time, EIA developed from outside sources estimates of the number of AFVs actually in use during 1992, using external information and a model it developed. This model described AFVs by various physical characteristics (e.g., size), fuel, and fleet ownership group (e.g., state government, rental car) and was also used to estimate alternate transportation fuel (ATF) consumption by AFVs. As the years passed, the effort to develop an externally derived estimate of AFVs in use decreased and was replaced by making assumptions about growth in AFV use based upon various energy/economic factors and trends in AFV use reported in trade literature and to the DOE Clean Cities Program.

In 1995, EIA fielded its first survey of companies that supply AFVs[1], and in 1998 EIA first surveyed selected segments of U.S. fleets for AFVs in use, as described previously. Eventually, it became clear that EIA's Form EIA-886 data provided the best available knowledge base of AFV information and should be incorporated in a formal way into the estimation process, replacing its reliance upon external estimates from the mid-1990s and the subsequent series of growth factors. This suggested integrating the estimation method and the survey tool. This was accomplished by automating the calculation of AFV estimates using EIA survey data (and its structure) as the baseline and applying the existing estimation modeling assumptions in an automated fashion. Doing so not only greatly decreased manual manipulations and calculations, but it also made it much easier to modify model parameter values to reflect specific information known about various user groups, fuel types, etc. It also greatly facilitated comparing estimates of fuel consumption with actual ATF consumption reported by AFV users on Form EIA-886.

Revised Methodology Summary

EIA surveys all producers of AFVs but collects survey data only on AFVs used by Federal and State governments, alternate fuel providers, and transit companies. Therefore, the fleets for which EIA does not collect data on AFVs in use are local government fleets and private company fleets (except for alternate fuel providers). The

revised model "imputes" estimates of vehicles in use for these fleets (combined) based on reported AFV supplier and user data from Form EIA-886.

The revised method for estimating total AFVs in use is designed to use only the prior year's estimates of AFVs in use, along with current year survey data, to develop estimates for the current year. The only exception to this is that developing estimates of vehicle retirements requires knowing the vintage of all AFVs in use the prior year. The revised procedure therefore requires EIA to establish a base year manually of AFVs in use which the revised model could use. Because EIA has only published preliminary 2003 and "projected" 2004 data until now and to establish a 3-year historical revised set of data, EIA chose 2003 as the base year. Thus, EIA has used the new method to revise estimates of AFVs in use and ATF consumption for 2003 and 2004. Estimates of AFVs in use and ATF consumption for 2005, which are being published for the first time, were also developed using the revised method.

Estimating AFVs in Use for 2003

To understand the method used to revise 2003 AFV and fuel consumption estimates, it is necessary to understand the gap between the scope of firms that EIA surveys and the whole universe of AFV users.

As mentioned previously, EIA surveys both the suppliers and users of alternative fueled vehicles (AFVs), with the objective of being able to provide information on the number, type, and geographic distribution of AFVs in use as well as alternate transportation fuel (ATF) consumption by fuel regionally. It is relatively easy to survey AFV suppliers (original equipment manufacturers and converters), which number between 50 and 100. Fleets that use AFVs, however, could easily number in the tens of thousands nationwide.[2]

Therefore, EIA collects data from only the fleet groups described previously-Federal and State governments, alternate fuel providers, and transit companies--to determine AFV usage characteristics and fuel consumption, as described below. The gap between the number of AFVs covered by the EIA AFV supplier and user surveys (after adjusting for retirements) is those that are in use by local governments and private fleets. The number of these AFVs are being imputed" in the sense that: 1) the number is not known precisely, because while the supply of AFVs is well known, retirements must be estimated; and 2) they are being assigned a geographic location (generally) based upon the distribution of AFVs in use for which EIA collects survey data. The reason the geographic location of these vehicles must be assigned by EIA is that vehicle suppliers do not generally know the State into which their vehicles are sold.[3]

It is important to note that EIA has always estimated AFVs in use by municipal governments and private fleets. The original EIA model estimated state and municipal government vehicles combined and private fleets separately. This model had to be modified when information became available from Form EIA-886 on use of AFVs in state government fleets. As mentioned previously, the revised model now uses the same categories as are used for collecting vehicle in use data on Form EIA-886.

