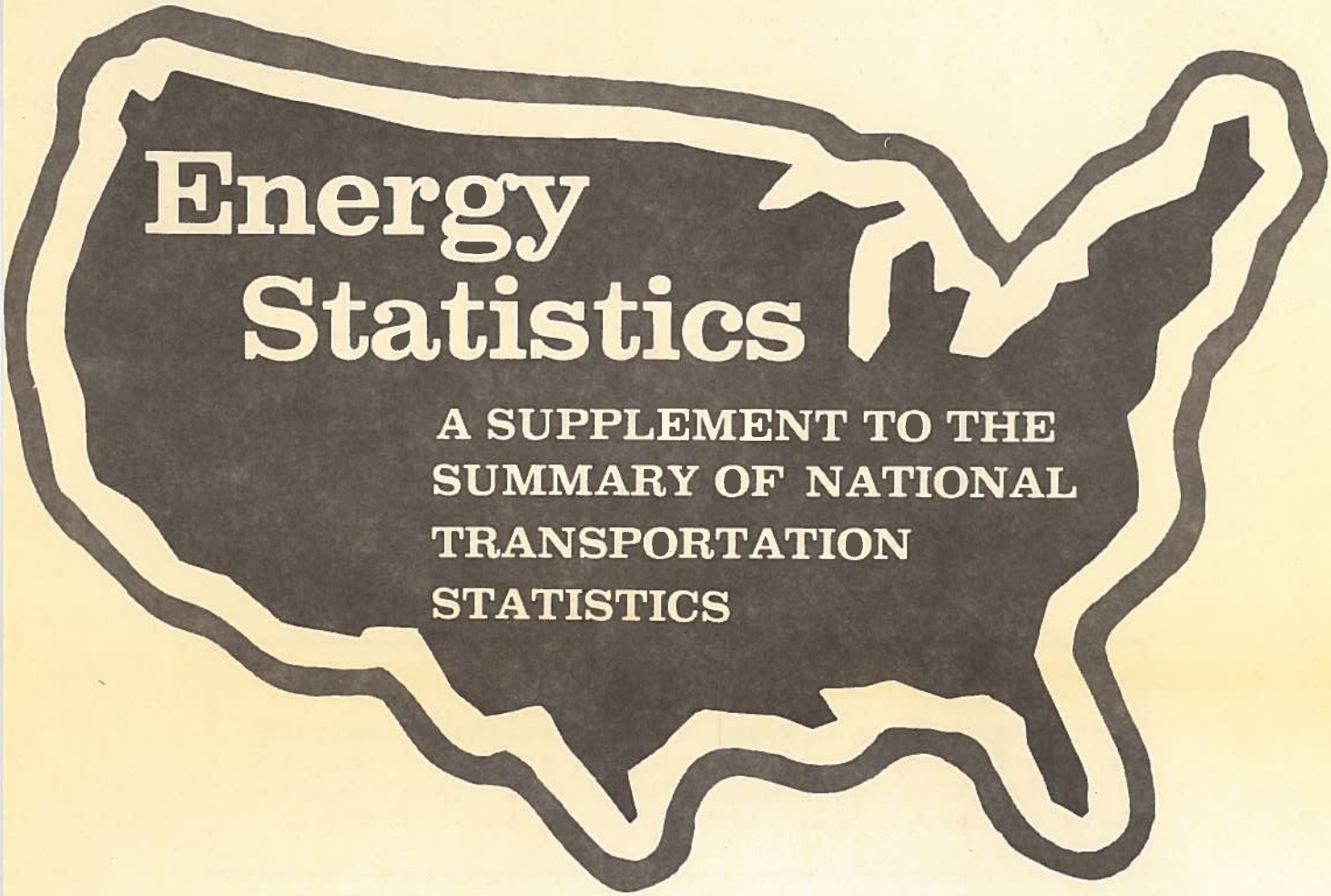
REPORT NO. DOT-TSC-OST-76-30



AUGUST 1976

ANNUAL REPORT

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Prepared for

U.S. DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
Assistant Secretary for Policy, Plans,
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Washington DC 20590

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16. Abstract

This annual report is a compendium of selected time-series data describing the transportation, production, processing, and consumption of energy. The statistics have been assembled from a wide variety of sources, including the U.S. Department of the Interior, the Interstate Commerce Commission, and the American Petroleum Institute.

The report is divided into three main sections. The first, entitled "Energy Transport," contains such items as the revenues and expenses of oil pipeline companies, number and capacities of U.S. tank ships, and the total crude oil transported in the U.S. by method of transportation.

The second section, entitled "Reserves, Production, and Refining," reveals the growth over time of the U.S. oil and natural gas reserves, refinery capacity, and yields.

Trends in the demand for fuel and power are displayed in the third section, entitled "Energy Consumption." Throughout this part, the transportation sector is emphasized. Included are the gasoline and oil costs of automobiles of different sizes, the consumption of petroleum by type of product, the electrical energy consumed by the local transit industry, and other important statistics describing the supply and demand for energy.

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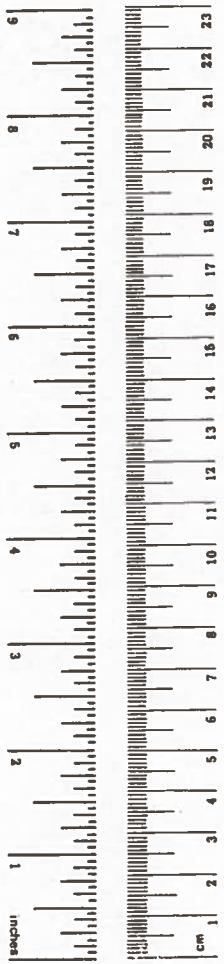
METRIC CONVERSION FACTORS

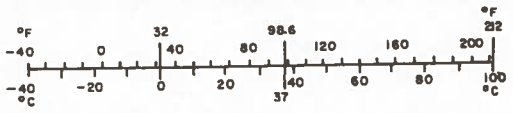
Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
		MASS (weight)		
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
		TEMPERATURE (exact)		
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C



Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
		TEMPERATURE (exact)		
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



CONTENTS

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INTRODUCTION

The recent national interest in energy problems has created a surge in the demand for quantitative data on many facets of the energy situation. In partial answer to that demand the Department of Transportation has instituted a program of publishing relevant energy statistics. One of the products of this program is the annual publication: *Energy Statistics - A Supplement to the Summary of National Transportation Statistics.* The 1976 edition, essentially an updated version of the 1975 edition, with a few additions, emphasizes statistics relating to (1) the role of transportation in the energy supply infrastructure, and (2) transportation as a consumer of energy, although additional data relating to energy are included as well.

The statistics recorded here have been gathered from the Department of Transportation, the Interstate Commerce Commission, the U.S. Department of the Interior, the American Petroleum Institute, and other Government and private sources. Divided into three parts, the report displays selected time-series data on (1) energy transport, (2) reserves, production, and refining, and (3) energy consumption. In all cases, the most recent data which are readily available have been included.

The first section, Part 1, includes financial, inventory, and activity statistics related to the transportation of energy commodities via pipeline, water, truck, and rail. A few examples: Table 1-1 presents data on revenues, expenses, and income of the U.S. oil pipeline companies, 1955-1974; Table 1-10 shows the annual growth of the world tank ship fleet, 1965-1975; Table 1-20 shows the amount of petroleum and coal transported in domestic and foreign waterborne commerce, 1974.

Part 2 begins with estimates of U.S. proved crude oil reserves. Proved reserves are *not* the same as "oil-in-place," or the amount of oil actually in the ground. As stated in Appendix B, "Proved reserves of crude oil as of December 31 of any given year are the estimated quantities of all liquids statistically reported as crude oil which geological and engineering data demonstrate with reasonable certainty to be recoverable in the future from known reservoirs under existing economic and operating conditions."[1] This means, for example, that all else being equal an increase in the per barrel price of crude oil will lead to an increase in the estimate of proved crude oil reserves.

Part 2 also includes time-series on natural gas reserves and production, U.S. refinery capacity and yields. Table 2-10, for example, shows that the average gasoline yield in 1975 was 46.67% of all crude oil inputs to U.S. refineries.

Part 3 contains U.S. energy consumption statistics. Included in Tables 3-1 through 3-37 are estimates of the fuel and oil costs for the various modes of transportation. The data in Tables 3-38 through 3-49 have been compiled by the U.S. Department of the Interior, which periodically reports statistics for the following consuming sectors: (1) household and commercial, (2) industrial, (3) transportation, (4) electric utilities, and (5) miscellaneous. Interior's transportation figures cannot be completely disaggregated by mode, but it is possible to break them down by fuel type. (See Table 3-45.) The Interior Department's statistics are based on fuel production and sales data, rather than actual consumption by the various modes of transportation. This means that Interior's estimates include the losses from spillage and evaporation which occur between the refinery and the consumer.

[1] American Petroleum Institute, *Standard Definitions for Petroleum Statistics*, July 1, 1969, p. 2.

Transportation fuel consumption data disaggregated by mode, assembled from a number of sources, are also presented in Part 3. Tables 3-47 through 3-53 contain data from the Federal Highway Administration, the Civil Aeronautics Board, the Association of American Railroads, the American Petroleum Institute, and the American Transit Association. Because these statistics do not include the losses which occur between the refinery and the consumer, they are *not* consistent with Interior's estimates. It is also important to point out that Interior includes military transportation in the transportation sector, while Tables 3-47 through 3-53 deal with commercial and private transportation only.

PART 1. ENERGY TRANSPORT

Table 1-1. Revenues, Expenses, and Income of U.S. Oil Pipeline Companies,[1] 1955 - 1974

As of Dec. 31	Number of Companies	Operating Revenues ($000)	Operating Expenses ($000)	Operating Ratio (%)	Operating[2] Income ($000)	Net[2] Income ($000)
1974[3]	103	1,587,106	942,640	59.39	644,466	352,311
1973[3]	100	1,445,826	843,816	58.36	602,011	374,734
1972[3]	99	1,337,861	780,162	58.31	557,699	331,700
1971[3]	99	1,249,299	712,178	57.01	537,121	313,560
1970	101	1,188,254	672,336	56.58	515,918	311,852
1969	99	1,103,258	642,703	58.25	460,555	272,717
1968	97	1,022,962	597,023	58.36	425,939	260,760
1967	90	994,520	564,420	56.75	430,099	252,656
1966	87	941,138	533,043	56.64	408,096	236,001
1965	89	903,817	515,113	56.99	388,705	217,761
1964	90	865,079	502,456	58.08	362,623	209,527
1963	94	840,260	439,701	52.09	232,220	200,770
1962	92	810,605	426,363	52.60	227,030	203,799
1961	89	786,718	419,854	53.37	214,616	180,698
1960	87	770,417	417,640	54.21	198,911	169,398
1959	86	765,232	406,140	53.07	211,276	182,815
1958	84	720,670	389,678	54.07	190,748	161,838
1957	82	729,952	386,661	52.97	182,392	159,197
1956	83	737,386	370,787	50.28	188,272	178,457
1955	84	677,605	346,985	51.21	176,256	153,334

[1] Includes only those companies reporting to the Interstate Commerce Commission
[2] Before Federal Income Tax
[3] Statistics since 1971 include figures for Black Mesa Pipeline, Inc., a coal slurry pipeline.

Source: Interstate Commerce Commission, *Transport Statistics*, Part 6, "Pipelines," December 31, 1974, p. 2, and equivalent tables in earlier editions.

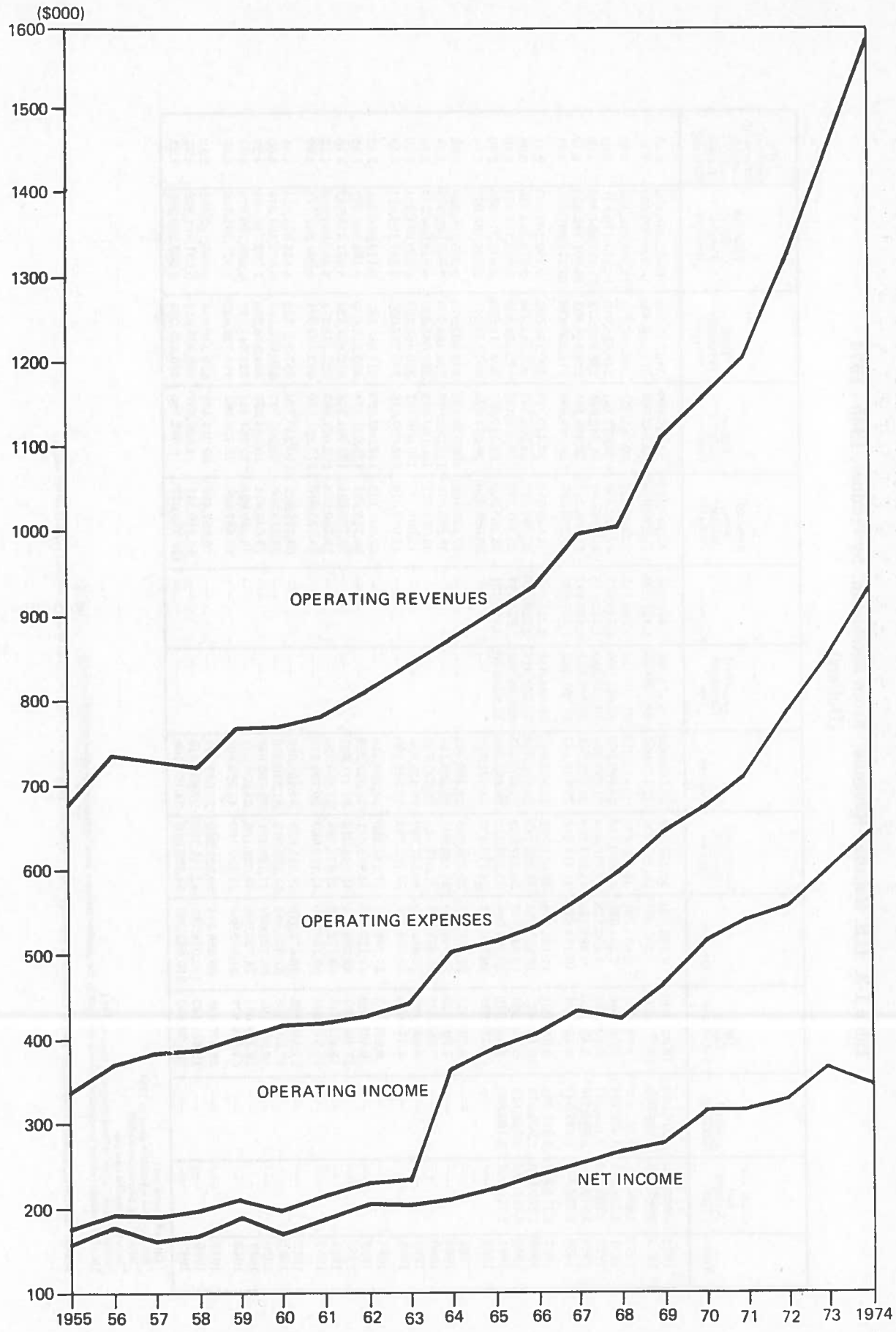


Figure 1. Revenues, Expenses, and Income of U.S. Oil Pipeline Companies, 1955 - 1974

Table 1-2. U.S. Railroad Revenue[1] From Petroleum, by Product, 1945 - 1974 (Dollars)

Year	Crude Oil and Natural Gas[2]	Natural Gasoline[2]	Total Crude Petroleum	Gasoline	Lubricating Oils and Greases	Asphalt[3]	Liquefied Petroleum Gas[4, 5]	Kerosene[5]	Residual and Distillate Fuel Oils	Other Refined Products	Total Petroleum Revenue	Total All Car Freight Revenue	Petroleum as Percent of of All Car Freight Revenue
1974	15,905,000	3,916,000	19,821,000	9,428,000	58,287,000	36,509,000	108,715,000	1,470,000	93,107,000	53,392,000	380,729,000	16,352,448,000	2.33
1973	9,987,000	3,528,000	13,575,000	7,504,000	50,487,000	32,132,000	94,726,000	1,424,000	71,280,000	43,542,000	311,610,000	14,309,000,000	2.20
1972	4,686,148	3,901,433	8,587,581	6,854,097	46,487,678	28,678,310	81,716,730	1,383,115	52,649,620	39,761,551	266,300,682	12,985,675,160	2.05
1971	2,333,112	3,676,734	6,009,846	7,334,632	44,859,176	24,989,600	81,691,506	1,749,033	47,329,830	35,693,287	249,656,910	12,214,179,121	2.04
1970	2,263,533	3,145,504	5,409,037	8,492,128	42,916,869	24,247,908	80,693,259	1,422,876	41,573,081	31,642,665	236,397,823	11,351,054,869	2.08
1969	2,513,904	2,890,546	5,404,450	9,263,788	43,974,169	23,221,745	75,785,033	1,402,942	41,168,744	28,919,561	229,140,432	10,801,140,820	2.12
1968	2,328,534	3,247,547	5,576,081	10,133,840	41,411,044	23,427,187	64,891,623	1,767,923	40,210,087	26,789,093	214,206,878	10,174,805,428	2.11
1967	2,172,837	2,877,254	5,050,091	11,143,676	39,051,762	22,935,995	56,864,348	2,213,875	37,528,512	25,410,724	200,198,983	9,492,109,695	2.11
1966	2,230,578	2,900,879	5,131,457	12,193,055	38,863,213	25,755,025	52,749,314	2,326,420	36,394,311	28,001,544	201,414,339	9,679,324,440	2.08
1965	2,411,362	2,725,142	5,136,504	13,843,412	36,837,093	27,607,415	49,023,362	1,674,771	35,701,242	29,400,433	199,224,232	9,225,137,234	2.16
1964	2,710,546	3,150,803	5,861,349	20,221,681	35,239,353	28,863,083	51,820,150	3,423,431	34,165,369	24,117,267	203,711,683	8,846,315,669	2.30
1963	------	------	3,271,938	19,683,062	34,116,473	24,921,815	------	------	26,086,628	99,074,625	207,154,541	8,484,598,073	2.44
1962	------	------	6,793,918	22,725,293	35,396,093	24,489,305	------	------	27,325,169	105,773,192	222,502,970	8,285,280,269	2.69
1961	------	------	7,993,725	25,946,609	35,134,293	25,522,187	------	------	28,805,876	115,062,010	238,464,700	7,988,867,744	2.98
1960	------	------	9,283,233	28,573,797	37,042,468	25,777,709	------	------	35,384,271	126,003,845	262,065,323	8,248,794,710	3.18
1959	------	------	8,031,497	32,951,690	39,397,252	28,446,696	------	------	42,001,187	130,036,781	280,865,103	8,520,061,481	3.30
1958	------	------	6,434,698	33,952,493	37,783,782	32,058,706	------	------	43,939,810	134,097,516	288,267,005	8,257,194,611	3.49
1957	------	------	9,081,403	37,782,287	41,121,450	32,303,419	------	------	52,207,133	139,092,895	311,588,587	9,119,666,885	3.42
1956	------	------	9,448,489	43,110,472	41,995,011	35,022,023	------	------	54,713,821	138,921,814	323,211,630	9,104,909,587	3.55
1955	------	------	11,496,624	49,260,244	42,646,316	34,411,621	------	------	56,175,591	128,961,328	322,951,724	8,657,476,023	3.78
1954	------	------	15,413,343	53,772,426	41,613,825	34,883,756	------	------	58,780,858	120,674,063	325,138,271	7,890,287,959	4.12
1953	------	------	19,541,293	59,133,940	45,179,660	39,724,745	------	------	68,723,813	119,881,540	352,184,991	9,031,342,777	3.90
1952	------	------	17,540,985	66,873,375	48,845,623	44,453,969	------	------	69,316,932	110,230,738	357,261,622	8,834,695,654	4.04
1951	------	------	17,934,308	67,303,933	51,172,812	41,540,490	------	------	73,518,096	99,505,747	350,975,386	8,673,404,344	4.05
1950	------	------	16,999,196	65,721,697	47,744,161	39,786,059	------	------	78,640,611	85,384,536	334,276,260	7,792,716,884	4.29
1949	------	------	19,138,643	74,720,088	45,033,109	38,038,931	------	------	75,359,928	72,254,021	324,544,720	6,985,709,676	4.64
1948	------	------	64,328,877	91,609,984	54,587,169	43,579,895	------	------	88,887,646	75,736,061	418,729,632	7,827,795,556	5.35
1947	------	------	39,946,626	89,959,774[6]	50,921,960	35,647,747	------	------	76,857,416	59,016,431	352,349,954	6,886,790,061	5.12
1946	------	------	19,825,442	130,048,773	42,715,165	27,835,316	------	------	55,210,341	4,400,807[6]	280,035,844	5,631,981,906	4.97
1945	------	------	59,090,840	210,452,636	54,499,016	24,161,108	------	------	126,359,677	5,052,786	480,435,063	6,563,299,959	7.32

[1] Carload freight only.
[2] Not reported separately prior to 1964.
[3] Natural and petroleum asphalt.
[4] Includes liquefied coal gas.
[5] Included with "other refined products" prior to 1964.
[6] In 1947, certain refined products previously inculded in the gasoline category were reclassified as other refined products.

Source: Interstate Commerce Commission, *Freight Commodity Statistics*, Class I Railroads, December 31, 1974, pp. 3 and 6, and equivalent pages in earlier editions.

Table 1-3. Energy Transport by Class I Common and Contract Motor Carriers of Property, 1972

	Revenue Freight Originated		Revenue Freight Terminated		Total Freight Traffic (Including Duplications)		Gross Freight Revenue
	Truckloads	Tons	Truckloads	Tons	Truckloads	Tons	(Dollars In Thousands)
Coal	13,829	441,433	13,810	441,469	14,148	446,513	1,648
Anthracite	4,355	94,544	4,311	94,031	4,562	97,889	1,028
Raw anthracite	87	1,472	30	527	90	1,518	24
Cleaned or prepared anthra, (crshd, scrnd, sized)	325	5,978	389	7,360	469	8,430	135
Bituminous coal and lignite	9,474	346,889	9,499	347,438	9,586	348,624	620
Bituminous coal	2,012	180,061	2,039	180,717	2,112	181,658	320
Crude petroleum, natural gas, and natural gasoline	113,072	3,074,164	113,140	3,074,995	113,230	3,076,205	11,270
Crude petroleum and natural gas	111,378	3,028,635	111,450	3,029,480	111,522	3,030,514	11,122
Natural gasoline	1,694	45,529	1,690	45,515	1,708	45,691	147
Petroleum and coal products	5,150,196	126,400,122	5,153,320	126,447,462	5,168,703	126,683,630	473,969
Products of petroleum refining	4,982,641	122,917,922	4,986,239	122,969,806	4,998,314	123,154,183	443,605
Gsln, jet oth high vola pet fuels exc nat gsln	2,336,448	60,458,203	2,337,930	60,492,726	2,338,252	60,497,577	171,395
Kerosene	305,664	7,390,161	305,584	7,387,791	305,731	7,390,973	21,009
Distillate fuel oil	821,172	20,713,968	821,304	20,716,811	821,547	20,720,439	61,344
Lubricating and similar oils and derivatives	144,012	2,779,246	145,993	2,795,744	152,969	2,900,613	37,891
Lubricating greases	57,754	1,228,397	57,449	1,223,712	58,730	1,244,392	7,550
Asph, tar & pitches (petro, coke oven, coal tar)	414,824	9,846,801	414,876	9,848,064	415,694	9,859,900	54,726
Residual fuel oil & oth low vola petro fuels	401,071	9,776,490	401,212	9,778,438	401,306	9,779,849	29,269
Products of petroleum refining, nec	222,051	4,888,847	222,268	4,890,712	224,303	4,922,895	29,738
Liquefied petroleum gases and coal gases	279,645	5,835,809	279,623	5,835,808	279,782	5,837,545	30,684
Paving and roofing materials	106,579	2,192,387	106,887	2,202,396	108,103	2,219,762	19,794
Paving mixtures and blocks	32,931	830,194	32,854	831,147	33,131	834,731	5,171
Asphalt felt and coating	73,648	1,362,193	74,033	1,371,249	74,972	1,385,031	14,623
Miscellaneous petroleum and coal products	60,976	1,289,813	60,194	1,275,260	62,286	1,309,685	10,569
Coke and coal briquettes	12,762	275,364	12,204	262,866	12,901	277,503	1,104
Energy commodities	5,277,097	129,915,719	5,280,270	129,963,926	5,296,081	130,206,348	486,887
All commodities	19,989,290	457,182,739	20,057,235	457,846,636	21,238,091	493,840,635	10,724,575
Energy commodities as a percent of all commodities	26%	28%	26%	28%	25%	26%	5%

Source: ICC, *Freight Commodity Statistics*, Motor Carriers, 1972, p. 3 and 6.