Following is the general method used to estimate AFVs in use.

- *Estimate the U.S. total number of AFVs in use by summing the vehicles made available (as reported by suppliers) through the current year (2003) and subtracting an annual estimate of vehicles retired.*[4] (Exceptions: propane (LPG) and ethanol vehicles. See items 2. and 3. under "Details and Exceptions.") This calculation is done for each level of detail, i.e. fuel type, vehicle type, and vehicle configuration.[5]

- *Determine the number of AFVs in use for surveyed user groups for the current year.* The EIA-886 user survey collects AFVs in use by State government, alternate fuel provider, and transit fleets. The Federal Automotive Statistical Tool (FAST) provides information on Federal AFVs in use.

- *Subtract AFVs in use calculated in Step 2 from the total AFVs estimated in use for the given data year (from Step 1).* The result is the number of AFVs estimated to be in use in market sectors other than those surveyed on the EIA-886 survey. These sectors are local governments (except for transit operations) and private businesses (except for alternate fuel providers), and are referred to as the "Other Local Government and Private" sector.

- *Allocate AFVs in use in the "Other Local Government and Private" sector to States.* The calculation is performed by developing the percentage of AFVs in use in each State, by fuel and vehicle type, for all user types canvassed on the EIA-886 and the FAST survey. This percentage is applied to the total "Other Local Government and Private" AFV estimate to allocate the unsurveyed vehicles according to location.

The result is an estimate for 2003 of all AFVs in use by location (State) at the same level of detail for which data is collected on the EIA-886 and FAST surveys.

Details and Exceptions

- *Survey data characteristics* - Because AFVs, except for E85 flexible-fueled vehicles, are operated almost exclusively in fleets, EIA surveys only fleets to determine AFVs in use. However, EIA currently covers only State governments, alternate fuel providers (electricity, natural gas, and propane), and transit companies on its EIA-886 survey of AFVs in use. Together with the Federal AFV data from the FAST system, EIA estimates that it collects information on about one-third of all AFVs in use; the remaining two-thirds are presumed to be in use by local governments and other private fleets. This percentage varies widely by fuel and vehicle type.

- *Calculating AFV supply* - In 1995, EIA began collecting data on alternative fueled vehicles made available (including conversions and original equipment manufacturing). For all alternate fuels except propane, this vehicle supply information forms the basis for the overwhelming majority of the available

alternate fueled vehicles estimated to be still in use. A large number of propane (LPG) vehicles were built prior to 1995 and, thus, were not captured by the EIA-886 supplier survey. Because propane (LPG) AFVs are almost exclusively medium- and heavy-duty vehicles, which often have fleet life spans of over 20 years, a large number of pre-1995 propane (LPG) vehicles were believed to still be in use until recently.

Therefore, EIA has a good estimate of the total population of non-propane (LPG) AFVs supplied that are likely still in use by simply summing all reported AFVs supplied and subtracting out estimated retirements. For propane (LPG) vehicles, EIA separately estimated an inventory of vehicles in use as of the end of 1997. To these estimates are added the number of propane (LPG) vehicles supplied according to the EIA-886 supplier survey since 1998. The propane (LPG) vehicle retirement schedule is then applied to this estimate to determine the final estimate of propane (LPG) vehicles in use. The reason for using 1998 instead of 2003 as the base year is that for propane (LPG) vehicles, some reliable information was available from the 1997 Census Vehicle Inventory and Use Survey, which covers private trucks.[6] The vast majority of propane-fueled vehicles are private fleet trucks.