Table 1-4. U.S. Total Petroleum Pipeline Mileage, 1950 - 1974
(As of December 31)

Year	Crude-Oil Trunk Lines		Refined-Oil Trunk Lines		Total Trunk Lines		Crude-Oil Gathering Lines		Total Petroleum Pipelines	
	ICC Lines	All Lines[2]	ICC Lines	All Lines[2]	ICC Lines	All Lines[2]	ICC Lines	All Lines[2]	ICC Lines	All Lines[2]
1974	57,602	76,250[4]	68,609[1]	76,839[4]	126,211[1]	153,089[4]	41,577	69,266[4]	173,341[1]	222,355[4]
1973	57,435	n/a	64,919[1]	n/a	122,354[1]	n/a	41,655	n/a	170,691[1]	n/a
1972	59,757	n/a	64,701	n/a	124,458	n/a	42,893	n/a	173,532[1]	n/a
1971	60,946	75,143	61,525	72,396	122,471	147,539	45,759	71,132	174,722[1]	218,671
1970	63,030	n/a	59,335	n/a	122,365	n/a	46,587	n/a	175,735[1]	n/a
1969	61,887	n/a	56,096	n/a	117,983	n/a	45,993	n/a	170,824[1]	n/a
1968	61,807	70,825	53,431	64,529	115,238	135,354	46,886	74,124	169,307[1]	209,478
1967	60,893	n/a	51,475	n/a	112,368	n/a	46,855	n/a	165,478[1]	n/a
1966	63,210	n/a	52,493	n/a	115,803	n/a	47,352	n/a	163,155	n/a
1965	63,981	72,383	50,791	61,443	114,772	133,826	46,640	77,041	161,412	210,867
1964	63,220	n/a	49,477	n/a	112,697	n/a	46,886	n/a	159,583	n/a
1963	58,648	n/a	45,358	n/a	104,006	n/a	46,563	n/a	156,812[1]	n/a
1962	61,702	70,355	45,288	53,200	106,990	123,555	48,063	76,988	155,053	200,543
1961	62,251	n/a	41,830	n/a	104,081	n/a	49,656	n/a	153,737	n/a
1960	62,059	n/a	40,508	n/a	102,567	n/a	49,101	n/a	151,968	n/a
1959	61,860	70,317	37,732	44,483	99,592	114,800	49,567	75,182	149,159	189,982
1958	61,702	n/a	32,865	n/a	94,567	n/a	49,787	n/a	144,354	n/a
1957	61,379	n/a	31,780	n/a	93,159	n/a	52,077	n/a	145,236	n/a
1956	61,885	78,594	29,465	36,420	91,350	115,014	51,336	73,526	142,686	188,540
1955	63,347	n/a	26,382	n/a	89,729	n/a	50,645	n/a	140,374	n/a
1954	64,145	n/a	24,128	n/a	88,273	n/a	50,689	n/a	138,962	n/a
1953	63,408	75,228	20,462	27,236	83,870	102,464	50,030	68,040	133,900	170,504
1952	64,888	n/a	19,305	n/a	84,193	n/a	48,522	n/a	132,715	n/a
1951	64,992	n/a	18,836	n/a	83,828	n/a	47,629	n/a	131,457	n/a
1950	64,622	71,373	16,374	20,881	80,996	92,254	47,593	60,560	128,589	152,814

n/a — not available

[1] Total mileage includes pipelines classified as "other" by the ICC. In 1963 "other" pipeline mileage was 6,243 miles and in 1967 it was 6,255 miles.

[2] Triennial data.

[3] Includes 273 miles of coal slurry pipeline.

[4] Date of data is January 1, 1974.

Source: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 6, December 31, 1974 "Pipelines", Table 2, and equivalent tables in earlier editions. U.S. Department of the Interior, Bureau of Mines, Mineral Industry Surveys, *Crude-Oil and Refined Pipeline Mileage in the United States, Triennial Report*, Jan. 1, 1974, Table 1.

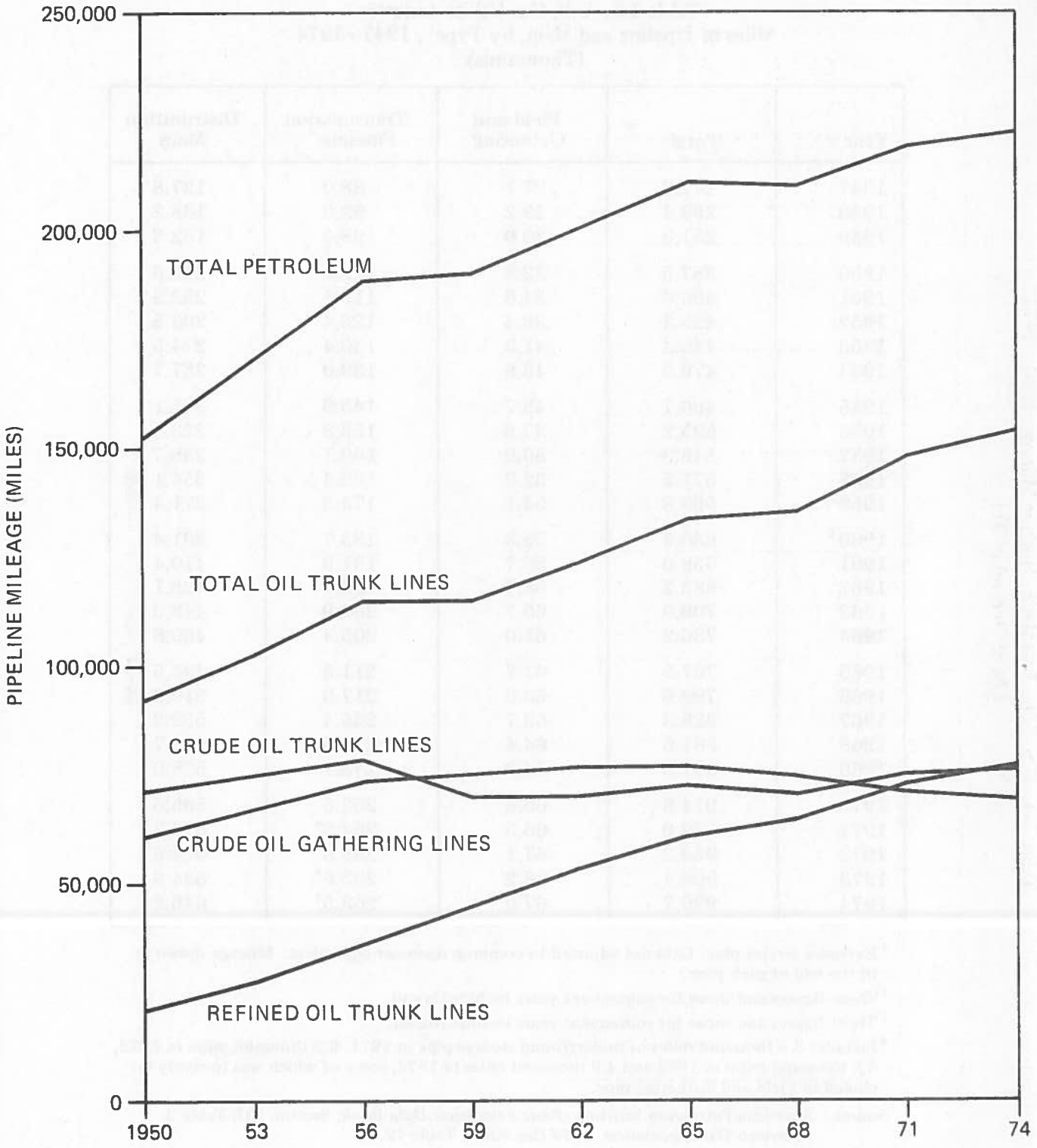


Figure 2. U.S. Petroleum Pipeline Mileage, 1950 - 1974

Table 1-5. U.S. Gas Utility Industry
Miles of Pipeline and Main, by Type[1], 1947 - 1974
(Thousands)

Year	Total	Field and Gathering	Transmission Pipeline	Distribution Main
1947	242.9	27.1	88.0	127.8
1948	259.4	29.2	92.0	138.2
1949	281.5	30.9	98.3	152.3
1950	387.5	32.8	113.1	241.6
1951	406.6	34.6	119.1	252.9
1952	425.3	38.4	123.4	263.5
1953	446.4	41.5	130.4	274.5
1954	470.5	43.8	139.0	287.7
1955	496.7	45.7	145.9	305.1
1956	525.2	47.6	153.8	323.8
1957	548.8	50.0	160.1	338.7
1958	571.5	52.0	165.4	354.1
1959[2]	599.8	54.1	174.3	371.4
1960[3]	630.9	55.8	183.7	391.4
1961	659.0	56.7	191.9	410.4
1962	683.2	58.7	196.4	428.1
1963	709.9	60.7	200.9	448.3
1964	736.2	61.0	205.4	469.8
1965	767.5	61.7	211.3	494.5
1966	799.6	63.0	217.0	519.6
1967	828.3	63.7	225.4	539.2
1968	861.6	64.4	234.5	562.7
1969	891.6	64.9	248.1	578.6
1970	914.8	66.6	252.6	595.6
1971	932.0	66.5	254.8[4]	610.7
1972	950.2	67.1	258.5[4]	624.6
1973	964.4	66.2	263.6[4]	634.6
1974	976.7	67.0	263.5[4]	646.2

[1] Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of the end of each year.

[2] These figures and those for subsequent years include Hawaii.

[3] These figures and those for subsequent years include Alaska.

[4] Includes 3.6 thousand miles of underground storage pipe in 1971, 3.3 thousand miles in 1972, 4.5 thousand miles in 1973 and 4.9 thousand miles in 1974, some of which was formerly included in Field and Gathering pipe.

Source: American Petroleum Institute, *Basic Petroleum Data Book*, Section XII, Table 2.
American Gas Association, *1974 Gas Facts*, Table 42.

Table 1-6. Total Mileage[1] of Natural-Gas Pipelines and Utility Main, for Selected Years, by States, 1955 - 1974

Division and State	1955	1960	1965	1970	1971	1972	1973[r]	1974
United States	496,740	630,950	767,520	914,830	933,675[r]	951,908[r]	964,415	976,676
New England	17,000	19,140	22,090	25,686	26,008[r]	26,233	26,543	26,745
Connecticut	3,720	4,300	4,960	5,728	5,812	5,820	5,900	5,966
Maine	430	390	390	705	465[r]	465	462	461
Massachusetts	10,570	11,910	13,740	15,609	15,821	16,117	16,284	16,388
New Hampshire	540	630	800	1,041	1,249	1,132	1,143	1,154
Rhode Island	1,520	1,720	1,990	2,299	2,342	2,373	2,377	2,396
Vermont	220	190	210	304	316	326	377	380
Middle Atlantic	80,710	92,600	102,580	111,644	112,633	113,213	113,552	114,266
New Jersey	12,420	15,140	18,320	21,052	21,402	21,776	21,934	22,053
New York	28,440	33,020	36,580	39,995	40,193	40,239	40,386	40,279
Pennsylvania	39,850	44,440	47,680	50,637	51,038	51,198	51,232	51,934
East North Central	90,210	113,420	147,640	178,268	182,028[r]	184,098	186,924	188,932
Illinois	21,250	27,770	38,750	46,683	48,249	49,169	49,389	49,955
Indiana	11,840	14,800	20,240	25,264	25,519	25,594	26,692	26,970
Michigan	16,810	21,860	30,370	37,699	37,940[r]	38,493	39,084	39,834
Ohio	34,180	40,150	44,690	49,393	50,565	50,886	51,197	51,261
Wisconsin	6,130	8,840	13,590	19,229	19,757	19,956	20,562	20,912
West North Central	55,200	67,640	82,250	101,099	103,243	105,368[r]	106,477	107,747
Iowa	7,840	9,970	13,630	16,654	16,531	16,894	16,921	17,080
Kansas	22,910	25,860	28,780	34,365	34,855	35,299[r]	35,653	35,964
Minnesota	5,360	8,090	10,680	14,162	14,859	15,335	15,502	15,574
Missouri	9,770	11,950	15,150	18,654	19,310	19,749[r]	20,188	20,484
Nebraska	7,320	8,910	10,300	12,627	13,057	13,204	13,349	13,477
North Dakota	930	1,100	1,560	2,332	2,297	2,506	2,472	2,518
South Dakota	1,070	1,760	2,150	2,305	2,334	2,381	2,392	2,470
South Atlantic	43,260	59,100	74,180	92,738	95,320	97,222[r]	98,416	99,375
Delaware	560	830	1,160	1,270	1,289	1,284	1,288	1,288
District of Columbia	1,140	1,160	1,150	1,164	1,175	1,173	1,169	1,167
Florida	3,220	6,400	8,330	11,435	11,673	11,782	12,368	12,586
Georgia	6,430	10,580	14,600	19,549	20,347	20,987	21,616	22,264
Maryland	4,430	5,400	6,710	7,986	8,193	8,375	8,466	8,511
North Carolina	2,290	4,830	7,080	10,605	10,893	11,200	11,437	11,441
South Carolina	1,350	3,320	6,090	8,514	9,082	9,360[r]	9,619	9,590
Virginia	4,750	6,490	8,190	10,451	10,682	11,141	10,868	10,938
West Virginia	19,090	20,090	20,870	21,764	21,986	21,920	21,585	21,590
East South Central	33,390	44,930	54,390	65,441	64,964	67,441[r]	69,240	70,065
Alabama	8,220	11,380	13,860	16,607	15,605	17,120	17,538	17,826
Kentucky	9,790	13,130	15,470	18,295	18,879	19,366	19,627	19,735
Mississippi	9,020	11,420	13,460	16,403	16,148	16,402	16,781	16,990
Tennessee	6,360	9,000	11,600	14,136	14,333	14,553	15,294	15,514
West South Central	99,330	127,120	150,260	182,752	188,084	191,254[r]	192,471	194,614
Arkansas	8,700	10,380	13,060	16,429	16,500	17,018	17,016	17,250
Louisiana	17,820	24,970	30,310	36,921	38,093	38,994	39,315	39,849
Oklahoma	16,080	19,590	23,850	28,532	30,972	31,474	30,959	31,835
Texas	56,730	72,180	83,040	100,870	102,519	103,768[r]	105,181	105,680
Mountain	29,630	44,940	59,000	71,848	74,441[r]	77,242	80,726	82,830
Arizona	6,770	9,630	11,120	13,379	13,794	14,358	14,380	15,137
Colorado	5,530	8,080	12,240	15,870	16,746	17,453	18,446	19,399
Idaho	20	1,490	2,770	3,226	3,310	3,482	3,594	3,723
Montana	4,120	5,120	5,970	6,324	6,442	6,813	6,998	7,212
Nevada	300	660	1,940	2,470	2,577	2,664	2,766	2,808
New Mexico	8,320	13,160	15,410	19,050	19,686	20,057	20,761	21,262
Utah	2,160	3,400	4,940	5,609	5,749	5,897	6,165	6,408
Wyoming	2,410	3,400	4,610	5,920	6,137[r]	6,518	6,716	6,881
Pacific	48,010	62,060	75,130	85,354	86,954[r]	89,837	90,516	92,102
Alaska	[a]	n/a	250	667	481[r]	635	690	739
California	43,070	52,280	60,650	66,328	67,329	69,748	70,133	71,378
Hawaii	[a]	440	490	530	537	546	558	578
Oregon	2,720	3,940	6,360	8,014	8,335	8,409	8,659	8,774
Washington	2,220	5,400	7,380	9,315	10,269	10,499	10,476	10,633

[a] Excludes data for Alaska prior to 1959 and Hawaii prior to 1960.
n/a not available.
[r] Revised
[1] Includes field, gathering, underground storage, transmission and distribution main but excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of year.

Source: American Gas Association, *Gas Facts*, 1974, p. 51, and previous years.

Table 1-7. U.S. Tank Ship Fleet (Actual and T2-SE-A1 Equivalents), 1945 - 1974

(Ocean-going vessels of 2,000 gross tons and over)

	Actual Fleet				T2-SE-A1 Equivalents	
Year[1]	Number	Gross Tons	Deadweight Tons	Average Speed (Knots)	Number	Per Cent of World Total
1974	306		10,236,221	16.4	690.0	3.6
1973	312	5,507,000	9,525,200	16.3	640.3	3.8
1972	328	5,411,300	9,253,330	16.4	621.0	4.3
1971	347	5,453,100	9,218,250	16.3	616.4	4.9
1970	350	5,305,800	8,911,002	16.2	593.4	5.5
1969	365	5,319,400	8,797,900	16.1	584.9	6.2
1968	380	5,337,300	8,655,700	16.1	574.6	7.0
1967	382	5,322,800	8,550,700	16.1	566.4	7.8
1966	337	5,343,700	8,549,900	16.1	566.3	8.5
1965	410	5,479,800	8,733,500	16.0	575.8	9.6
1964	422	5,553,400	8,816,300	16.0	579.3	10.6
1963	440	5,631,000	8,912,600	15.9	583.5	12.1
1962	456	5,726,900	9,045,300	15.9	589.8	13.0
1961	469	5,751,400	9,085,300	15.8	590.1	13.7
1960	478	5,664,000	8,894,600	15.7	575.0	14.1
1959	485	5,593,600	8,766,300	15.6	563.0	14.7
1958	474	5,316,100	8,309,200	15.5	529.5	15.6
1957	470	5,097,400	7,959,900	15.4	503.1	16.8
1956	477	5,040,700	7,892,700	15.2	493.4	18.9
1955	490	5,094,900	7,989,500	15.1	497.4	20.8
1954	525	5,376,500	8,446,200	15.0	521.7	23.3
1953	550	5,475,800	8,639,800	14.8	525.3	26.2
1952[2]	550	5,284,400	8,446,400	14.6	508.3	29.4
1951[3]	560	5,363,699	8,520,800	14.6	510.0	33.0
1950[4]	559	5,322,698	8,460,700	14.5	505.1	34.4
1949[4]	578	5,439,009	8,639,800	14.4	513.2	38.0
1949[5]	593	5,656,497	9,016,200	14.1	524.2	41.1
1948[3]	621	5,878,786	9,395,500	14.0	541.9	42.9
1947[2]	744	6,995,223	11,171,400	14.07	646.4	50.8
1947[5]	951	8,784,894	14,035,000	13.86	800.5	62.3
1945[4]	907	8,379,542	13,379,143	13.74	756.2	59.8
1945	780	7,084,022	11,283,652	13.59	630.9	55.9

[1] As of December 31, unless otherwise indicated.
[2] As of October 1.
[3] As of April 1.
[4] As of September 1.
[5] As of January 1.

Source: Sun Oil Company, Division of Planning and Industry Affairs, *Analysis of World Tank Ship Fleet, December 31, 1973*, December 1974, Table 1, and equivalent tables in earlier editions.

Table 1-8. World Tank Ship Fleet (Actual and T2-SE-A1 Equivalents), 1945 - 1974
(Ocean-going vessels of 2,000 gross tons and over)

Year[1]	Actual Fleet				
	Number	Gross Tons	Deadweight Tons	Average Speed (Knots)	T2-SE-A1 Equivalents
1974	4,878	164,953,187	300,872,588	15.7	19,453.1
1973	4,563	142,355,300	256,715,900	15.8	16,650.1
1972	4,342	124,250,300	221,204,000	15.8	14,341.0
1971	4,207	110,447,100	193,891,000	15.8	12,577.0
1970	4,002	96,921,800	167,940,000	15.8	10,925.0
1969	3,893	86,821,100	146,029,100	15.8	9,461.5
1968	3,748	77,148,500	126,454,200	15.8	8,202.3
1967	3,613	69,965,500	112,366,200	15.7	7,274.6
1966	3,524	64,787,600	102,908,800	15.7	6,641.4
1965	3,436	59,158,200	93,171,900	15.7	5,984.4
1964	3,359	54,468,900	85,125,700	15.6	5,455.3
1963	3,279	49,168,600	76,179,500	15.4	4,841.3
1962	3,259	46,630,100	71,995,700	15.3	4,542.9
1961	3,250	44,701,000	68,859,400	15.2	4,304.8
1960	3,264	42,801,300	65,780,400	15.1	4,076.0
1959	3,276	40,831,500	62,657,800	14.8	3,826.1
1958	3,146	37,020,100	56,640,700	14.6	3,403.3
1957	2,954	33,046,800	50,424,800	14.4	2,988.2
1956	2,778	29,455,500	44,887,600	14.2	2,614.2
1955	2,681	27,338,600	41,623,100	14.0	2,398.1
1954	2,602	25,733,900	39,137,300	13.9	2,244.0
1953	2,502	23,473,900	35,732,300	13.6	2,003.5
1952[2]	2,292	20,417,100	31,318,300	13.4	1,726.8
1951[3]	2,131	18,453,538	28,255,100	13.3	1,544.1
1950[4]	2,056	17,567,202	26,957,200	13.3	1,469.7
1949[4]	1,955	16,249,603	24,932,400	13.2	1,352.3
1949[5]	1,872	15,459,372	23,815,800	12.1	1,274.4
1948[3]	1,863	15,364,543	23,692,400	12.9	1,264.3
1947[2]	1,868	15,286,141	23,585,800	13.0	1,271.4
1947[5]	1,925	15,692,962	24,278,900	12.87	1,285.1
1945[4]	1,911	15,506,005	23,916,319	12.85	1,264.5
1945	1,768	14,102,405	21,667,642	12.67	1,129.2

[1] As of December 31, unless otherwise indicated.
[2] As of October 1.
[3] As of April 1.
[4] As of September 1.
[5] As of January 1.

Source: Sun Oil Company, Division of Planning and Industry Affairs, *Analysis of World Tank Ship Fleet, December 31, 1974*, November 1975, Table 1, and equivalent tables in earlier editions.

Table 1-9. World Tanker Fleet at End of 1975[1]
(10,000 D.W. tons and over)
By Flag and Ownership

Flag	Ownership						Change 1974 over 1974	Share of Total 1975
	Oil Company	Private	Government	Other	Total 1975	Total 1974		
	Million Long Tons Deadweight							
Liberia	25.6	63.7	—	0.3	89.6	73.9	+15.7	30.7%
Norway	0.5	25.4	—	0.2	26.1	23.9	+ 2.2	8.9%
U.K.	21.8	10.7	0.2	—	32.7	32.2	+ 0.5	11.2%
Japan	4.5	27.3	—	—	31.8	29.2	+ 2.6	10.9%
U.S.A.	4.4	4.9	1.3	—	10.6	10.4	+ 0.2	3.6%
Panama	4.8	4.0	—	—	8.8	8.4	+ 0.4	3.1%
France	8.8	3.9	0.1	—	12.8	11.8	+ 1.0	4.4%
Greece	—	15.9	—	—	15.9	13.9	+ 2.0	5.5%
Other Western Europe	13.8	21.5	0.1	0.2	35.6	31.8	+ 3.8	12.2%
Other Western Hemisphere	6.1	0.2	0.2	—	6.5	6.1	+ 0.4	2.3%
U.S.S.R., E. Europe & China	—	—	8.4	—	8.4	6.6	+ 1.8	2.9%
Other Eastern Hemisphere	4.8	7.6	0.2	—	12.6	7.6	+ 5.0	4.3%
TOTAL	95.1	185.1	10.5	0.7	291.4	255.8	+35.6	100.0%
Fleet as at end 1974	83.4	163.2	8.8	0.4	255.8			
Net increase 1975	11.7	21.9	1.7	0.3	35.6			

[1] Excluding 43.6 million D.W.T. Combined Carriers.

By Age, Size and Propulsion
(Million long tons deadweight)

Size in '000 D.W.T.	Year of Construction								Propulsion		New Building in Progress and on Order at end 1975*
	Up to end 1945	1946-1950	1951-1955	1956-1960	1961-1965	1966-1970	1971-1975	Total	Motor	Other	
10— 25	2.2	0.5	4.2	6.3	1.9	2.4	2.2	19.7	14.5	5.2	0.9
25— 45	1.0	0.5	2.9	12.1	3.9	1.4	7.1	28.9	13.7	15.2	4.8
45— 65	—	—	0.8	5.0	13.7	1.8	0.6	21.9	7.6	14.3	2.0
65—125	—	—	—	2.1	13.4	21.8	14.1	51.4	35.6	15.8	9.3
125—205	—	—	—	—	0.1	10.1	13.1	23.3	15.1	8.2	12.9
205—285	—	—	—	—	—	26.2	99.8	126.0	8.8	117.2	26.2
285 and over	—	—	—	—	—	1.9	18.3	20.2	—	20.2	32.4
TOTAL	3.2	1.0	7.9	25.5	33.0	65.6	155.2	291.4	95.3	196.1	88.5
MOTOR	0.2	0.3	3.8	8.2	16.5	24.4	41.9	95.3	*Excludes 7.4 million D.W.T. combined carriers.		
OTHER	3.0	0.7	4.1	17.3	16.5	41.2	113.3	196.1			

Employment of Tankers 1975
(Estimated proportions of world's active ocean-going fleet on main voyages)

Voyages To	Voyages From					Total
	U.S.A	Caribbean	Middle East	N. Africa	Others	
U.S.A.	3.0%	3.0%	6.0%	1.0%	3.5%	16.5%
Canada	—	0.5%	3.0%	—	—	3.5%
Other Western Hemisphere	—	—	6.5%	0.5%	2.0%	9.0%
Western Europe, N. & W. Africa	—	1.0%	42.0%	1.5%	3.5%	48.0%
E. & S. Africa, S. Asia	—	—	1.5%	—	—	1.5%
Japan	—	—	11.5%	0.5%	2.5%	14.5%
Other Eastern Hemisphere	—	0.5%	4.5%	—	0.5%	5.5%
U.S.S.R., E. Europe & China	—	—	1.5%	—	—	1.5%
TOTAL	3.0%	5.0%	76.5%	3.5%	12.0%	100.0%

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1975, p. 14.

Table 1-10. World Tanker Fleet by Flag, 1965 - 1975
(Million D.W.T.)