- *Flexi-fueled vehicles*-- Flexi-fueled vehicles in the United States can operate on any ethanol/ gasoline blend containing no more than 85% ethanol and are designated at "E85" vehicles.[7] The procedure for estimating the number of E85 vehicles in use is slightly different from that used to estimate the number of AFVs operating on other alternate fuels. The number of E85 vehicles estimated to be in use by fleets is calculated as 5 percent of the total number of E85 vehicles supplied (less retirements). The remaining E85 vehicles are considered to be sold to the public generally where most of them are assumed to be used as conventional gasoline vehicles.

- *Level of detail, AFV suppliers*-- estimates are made according to the following characteristics:[8] a. Fuel type. Fuel types are: propane (LPG), compressed natural gas (CNG), liquefied natural gas (LNG), ethanol (E85), and hydrogen. Formerly, EIA estimated the number of methanol-fueled vehicles, but methanol is not currently used as an on-road vehicle fuel. b. Vehicle type. A vehicle's type is a function of both its "curb weight" and its body style. Examples of distinct body types are: subcompact automobile, light-duty pick-up truck, medium-duty pick-up truck, medium-duty truck, and large transit bus. c. Engine configuration. An engine is either "dedicated," meaning that it operates on a single fuel, or non-dedicated. A non-dedicated engine may operate on more than one fuel at a single time or operate on more than one fuel, but only at separate times. A flexi-fueled vehicle is a type of non-dedicated engine. d. User group, i.e., fleet classification of the vehicle owner/operator. Examples are State governments, electricity providers.

- *Level of detail, AFVs in use*, in addition to the level of detail used to classify AFVs supplied, AFVs in use are classified according to State in which the vehicle is located.

Estimating 2003 Alternate Transportation Fuel Consumption

Alternate fuel consumption was calculated using the following five basic inputs:

1. Estimated Alternative-Fueled Vehicles In Use: Calculated as previously described.
2. Estimated Vehicle Miles Traveled (VMT): Average annual vehicle miles traveled for AFVs at the “in use” level of detail (i.e., fuel/vehicle type/engine configuration type/State). However, in most cases VMT was not varied at this level of detail but only according to user group and vehicle type.
3. Estimated Vehicle fuel efficiency: Represented as Miles-per-Gallon (MPG) on Conventional Fuel (i.e., gasoline or diesel) for each in use level of detail.
4. For non-dedicated vehicles, EIA estimated the percentage of consumption that is alternative fuel, based upon both estimates developed in 1992 at the outset of EIA’s AFV information program and limited information recently obtained on fuel use from the EIA-886 user survey.
5. Fuel energy content: Represented as Thousands of Btu (kBtu) per Native Unit of Fuel: By neat (i.e., pure) replacement fuel. The native units used are gallons (M85, M100, E85, E95, LPG, and LNG), therms (CNG), and kWh (electricity).

The following is a description of the six-step approach to estimate total annual fuel consumption.

1. Alternative Fueled Vehicles Categorization. The level of detail for AFVs "in use" is as described above.
2. Estimation of Vehicles Miles Traveled (VMT). The average annual VMT values known from conventional fleets were used as the starting point for the VMT assigned to each AFV in use level of detail. The conventional fleet VMT estimates are known only according to vehicle type.

   In most cases, VMT was not varied by State, but only according to user type and vehicle type. For example, Federal and State governments may use AFVs in quite different ways due to fuel availability or policies for AFV use.

   In some instances, the annual VMT values of conventional vehicles were revised downward to reflect the less intensive use of AFVs when compared to conventional vehicles. Average VMT is lower for AFVs than for conventional vehicles for some types due to differences in vehicle classification and issues of choice. "Choice" factors that reduce AFV utilization relative to conventional vehicles include the following:
   - More frequent refueling because of lower heat content of alternative fuels
   - Range restrictions because of limited fuel availability
   - Higher maintenance needs and increased incidence of mechanical failures
   - Operator perceptions (when choice is available, fleet and vehicle operators may drive conventional vehicles more often than AFVs because of their perceptions of safety, cost, perceptions are correct).

In other instances, the annual VMT values of conventional vehicles were adjusted to reflect information about AFV use that was collected on the EIA-886 survey or from other outside sources.