Flag	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
U.S.A.	8.6	8.5	8.5	8.6	8.9	9.3	9.5	9.5	9.5	10.4	10.6
U.K.	11.6	12.3	13.0	15.2	18.6	21.7	25.0	25.1	27.8	32.2	32.7
Norway	13.1	14.7	16.4	16.2	15.5	17.0	18.9	19.7	21.2	23.9	26.1
Other Western Europe	18.0	20.5	21.8	25.3	29.5	34.0	38.9	42.0	48.2	57.5	64.3
"Convenience"*	23.1	25.0	27.6	31.3	35.8	43.2	48.6	57.6	66.8	82.3	98.4
Japan	5.7	7.6	9.0	10.6	12.9	14.8	18.0	21.8	26.1	29.2	31.8
Rest of World	5.6	6.4	7.2	7.9	9.6	11.3	12.0	13.8	16.0	20.3	27.5
Total	85.7	95.0	103.5	115.1	130.8	151.3	170.9	189.5	215.6	255.8	291.4

*Panama, Liberia, etc.

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry, 1975*, p. 30.

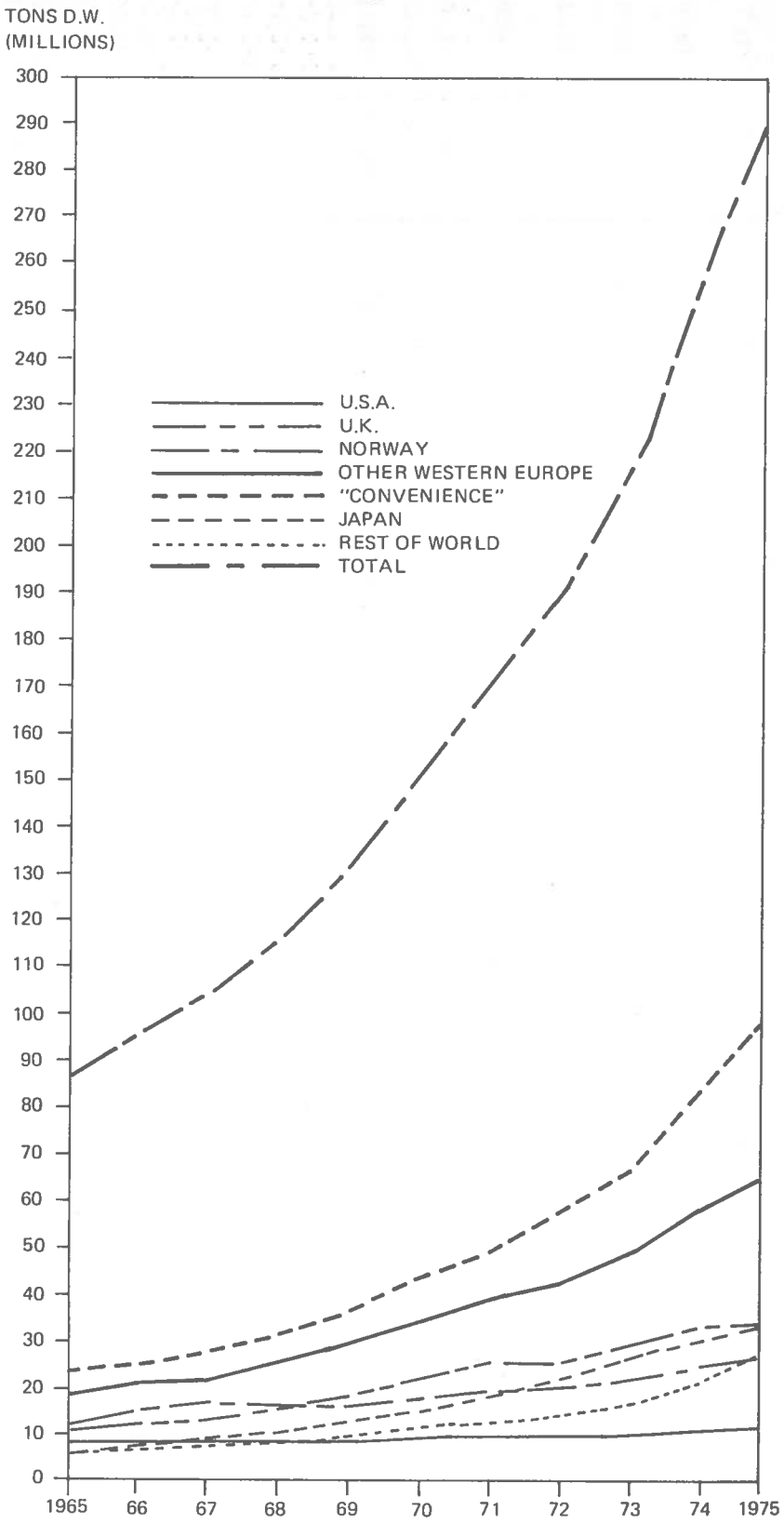


Figure 3. World Tanker Fleet by Flag 1965 - 1975

Table 1-11. Number and Mileage of Privately Owned U.S. Railroad Tank Cars, 1947 - 1974
(As of December 31)

Year	Number			Mileage		
	Petroleum Tank Cars	Other Tank Cars	Total	Petroleum Tank Cars	Other Tank Cars	Total
1974	113,642	39,968	153,610	1,027,780,341	834,784,466	1,862,564,807
1973	75,878	73,548	149,426	985,628,840	748,616,769	1,734,240,609
1972	75,387	72,619	148,006	905,119,533	662,865,785	1,567,985,318
1971	72,815	65,380	138,195	831,561,636	560,666,789	1,392,228,425
1970	75,434	68,151	143,585	871,494,171	577,724,890	1,449,219,061
1969	76,217	71,187	147,404	902,041,283	565,623,358	1,467,664,641
1968	75,581	70,310	145,891	894,093,477	572,310,905	1,466,404,382
1967	74,973	69,749	144,722	890,942,715	566,944,276	1,457,886,991
1966[1]	80,592	76,844	157,436	960,989,876	765,728,108	1,726,717,984
1965	123,738	31,488	155,226	1,324,976,232	310,989,383	1,635,965,615
1964	125,876	30,562	156,438	1,465,229,954	330,228,451	1,795,458,405
1963	127,526	29,156	156,682	1,568,073,451	315,187,688	1,883,261,139
1962	128,368	27,783	156,151	1,613,996,311	327,352,838	1,941,349,149
1961	129,541	27,058	156,599	1,670,063,610	326,641,345	1,996,704,955
1960	126,070	29,541	155,611	1,784,388,610	390,823,252	2,175,211,862
1959	126,525	30,159	156,684	1,675,097,423	373,223,343	2,048,320,766
1958	126,446	28,757	155,203	1,835,139,276	390,246,856	2,225,386,132
1957	124,198	26,531	150,729	1,927,738,479	390,783,858	2,318,522,337
1956	122,010	25,360	147,370	1,907,094,342	366,313,249	2,273,107,591
1955	121,405	24,372	145,777	1,818,573,349	343,450,999	2,162,024,348
1954	121,507	22,088	143,595	1,934,674,921	331,033,786	2,265,708,707
1953	118,141	21,826	139,967	1,928,914,341	331,987,870	2,260,902,211
1952	115,605	19,996	135,601	1,961,975,285	318,559,854	2,280,535,139
1951	111,451	19,086	130,537	1,860,146,475	301,703,841	2,161,850,316
1950	115,202	19,364	134,566	1,796,767,001	292,030,588	2,088,797,589
1949	112,990	18,635	131,625	2,291,271,389	311,142,083	2,602,413,472
1948	117,540	8,762	126,302	2,264,104,262	134,316,262	2,398,420,524
1947	117,293	8,321	125,614	1,911,815,204	114,608,723	2,026,423,927

[1] One fleet previously included in the "petroleum" category has been reclassified as "other."

Source: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 4, "Private Car Lines," December 31, 1974, p. 2, and equivalent tables in earlier editions.

Table 1-12. Total Crude Petroleum and Petroleum Products Transported in the U.S. and Per Cent Share by Method of Transportation, 1945 - 1974

Year	Pipelines		Water Carriers		Trucks[1]		Railroads		Total Tons Carried
	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	
1974	884,648,000	47.20	407,448,200	21.74	552,036,000	29.46	29,929,900	1.60	1,874,062,100
1973	912,209,900[r]	47.44[r]	421,205,848	21.90[r]	595,767,175	29.11[r]	29,736,210	1.55[r]	1,922,918,900[r]
1972	876,248,100	47.53	426,603,200	23.14	513,500,000	27.86	27,098,200	1.47	1,843,449,500
1971	806,671,000	46.90	416,792,000	24.24	470,700,000	27.37	25,649,900	1.49	1,719,812,900
1970	790,241,700	46.88	402,667,900	23.88	466,100,000	27.65	26,732,200	1.59	1,685,741,800
1969	759,612,000	46.81	378,862,700	23.88	458,000,000	28.22	26,299,900	1.62	1,622,774,600
1968	726,443,900	46.47	361,002,600	23.09	449,700,000	28.76	26,251,200	1.68	1,563,397,700
1967	679,321,600	45.64	349,815,800	23.50	433,600,000	29.13	25,742,200	1.73	1,488,479,600
1966	629,753,680	44.81	332,877,049	23.68	417,001,000	29.67	25,809,500	1.84	1,405,441,229
1965	587,795,480	44.43	323,671,414	24.47	385,480,600	29.14	25,856,600	1.96	1,322,804,094
1964	559,392,037	44.54	321,805,229	25.63	347,279,800	27.65	27,381,079	2.18	1,255,358,145
1963	521,149,137	43.57	335,611,860	28.06	312,583,106	26.14	26,658,686	2.23	1,196,002,789
1962	502,464,600	43.36	329,734,358	28.46	297,698,196	25.69	28,855,082	2.49	1,158,752,236
1961	484,170,055	43.60	322,695,527	29.06	273,619,665	24.64	29,964,233	2.70	1,110,450,480
1960	468,409,682	43.01	318,295,654	29.22	270,375,253	24.83	32,057,140	2.94	1,089,137,729
1959	464,290,959	43.22	310,098,034	28.86	266,642,261	24.82	33,343,787	3.10	1,074,375,041
1958	433,027,566	42.57	298,656,025	29.36	252,024,743	24.78	33,470,881	3.29	1,017,179,215
1957	441,078,169	43.25	299,800,463	29.40	242,331,559	23.76	36,643,971	3.59	1,019,854,162
1956	441,386,180	43.49	297,826,330	29.34	235,960,622	23.25	39,757,144	3.92	1,014,930,276
1955	412,533,395	42.94	284,007,134	29.56	222,604,360	23.17	41,663,502	4.33	960,808,391
1954	373,327,262	42.57	268,524,812	30.62	192,564,326	21.96	42,533,486	4.85	876,949,886
1953	359,142,335	41.63	273,476,440	31.70	184,625,431	21.40	45,451,188	5.27	862,695,394
1952	337,594,240	40.60	274,913,642	33.06	171,744,588	20.66	47,204,525	5.68	831,456,995
1951	324,667,831	40.31	267,417,940	33.20	163,566,274	20.30	49,842,061	6.19	805,494,106
1950	283,853,383	38.82	252,765,749	34.57	145,780,986	19.93	48,882,196	6.68	731,282,314
1949	261,023,757	39.23	229,928,665	34.56	126,217,294	18.97	48,199,099	7.24	665,368,815
1948	262,452,531	38.24	237,516,329	34.61	120,897,800	17.62	65,407,170	9.53	686,273,830
1947	237,879,554	38.42	209,087,669	33.77	105,603,500	17.05	66,638,669	10.76	619,209,392
1946	222,266,138	40.76	172,513,605	31.64	88,852,600	16.29	61,696,782	11.31	545,329,125
1945	240,749,492	44.06	142,498,332	26.08	96,135,600	17.60	67,003,259	12.26	546,386,683

[r]revised

[1] Estimates

Source: Association of Oil Pipelines, *Shifts in Petroleum Transportation*, May 26, 1976, Table 1, and previous issues.

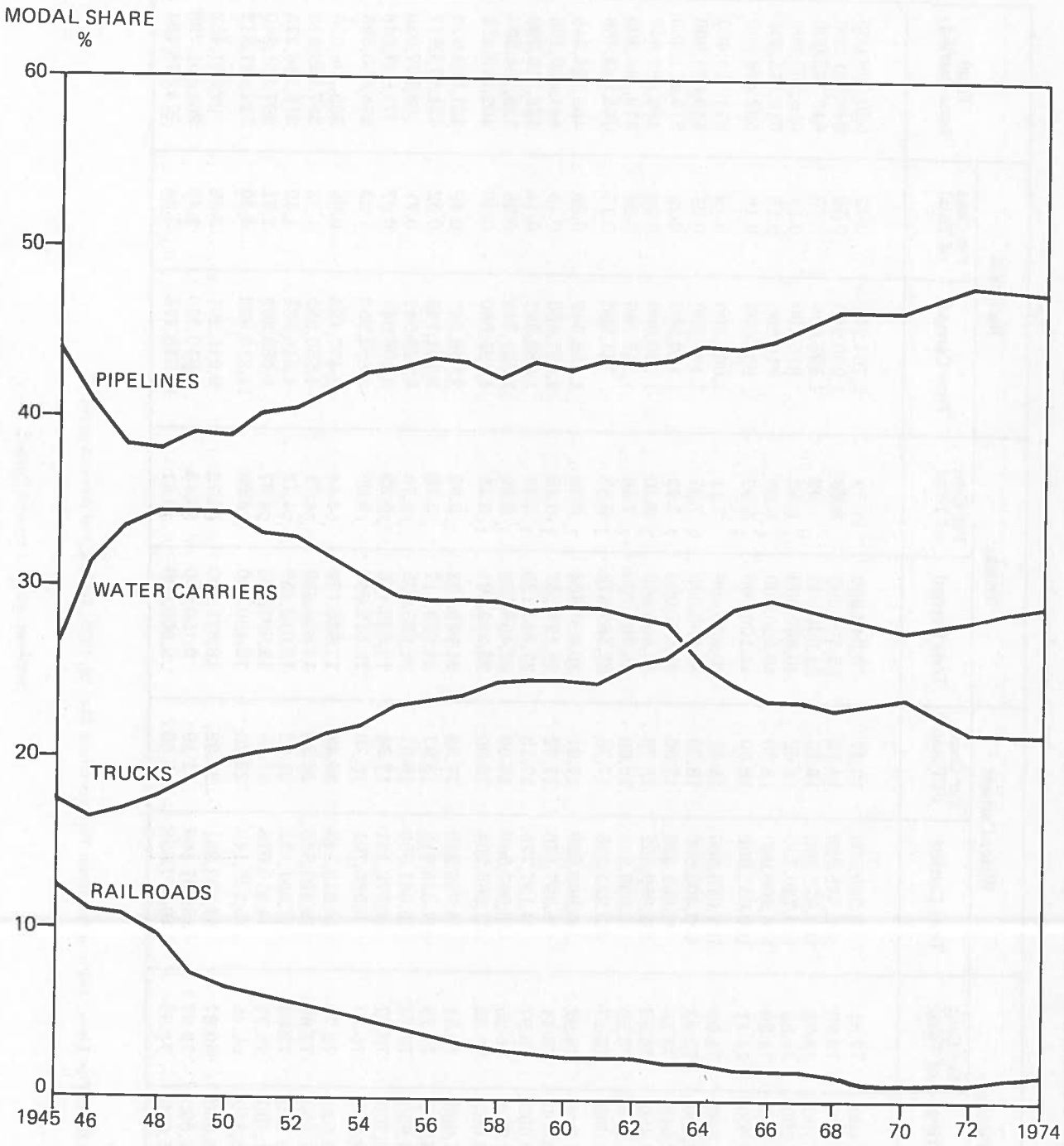


Figure 4. Per Cent Modal Shares for Total Crude Petroleum and Petroleum Products Transported in the U.S., 1945 - 1974

Table 1-13. Total Crude Oil Transported in the U.S. and Per Cent Share, by Method of Transportation, 1945 - 1974

Year	Pipelines		Water Carriers		Trucks[1]		Railroads		Total Tons Carried
	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	
1974	464,272,400	74.81	83,580,000	13.47	70,043,000	11.29	2,704,200	0.43	620,599,600
1973	492,382,300	76.89	90,518,500	14.13	55,590,000	8.68	1,900,900	0.30	640,391,700
1972	487,606,700	75.75	103,672,800	16.10	51,000,000	7.92	1,495,000	0.23	643,739,000
1971	459,860,200	74.62	114,720,700	18.62	40,800,000	6.62	876,100	0.14	616,257,000
1970	457,156,700	74.30	116,300,900	18.90	40,900,000	6.65	916,200	0.15	615,273,800
1969	441,200,300	74.41	109,682,900	18.50	41,100,000	6.93	963,600	0.16	592,946,800
1968	425,837,300	74.08	107,010,300	18.62	40,900,000	7.11	1,066,800	0.19	574,814,400
1967	404,698,400	73.63	103,300,600	18.79	40,500,000	7.37	1,125,900	0.21	549,624,900
1966	384,542,645	74.15	92,851,238	17.90	40,097,000	7.73	1,120,500	0.22	518,611,383
1965	367,049,480	74.92	82,082,862	16.76	39,696,600	8.10	1,060,600	0.22	489,889,542
1964	362,375,186	75.59	79,998,233	16.69	35,762,700	7.46	1,252,786	0.26	479,388,905
1963	351,876,969	75.17	83,235,525	17.78	32,189,676	6.88	781,296	0.17	468,083,466
1962	338,642,644	74.92	80,969,520	17.91	30,656,834	6.78	1,755,547	0.39	452,024,545
1961	333,318,300	75.44	78,297,176	17.72	28,177,237	6.38	2,027,483	0.46	441,820,196
1960	328,449,000	75.97	74,137,775	17.15	27,843,120	6.44	1,888,387	0.44	432,318,282
1959	327,697,000	76.25	73,067,560	17.00	27,458,698	6.39	1,531,242	0.36	429,754,500
1958	307,059,000	76.35	67,965,254	16.90	25,953,401	6.45	1,195,560	0.30	402,173,215
1957	320,277,900	76.01	74,090,233	17.58	24,955,193	5.92	2,046,347	0.49	421,369,673
1956	327,846,900	77.75	67,335,912	15.97	24,299,117	5.76	2,191,748	0.52	421,673,677
1955	310,042,950	77.73	63,081,850	15.81	22,923,695	5.75	2,828,541	0.71	398,877,036
1954	284,438,700	76.37	64,572,121	17.34	19,830,186	5.32	3,606,041	0.97	372,447,048
1953	283,379,400	75.19	70,585,701	18.73	19,012,642	5.05	3,882,852	1.03	376,860,595
1952	269,272,500	73.73	74,812,548	20.48	17,686,179	4.84	3,477,423	0.95	365,208,650
1951	263,431,350	73.68	72,497,833	20.28	16,843,980	4.71	4,756,252	1.33	357,529,415
1950	231,198,150	72.64	67,551,132	21.22	15,012,459	4.72	4,518,534	1.42	318,280,275
1949	215,051,700	72.32	64,219,078	21.60	12,997,800	4.37	5,083,362	1.71	297,351,940
1948	221,198,250	68.48	75,126,140	23.26	12,450,000	3.86	14,216,922	4.40	322,991,312
1947	204,375,000	69.87	67,333,281	23.02	10,875,000	3.72	9,918,201	3.39	292,501,482
1946	193,545,000	72.87	56,287,368	21.19	9,150,000	3.45	6,619,360	2.49	265,601,728
1945	205,185,000	74.86	48,477,658	17.69	9,900,000	3.61	10,515,776	3.84	274,078,434

[1] Estimates

Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, May 26, 1976, Table 2, and previous issues.

Table 1-14. Total Refined Petroleum Products Transported in the U.S. and Per Cent Share, by Method of Transportation, 1945 - 1974

Year	Pipelines[1]		Water Carriers		Trucks[2]		Railroads		Total Tons Carried
	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	
1974	420,375,600	33.54	323,868,200	25.84	481,993,000	38.45	27,225,700	2.17	1,253,462,500
1973	419,827,600	32.74	330,687,300	25.78	504,177,000	39.31	27,835,300	2.17	1,282,527,200[r]
1972	388,641,400	32.39	322,930,400	26.92	462,500,000	38.55	25,638,700	2.14	1,199,710,500
1971	346,810,800	31.43	302,071,300	27.37	429,900,000	38.96	24,773,800	2.24	1,103,555,900
1970	333,085,000	31.12	286,367,000	26.75	425,200,000	39.72	25,816,000	2.41	1,070,468,000
1969	318,411,700	30.92	269,179,800	26.14	416,900,000	40.48	25,336,300	2.46	1,029,827,800
1968	300,606,600	30.41	253,992,300	25.69	408,800,000	41.35	25,184,400	2.55	988,583,300
1967	274,623,200	29.25	246,515,200	26.26	393,100,000	41.87	24,616,300	2.62	938,854,700
1966	245,211,035	27.65	240,025,811	27.07	376,904,000	42.50	24,689,000	2.78	886,829,846
1965	220,746,000	26.50	241,588,552	29.01	345,784,000	41.51	24,796,000	2.98	832,914,552
1964	197,016,851	25.37	241,806,996	31.14	311,517,100	40.12	26,128,293	3.37	776,469,240
1963	169,272,168	23.25	252,376,335	34.67	280,393,430	38.52	25,877,390	3.56	727,919,323
1962	163,821,956	23.18	248,764,838	35.20	267,041,362	37.78	27,099,535	3.84	706,727,691
1961	150,851,755	22.56	244,399,351	36.55	245,442,428	36.71	27,936,750	4.18	668,630,284
1960	139,960,682	21.31	244,157,879	37.17	242,532,133	36.93	30,168,753	4.59	656,819,447
1959	136,593,959	21.19	237,030,474	36.77	239,183,563	37.10	31,812,545	4.94	644,620,541
1958	125,968,566	20.48	230,690,771	37.51	226,071,342	36.76	32,275,321	5.25	615,006,000
1957	120,800,269	20.19	225,710,230	37.71	217,376,366	36.32	34,597,624	5.78	598,484,489
1956	113,539,280	19.14	230,490,418	38.85	211,661,505	35.68	37,565,396	6.33	593,256,599
1955	102,490,445	18.24	220,925,284	39.32	199,680,665	35.53	38,834,961	6.91	561,931,355
1954	88,888,562	17.62	203,952,691	40.43	172,734,140	34.24	38,927,445	7.71	504,592,838
1953	75,762,935	15.59	202,890,739	41.76	165,612,789	34.09	41,568,336	8.56	485,834,799
1952	68,321,740	14.66	200,101,094	42.92	154,058,409	33.04	43,727,102	9.38	466,208,345
1951	61,236,481	13.67	194,920,107	43.51	146,722,294	32.76	45,085,809	10.06	447,964,691
1950	52,655,233	12.75	185,214,617	44.85	130,768,527	31.66	44,363,662	10.74	413,002,039
1949	45,972,057	12.49	165,709,587	45.03	113,219,494	30.76	43,115,737	11.72	368,016,875
1948	41,254,281	11.36	162,390,189	44.70	108,447,800	29.85	51,190,248	14.09	363,282,518
1947	33,504,554	10.26	141,754,388	43.39	94,728,500	28.99	56,720,468	17.36	326,707,910
1946	28,721,138	10.27	116,226,237	41.55	79,702,600	28.49	55,077,422	19.69	279,727,397
1945	35,564,492	13.06	94,020,674	34.53	86,235,600	31.67	56,487,483	20.74	272,308,249

[r] revised

[1] Products in pipelines carry light products only—gasoline, kerosene, distillate and liquefied petroleum gases.

[2] Estimates

Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, May 26, 1976, Table 3, and previous issues.

Table 1-15. Transportation of Petroleum Products by Pipeline (Thousands of barrels)

	December 1975	November 1975	December 1974	January-December (Incl.) 1975	January-December (Incl.) 1974
Turned into lines:					
Gasoline, total	155,911	148,995	150,171	1,822,830	1,773,951
Motor	155,623	148,653	149,840	1,818,994	1,769,418
Aviation	288	342	331	3,836	4,533
Jet fuel, total	21,498	21,418	21,115	259,578	248,315
Naphtha-type	2,815	2,690	2,768	34,040	33,229
Kerosene-type	18,683	18,728	18,347	225,538	215,086
Kerosene	3,971	2,484	3,601	30,864	35,941
Distillate fuel oil	63,296	53,871	69,398	667,058	701,798
Natural gas liquids	48,941	44,795	44,727	504,714	467,280
Delivered from lines:					
Gasoline, total	156,887	147,499	150,751	1,821,060	1,774,498
Motor	156,555	147,132	150,436	1,817,210	1,770,174
Aviation	332	367	315	3,850	4,324
Jet fuel, total	20,837	21,837	21,227	256,118	244,719
Naphtha-type	2,698	2,977	2,777	34,127	33,044
Kerosene-type	18,139	18,860	18,450	221,991	211,675
Kerosene	3,756	2.328	3,616	29,686	35,822
Distillate fuel oil	63,047	53,886	69,361	668,037	701,650
Natural gas liquids	47,692	42,024	45,403	497,288	468,567
Shortage (or overage):					
Gasoline, total	(734)	(462)	361	(1,258)	(865)
Motor	(765)	(478)	357	(1,340)	(1,010)
Aviation	31	16	4	82	145
Jet fuel, total	140	382	382	3,255	3,205
Naphtha-type	(14)	24	(8)	21	(135)
Kerosene-type	154	358	390	3,234	3,340
Kerosene	109	114	119	1,228	884
Distillate fuel oil	(468)	8	(25)	(571)	(553)
Natural gas liquids	1,033	1,456	(183)	7,070	(299)
Stocks in lines and working tanks at end of month:					
Gasoline, total	48,502	48,744	45,474	48,502	45,474
Motor	48,345	48,512	45,221	48,345	45,221
Aviation	157	232	253	157	253
Jet fuel, total	6,419	5,898	6,214	6,419	6,214
Naphtha-type	788	657	896	788	896
Kerosene-type	5,631	5,241	5,318	5,631	5,318
Kerosene	1,822	1,716	1,872	1,822	1,872
Distillate fuel oil	32,707	31,990	33,115	32,707	33,115
Natural gas liquids	20,933	20,717	20,577	20,933	20,577

Source: Department of Interior, Bureau of Mines; *Mineral Industry Surveys: Petroleum Statement Monthly*, Dec. 1975, Table 11, p. 12.