3. Estimation of Fuel Efficiency
   The efficiencies in miles per gallon of gasoline were determined for all vehicle categories. The annual MPG values known from conventional fleets were used as the starting point for the MPG assigned to each AFV "in use" level of detail ((i.e., fuel/vehicle type/engine configuration type/State).[9] The conventional fleet MPG estimates are known only according to vehicle type, so they are occasionally varied. As more data about the efficiency of alternative fuel vehicles have become available, these have been incorporated into the estimates. For instance, the EPA's Fuel Economy Guide has begun including some types of AFVs, and this information is sometimes used to adjust conventional MPG rates.

4. Vehicle Miles Traveled and Fuel Consumption Adjustments for Dedicated and Non-Dedicated Vehicles

   Dedicated vehicles were assumed to be fueled exclusively by alternate fuels; therefore, no adjustment was necessary. However, non-dedicated AFVs may consume both alternate and traditional fuels. Flexible-fuel vehicles using ethanol, for example, do not necessarily consume 85-percent ethanol and 15-percent gasoline at all times. To obtain the net amount of alternative fuel used by vehicles with non-dedicated engines, their VMT values were multiplied by the percentage of mileage each vehicle type is thought to use the alternate fuel.

5. Estimating Fuel Consumption
   The net adjusted annual VMT (from step 4) was divided by miles per gallon to determine alternate transportation fuel consumption in gasoline-equivalent-gallons.

6. Conversion to Alternate Transportation Fuel Consumption in Native Units
   Fuel consumption in gasoline-equivalent gallons was converted to native units (gallons for propane (LPG) LNG, and E85, therms for CNG, and KWH for electricity.) A conversion factor for each fuel was computed by dividing the higher heating value (HHV) of gasoline by the higher heating value of the alternative fuel. For several AFV types, the conversion factors were adjusted because the effective total fuel cycle of ATF consumption per mile of travel is higher than commonly thought. Consumption of ATFs is almost always estimated by assuming that Btu-equivalent amounts of ATF and traditional fuel produce the same VMT. This assumption is not strictly accurate because of venting of fuel vapor during refueling and maintenance, leakage of gaseous fuels from fuel lines and storage cylinders, engine efficiency differences, and vehicle weight differences. Although natural gas utilities, transit bus facilities, fleet owners, and related industry members are not generally able to isolate and quantify these factors, the net effect is lower miles per Btu for most AFVs than for conventional

vehicles. The adjusted conversion factors were then multiplied by the alternative fuel consumption value (from step 5) to determine alternative fuel consumption in terms of native units.

Estimating 2004 and 2005 Alternative Fueled Vehicles In Use

Once 2003 estimates of AFVs were developed, these were updated with 2004 EIA-886 data for both total vehicles supplied during 2004 and vehicles in use for the surveyed user groups, as well as an estimate of vehicles retired during 2004. Creating 2005 estimates of AFVs in use followed a similar process as used for 2004, except that for 2005 estimates, issues regarding the classification of vehicles (see below) were largely resolved by recontacting form EIA-886 respondents.

Revised Data Tables-Structure and Content

The new data tables for estimates of AFVs in use and alternate transportation fuel consumption were designed to achieve two objectives:

1. Provide additional detail about AFVs in use; and
2. Increase the understanding of the table contents

Additional Detailed Data provided includes:

1. AFVs in use by fuel type and detailed vehicle type (e.g., compact automobile) (Table V6)
2. AFVs in use by fuel type, major vehicle type, and engine configuration (i.e., dedicated or nondedicated) (Table V7)
3. A summary table by user group of AFVs in use (Table V8)
4. AFVs in use by fuel type and user group (Table V9)
5. For each fuel type, AFVs in use by User Group and State (Tables V10-V15)

Tables showing many of the above categorizations were published previously, but only with form EIA-886 data (see following section). Note that the current data tables no longer show estimates at the Census 4-region level.