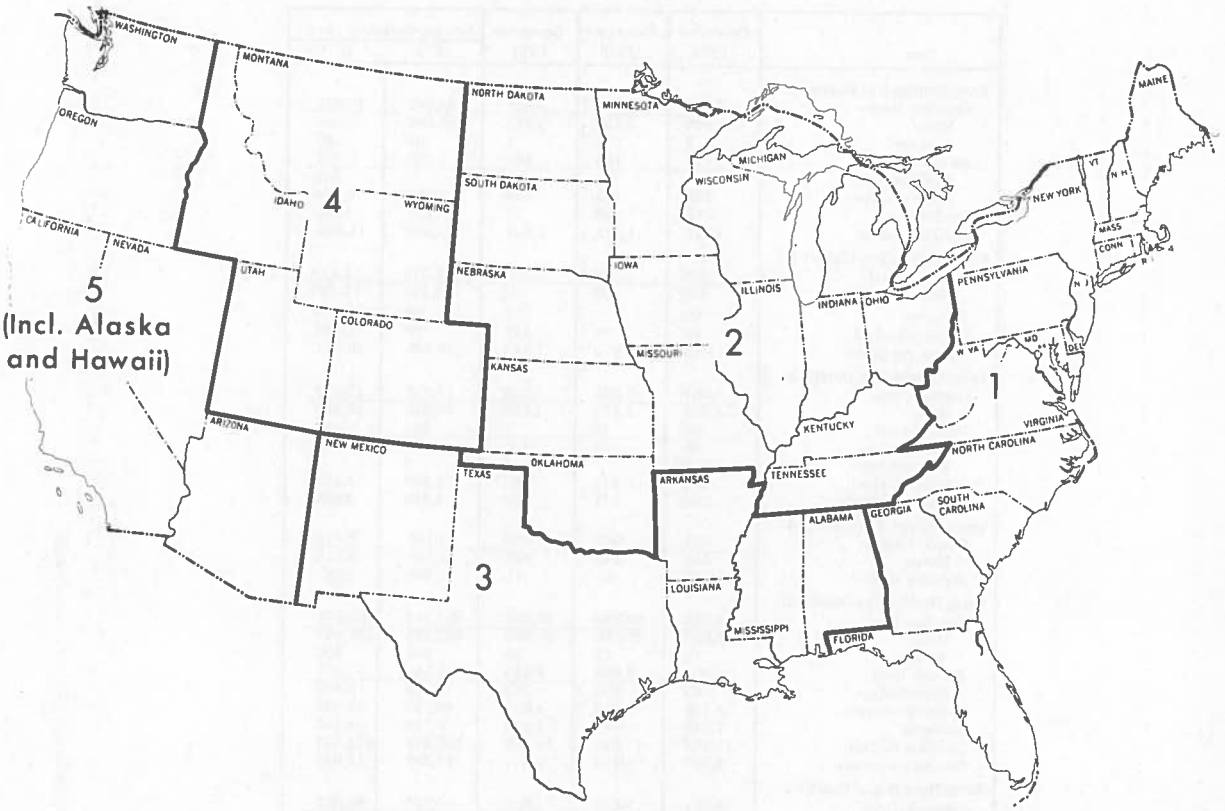


Figure 5. Petroleum Administration for Defense (PAD) Districts

Table 1-16. Movement of Petroleum Products by Pipeline Between P.A.D. Districts (Thousands of barrels)

Item	December 1975	November 1975	December 1974	January-December (Incl.) 1975	January-December (Incl.) 1974
From District 1 to District 2:					
Gasoline, total	4,539	3,754	3,818	48,940	46,032
Motor	4,536	3,750	3,811	48,890	45,986
Aviation	3	4	7	50	46
Jet fuel, total	142	163	148	1,590	1,786
Naphtha-type	—	—	—	—	302
Kerosene-type	142	163	148	1,590	1,484
Kerosene	10	58	37	223	270
Distillate fuel oil	1,216	1,241	1,134	13,440	11,605
From District 2 to District 1:					
Gasoline, total	990	908	975	11,171	12,440
Motor	990	908	975	11,171	12,440
Kerosene	15	—	21	52	45
Distillate fuel oil	49	46	147	999	1,167
Natural gas liquids	1,456	1,370	1,403	19,136	10,351
From District 2 to District 3:					
Gasoline, total	1,507	1,375	1,659	18,815	19,582
Motor	1,507	1,375	1,659	18,815	19,582
Jet fuel, total	90	39	1	563	520
Naphtha-type	89	39	—	555	513
Kerosene-type	1	—	1	8	7
Distillate fuel oil	476	341	484	5,207	5,466
Natural gas liquids	298	271	364	4,216	3,886
From District 2 to District 4:					
Gasoline, total	440	642	242	4,169	2,415
Motor	440	642	242	4,169	2,415
Distillate fuel oil	77	68	41	460	585
From District 3 to District 1:					
Gasoline, total	34,248	29,262	28,998	353,513	321,271
Motor	34,233	29,215	28,983	353,271	321,065
Aviation	15	47	15	242	206
Jet fuel, total	4,204	3,809	4,815	50,448	51,375
Naphtha-type	83	103	142	1,318	1,423
Kerosene-type	4,121	3,706	4,673	49,130	49,952
Kerosene	1,349	891	1,007	8,719	8,147
Distillate fuel oil	15,159	13,214	14,932	167,474	173,417
Natural gas liquids	2,357	1,410	2,447	17,380	15,846
From District 3 to District 2:					
Gasoline, total	5,291	5,834	4,062	60,737	66,521
Motor	5,237	5,716	3,948	59,575	65,254
Aviation	54	118	114	1,162	1,267
Jet fuel, total	28	67	147	1,856	3,178
Naphtha-type	—	1	—	3	69
Kerosene-type	28	66	147	1,853	3,109
Kerosene	29	3	25	1,081	2,043
Distillate fuel oil	1,308	1,419	1,925	15,277	25,088
Natural gas liquids	9,143	8,327	9,141	89,201	75,576
From District 3 to District 4:					
Gasoline, total	278	323	347	4,408	5,305
Motor	265	304	336	4,249	5,146
Aviation	13	19	11	159	159
Jet fuel, total	250	229	340	3,579	3,824
Kerosene-type	250	229	340	3,579	3,824
Kerosene	—	2	—	4	1
Distillate fuel oil	34	55	61	573	562
Natural gas liquids	183	173	153	1,165	963
From District 3 to District 5:					
Gasoline, total	948	919	1,031	11,927	12,190
Motor	948	919	1,031	11,927	12,190
Jet fuel, total	255	227	241	2,011	2,146
Naphtha-type	96	106	122	861	894
Kerosene-type	159	121	119	1,150	1,252
Distillate fuel oil	408	417	419	4,391	4,481
From District 4 to District 2:					
Gasoline, total	369	382	462	5,023	5,020
Motor	369	382	462	5,023	5,020
Jet fuel, total	83	39	44	558	450
Naphtha-type	73	39	44	510	389
Kerosene-type	10	—	—	48	61
Kerosene	—	—	9	17	19
Distillate fuel oil	271	243	349	3,591	3,720
Natural gas liquids	—	—	—	—	14
From District 4 to District 3:					
Natural gas liquids	273	291	288	3,391	3,751
From District 4 to District 5:					
Gasoline, total	867	749	862	10,346	10,540
Motor	867	749	862	10,346	10,540
Jet fuel, total	60	129	131	1,379	1,566
Naphtha-type	57	72	72	776	862
Kerosene-type	3	57	59	603	704
Distillate fuel oil	358	330	714	4,329	4,851

Source: Department of the Interior, Bureau of Mines, *Mineral Industry Surveys, Petroleum Statement Monthly*, Dec. 1975, Table 12, p. 13.

Table 1-16. Movement of Petroleum Products by Pipeline Between P.A.D. Districts - Continued
(Thousands of barrels)

Item	February 1975	January 1975	February 1974	January - February (Incl.) 1975	January - February (Incl.) 1974
From District 1 to District 2:					
Gasoline, total	3,367	3,807	2,528	7,174	6,061
Motor	3,362	3,801	2,528	7,163	6,061
Aviation	5	6	—	11	—
Jet fuel, total	202	203	268	405	510
Naphtha-type	—	—	39	—	112
Kerosene-type	202	203	229	405	398
Kerosene	6	66	7	72	37
Distillate fuel oil	1,180	1,185	970	2,365	1,861
From District 2 to District 1:					
Gasoline, total	691	941	865	1,632	1,694
Motor	691	941	865	1,632	1,694
Kerosene	—	22	—	22	—
Distillate fuel oil	77	147	37	224	104
Natural gas liquids	1,443	1,586	758	3,029	1,488
From District 2 to District 3:					
Gasoline, total	1,380	1,538	1,424	2,918	2,964
Motor	1,380	1,538	1,424	2,918	2,964
Jet fuel, total	30	—	41	30	42
Naphtha-type	29	—	40	29	40
Kerosene-type	1	—	1	1	2
Distillate fuel oil	412	529	419	941	824
Natural gas liquids	351	373	266	724	579
From District 2 to District 4:					
Gasoline, total	199	162	176	361	411
Motor	199	162	176	361	411
Distillate fuel oil	21	34	39	55	88
From District 3 to District 1:					
Gasoline, total	24,838	25,475	20,272	50,313	43,191
Motor	24,822	25,457	20,272	50,279	43,175
Aviation	16	18	—	34	16
Jet fuel, total	4,373	5,363	4,676	9,736	9,486
Naphtha-type	129	100	95	229	170
Kerosene-type	4,244	5,263	4,581	9,507	9,316
Kerosene	765	1,209	978	1,974	2,130
Distillate fuel oil	14,847	18,465	17,517	33,312	36,971
Natural gas liquids	1,403	2,019	1,274	3,422	2,679
From District 3 to District 2:					
Gasoline, total	4,292	4,654	4,687	8,946	9,369
Motor	4,206	4,518	4,606	8,724	9,207
Aviation	86	136	81	222	162
Jet fuel, total	178	81	330	259	612
Naphtha-type	1	—	—	1	1
Kerosene-type	177	81	330	258	611
Kerosene	56	178	41	234	200
Distillate fuel oil	989	1,403	1,572	2,392	3,544
Natural gas liquids	7,831	8,728	5,741	16,559	14,383
From District 3 to District 4:					
Gasoline, total	399	501	231	900	496
Motor	389	492	215	881	461
Aviation	10	9	16	19	35
Jet fuel, total	256	310	288	566	619
Kerosene-type	256	310	288	566	619
Kerosene	1	1	—	2	1
Distillate fuel oil	44	59	40	103	94
Natural gas liquids	118	159	92	277	270
From District 3 to District 5:					
Gasoline, total	975	1,117	804	2,092	1,781
Motor	975	1,117	804	2,092	1,781
Jet fuel, total	196	245	129	441	306
Naphtha-type	104	123	24	227	74
Kerosene-type	92	122	105	214	232
Distillate fuel oil	346	358	380	704	822
From District 4 to District 2:					
Gasoline, total	350	364	334	714	671
Motor	350	364	334	714	671
Jet fuel, total	61	63	32	124	55
Naphtha-type	61	60	29	121	52
Kerosene-type	—	3	3	3	3
Kerosene	8	—	—	8	10
Distillate fuel oil	238	345	308	583	641
From District 4 to District 3:					
Natural gas liquids	192	256	246	448	496
From District 4 to District 5:					
Gasoline, total	733	835	712	1,568	1,595
Motor	733	835	712	1,568	1,595
Jet fuel, total	50	90	96	140	199
Naphtha-type	34	38	28	72	77
Kerosene-type	16	52	68	68	122
Distillate fuel oil	377	473	444	850	889

Source: Department of the Interior, Bureau of Mines, *Mineral Industry Surveys Petroleum Statement, Monthly*, February, 1975, Table 12, p. 13.