Regarding alternate transportation fuel consumption data, information was previously published only at the U.S. total level by fuel type, as well as by weight category and Census region. Now, consumption data is available for every categorization for which AFVs in use is shown.

Increasing the Understanding of Alternative Fuels Data Tables

Since the inception of EIA's alternate fuels survey in 1995, EIA has presented separate data tables for: a. estimates of the total population of AFVs and total ATF consumption; and b. data collected about AFVs in use from Form EIA-886. This was done to ensure that users did not confuse reported EIA-886 survey data, which is gathered from only a portion of the total U.S. fleet population (excluding privately owned vehicles), with

information originally developed apart from the survey data via a model designed to estimate the number of AFVs in use by all fleets.[10]

However, this division of data presentation appeared to create ambiguities as to the content of each set. Furthermore, as time passed, the process of estimating the use of AFVs in all U.S. fleets changed because instead of relying on historical externally derived estimates of AFVs in use in a base year, plus other assumptions, EIA by 2005 had 10 years of information on all AFVs supplied and 7 years of information on AFVs in use by Federal[11] and State governments, alternate fuel providers,[12] and transit companies. As a result, EIA over the years had modified the data used to model total AFVs in use by relying increasingly on form EIA-886 data, thus further blurring the distinction between published "estimates" of AFVs and published "data." Making the situation even more complicated was the fact that the original model used to estimate total AFVs in use used a rather different set of fleet and vehicle categories from those reported on Form EIA-886.

As a result, EIA decided to revise its data presentation when it revised its methodology and automated the process. Data tables now reflect a totally integrated picture of AFVs in use, beginning with the total U.S. picture and then decomposing the total into various parts. Footnotes on each table describe which parts of the table are derived from the survey data and which are estimated.

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[1]Companies that supply AFVs include both those that are original equipment manufacturers and those that convert vehicles that operate on conventional fuels to operate on an alternate fuel.

[2] In 1994, EIA estimated that in Atlanta, GA alone there were 4,000 fleets having 10 or more vehicles.

[3] Frequently, suppliers sell vehicles to leasing companies, who in turn send them to dealers or end users.

[4] Estimates of vehicles retired are developed for each year of AFVs that have been reported supplied on Form EIA-886.

[5] For most vehicle types, AFV retirements are estimated according to the same schedule as their non-AFV counterparts. For example, a CNG automobile is assumed to have the same life as a gasoline-powered auto. For a limited number of vehicle types, sufficient alternative information was available to permit EIA to override the conventional-equivalent vehicle retirement schedule. Information on default retirement rates was obtained from prior editions of the Transportation Energy Data Book, Tables 3.8, 3.9, and 3.10, published by the Oak Ridge National Laboratory. See http://cta.ornl.gov/data/index.shmtl.

[6] The VIUS survey defines a "truck" as including vans, pick-ups, sport utility vehicles (SUVs), and larger trucks. However, VIUS separately estimates "light-duty" trucks (vans, pick-ups, and SUVs) and other medium- and heavy-duty trucks. EIA also used the results of the 2002 VIUS survey to further adjust the "inventory" of pre-1995 propane (LPG) trucks in use, resulting in a lower number.

[7] In the 1990's, a few heavy-duty E95 vehicles were built that were dedicated ethanol vehicles. None have been built since, and the number of these believed to still exist is so few that EIA no longer tracks them.
[8] A complete listing of all characteristic descriptions is provided at the end of this document.
[9] Baseline information on MPG was obtained from prior editions of the Transportation Energy Data Book, published by the Oak Ridge National Laboratory. See http://cta.ornl.gov/data/index.shtml.
[10] Form EIA-886, "Annual Survey of Alternative Fueled Vehicle Suppliers and Users".
[11] Data on Federal AFVs in use is obtained from the Federal Automotive Statistical Tool (FAST), operated jointly by the General Services Administration and the Department of Energy.
[12] Alternate fuel providers, as defined by the Energy Policy Act of 1992, are electricity providers, natural gas providers, and propane (LPG) providers.