Table 1-17. Average Length of Movement on Crude Oil and Petroleum Product Pipelines[1], 1950 - 1974

Year	Crude Oil Trunk Pipelines			Petroleum Products Pipelines			Year
	Barrels	Barrel-Miles (Thousands)	Average Miles	Barrels	Barrel-Miles (Thousands)	Average Miles	
1974	5,390,999,000[2]	1,625,436,501	302	3,588,808,000[2]	1,239,411,795	345	1974
1973	5,423,651,000[2]	1,632,542,253	301	3,633,130,000[2]	1,236,272,739	340	1973
1972	5,112,024,546	1,526,064,430	298	3,357,762,424	1,166,586,025	347	1972
1971	4,781,043,520	1,439,195,444	301	3,016,574,466	1,045,399,200	346	1971
1970	4,756,244,120	1,428,362,484	300	2,863,735,391	1,021,484,502	356	1970
1969	4,445,921,966	1,321,711,176	297	2,718,870,361	995,029,558	366	1969
1968	4,273,298,625	1,270,465,366	297	2,559,522,918	951,655,430	372	1968
1967	3,886,370,613	1,207,321,010	311	2,338,581,680	925,121,262	396	1967
1966	3,661,172,872	1,181,152,599	323	2,049,934,224	719,728,561	351	1966
1965	3,504,832,301	1,121,113,143	320	1,871,969,652	626,755,696	335	1965
1964	3,445,981,826	1,061,521,062	308	1,600,713,475	448,859,033	280	1964
1963	3,354,648,208	1,053,747,896	314	1,415,605,280	369,475,357	261	1963
1962	3,213,244,700	998,096,023	311	1,321,859,609	347,178,499	263	1962
1961	3,107,930,439	995,642,315	320	1,191,421,488	317,141,089	266	1961
1960	3,090,718,604	976,357,818	316	1,123,854,986	304,448,973	271	1960
1959	3,037,683,008	980,013,807	323	1,054,674,841	284,361,887	270	1959
1958	2,946,672,171	905,200,921	307	934,671,206	259,789,783	278	1958
1957	3,056,065,958	930,558,064	304	876,234,678	248,318,537	283	1957
1956	3,061,918,045	935,801,321	306	817,045,873	233,457,898	286	1956
1955	2,781,178,550	839,009,465	302	716,703,580	204,886,356	286	1955
1954	2,574,335,641	782,219,391	304	606,861,438	182,702,180	301	1954
1953	2,596,578,447	755,997,975	291	507,845,083	161,228,916	317	1953
1952	2,454,702,973	714,722,720	291	441,788,756	142,425,912	322	1952
1951	2,336,641,710	694,723,304	297	404,976,104	122,188,184	302	1951
1950	1,976,569,928	577,054,200	292	360,276,454	106,648,715	296	1950

[1] ICC-regulated oil pipelines only

[2] Data rounded to thousands

Source: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 6, "Pipelines," December 31, 1974, p. 3, and equivalent tables in earlier editions.

Table 1-18. U.S. Petroleum Freight Originated by Class I Railroads, by District and Commodity, 1959 - 1974
(Thousands of short tons)

District and Commodity	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959
Eastern District:																
Crude petroleum[1]	586	635	521	100	69	5	1	4	10	19	13	3	16	126	79	24
Gasoline	249	277	214	267	270	299	346	416	443	618	855	758	822	1,043	1,059	1,146
Residual and distillate fuel oils	3,397	3,449	3,382	2,808	2,665	2,705	2,557	2,454	2,538	2,497	2,213	1,802	1,794	1,734	1,778	1,951
Lubricating oils and greases	1,287	1,386	1,261	1,269	1,251	1,371	1,329	1,284	1,241	1,139	1,039	1,022	988	905	899	919
Other refined products	1,960	1,881	1,761	1,790	1,855	1,739	1,540	1,533	1,611	1,709	1,746	1,846	1,779	1,665	1,720	1,742
Asphalt (natural and petroleum)	994	984	830	803	772	763	620	891	936	1,001	1,095	665	694	693	730	790
Total Eastern District	8,473	8,612	7,969	7,037	6,882	6,882	6,393	6,582	6,779	6,983	6,961	6,096	6,093	6,167	6,265	6,572
Southern District:																
Crude petroleum[1]	303	314	327	268	229	231	247	298	274	256	247	189	185	185	188	183
Gasoline	153	200	269	358	596	728	877	1,091	1,100	1,274	1,883	2,026	2,237	2,326	2,617	2,825
Residual and distillate fuel oils	584	642	653	558	651	669	664	634	681	705	712	797	804	765	923	971
Lubricating oils and greases	191	196	228	214	219	236	246	261	27	246	265	252	272	236	225	218
Other refined products	1,718	1,719	1,481	1,205	1,127	1,141	1,075	978	912	807	761	882	875	802	720	734
Asphalt (natural and petroleum)	295	293	301	196	237	258	304	335	311	393	520	332	308	237	214	266
Total Southern District	3,244	3,364	3,259	2,799	3,059	3,263	3,413	3,597	3,545	3,681	4,388	4,478	4,681	4,551	4,887	5,197
Western District:																
Crude petroleum[1]	1,857	1,167	623	508	612	727	819	823	836	786	993	589	1,555	1,716	1,621	1,324
Gasoline	861	863	1,018	1,035	1,185	1,374	1,554	1,750	1,916	1,961	2,530	2,596	3,128	3,492	3,855	4,201
Residual and distillate fuel oils	4,218	4,246	3,001	2,747	2,808	2,879	2,993	2,870	2,731	2,985	3,251	3,214	3,611	3,870	4,578	5,144
Lubricating oils and greases	1,745	1,658	1,606	1,619	1,878	2,009	2,018	1,960	2,028	1,952	2,073	1,783	1,817	1,735	1,857	1,923
Other refined products	6,471	6,741	6,711	7,054	7,558	7,433	7,063	6,470	6,077	5,644	5,277	6,005	6,119	6,552	7,204	7,095
Asphalt (natural and petroleum)	1,699	1,868	1,854	1,555	1,618	1,734	1,788	1,691	1,957	1,866	1,908	1,897	1,851	1,880	1,790	1,888
Total Western District	16,851	16,543	14,813	14,518	15,659	16,156	16,235	15,564	15,545	15,194	16,032	16,084	18,081	19,245	20,905	21,575
United States:																
Crude petroleum[1]	2,746	2,117	1,472	876	910	963	1,067	1,126	1,120	1,061	1,253	781	1,756	2,027	1,888	1,531
Gasoline	1,263	1,340	1,502	1,660	2,051	2,401	2,777	3,257	3,458	3,853	5,268	5,380	6,187	6,861	7,531	8,172
Residual and distillate fuel oils	8,198	8,337	7,036	6,113	6,126	6,253	6,214	5,958	5,950	6,186	6,176	5,813	6,209	6,369	7,279	8,066
Lubricating oils and greases	3,224	3,241	3,095	3,101	3,348	3,616	3,593	3,505	3,540	3,337	3,377	3,057	3,077	2,876	2,981	3,060
Other refined products	10,129	10,342	9,953	10,049	10,540	10,313	9,678	8,980	8,600	8,160	7,784	8,733	8,773	9,020	9,644	9,571
Asphalt (natural and petroleum)	2,988	3,146	2,985	2,555	2,626	2,755	2,712	2,917	3,205	3,259	3,523	2,894	2,853	2,810	2,734	2,944
Total United States	28,548	28,523	26,043	24,354	25,601	26,301	26,041	25,743	25,873	25,856	27,381	26,658	28,855	29,963	32,057	33,344

[1] Includes crude oil, natural gas, and natural gasoline

Source: ICC, *Freight Commodity Statistics*, Class I Railroads, December 31, 1974, and equivalent tables in earlier editions.

Table 1-19. Movement of Petroleum in U.S. Waterborne Trade, 1948 - 1974
(Thousands of short tons)

Year	Foreign Trade										
	Imports				Exports				Total Imports and Exports		
	Crude Oil and Products			All Other Imports	Crude Oil and Products			All Other Exports			
	Atlantic,[1] Gulf, and Pacific Coasts	Great Lakes	Total Crude Oil and Products		Atlantic,[1] Gulf, and Pacific Coasts	Great Lakes	Total Crude Oil and Products		Crude Oil and Products	All Other Trade	Total Foreign Trade
1974	323,671	1090	324,761	172,522	3,967	25	3,992	262,814	328,753	435,336	764,089
1973	328,634	2064	330,698	159,390	6,024	59	6,083	271,223	336,781	430,613	767,394
1972	247,244	894	248,138	149,428	5,737	93	5,830	226,585	253,968	376,013	629,981
1971	212,091	449	212,540	147,206	6,403	214	6,617	199,623	219,157	346,829	565,986
1970	193,351	361	193,712	145,628	7,739	123	7,862	233,767	201,574	379,395	580,969
1969	181,161	321	181,482	138,811	6,821	231	7,052	193,967	188,534	332,778	521,312
1968	165,688	105	165,793	145,143	7,909	244	8,153	188,861	173,946	334,004	507,950
1967	141,923	40	141,964	134,001	12,549	250	12,799	177,208	154,763	311,209	465,972
1966	148,424	94	148,518	135,330	6,788	215	7,002	180,541	155,520	315,871	471,391
1965	142,600	118	142,718	127,117	6,910	160	7,070	166,822	149,788	293,939	443,727
1964	131,225	83	131,308	117,278	8,145	159	8,304	165,035	139,612	282,313	421,925
1963	125,213	90	125,303	102,073	9,094	256	9,350	148,933	134,653	251,006	385,659
1962	121,263	15	121,278	101,413	7,368	295	7,663	128,246	128,941	229,659	358,599
1961	113,397	62	113,459	86,707	7,412	366	7,778	121,386	121,237	208,093	329,330
1960	112,559	79	112,638	98,679	8,639	414	9,053	118,907	121,691	217,586	339,277
1959	111,631	99	111,730	101,756	7,841	534	8,375	103,809	120,105	205,565	325,670
1958	105,627	62	105,689	83,795	8,628	1,079	9,707	109,659	115,396	193,454	308,850
1957	96,265	84	96,349	90,003	21,516	1,675	23,191	148,997	119,540	239,000	358,540
1956	90,575	132	90,707	83,507	15,097	1,853	16,950	135,526	107,657	219,033	326,690
1955	80,454	88	80,542	72,415	11,231	1,534	12,765	105,381	93,307	177,796	271,103
1954	69,119	10	69,129	60,295	10,734	1,456	12,190	72,230	81,319	132,525	213,844
1953	67,168	25	67,193	60,788	13,662	4,425	18,087	71,328	84,280	132,116	217,396
1952	62,113	25	62,138	53,823	14,908	4,660	19,568	91,797	81,706	145,620	227,326
1951	55,036	—	55,036	53,651	14,958	3,157	18,115	105,194	73,151	158,845	231,996
1950	52,545	—	52,545	49,437	9,197	1,381	10,578	56,665	63,123	106,102	169,225
1949	40,496	38	40,534	41,458	11,028	1,250	12,278	71,088	52,812	112,546	165,358
1948	32,317	37	32,354	39,943	12,773	1,385	14,158	76,517	46,512	116,460	162,972

Table 1-19. Movement of Petroleum in U.S. Waterborne Trade, 1948 - 1974 - Continued
(Thousands of short tons)

Year	Domestic Trade									All Waterborne Trade, Foreign and Domestic			
	Coastwise[2]		Local, Intraport,[3] and Intraterritory		Lakewise and Internal		Total Domestic						
	Crude Oil and Products	All Other Domestic Trade	Crude Oil and Products	All Other Domestic Trade	Crude Oil and Products	All Other Domestic Trade	Crude Oil and Products	All Other Domestic Trade	All Domestic Trade	Crude Oil and Products	All Other Foreign and Domestic Trade	Total Trade	Petroleum[1] as a Per Cent of Total Trade
1974	182,838	50,520	61,473	30,779	163,138	493,951	407,448	575,222	982,670	736,204	1,010,584	1,746,788	42.1
1973	184,727	52,068	63,713	33,793	172,765	487,093	421,206	572,952	994,158	757,987	1,003,565	1,761,552	43.0
1972	192,443	50,217	59,124	33,025	175,037	476,966	426,603	560,209	986,812	680,571	936,222	1,616,793	42.1
1971	197,284	45,632	52,986	30,523	166,522	453,651	416,792	529,806	946,598	635,949	876,635	1,512,584	42.0
1970	192,552	45,889	48,286	34,819	161,830	476,379	402,668	548,059	950,727	604,243	927,454	1,531,697	39.4
1969	171,985	44,723	49,030	39,872	157,847	463,942	378,863	548,537	927,399	567,396	881,316	1,448,712	39.2
1968	168,250	46,000	47,503	44,846	145,249	436,041	361,003	526,887	887,889	534,949	860,890	1,395,839	38.3
1967	167,012	47,635	45,778	58,020	137,511	414,678	350,301	520,333	870,634	505,064	831,542	1,336,606	37.8
1966	158,752	49,622	42,707	57,755	131,417	422,472	332,877	529,848	862,725	488,397	845,719	1,334,116	36.6
1965	155,183	46,325	41,296	63,055	127,192	396,118	323,671	505,498	829,169	473,459	799,437	1,272,896	37.2
1964	161,568	44,120	37,712	63,448	122,525	386,796	321,805	494,364	816,169	461,417	776,677	1,238,094	37.2
1963	172,835	41,018	40,375	60,236	122,402	351,242	335,612	452,496	788,108	470,307	703,460	1,173,767	40.1
1962	173,035	42,426	39,194	64,345	117,501	334,305	329,730	441,076	770,805	458,714	670,690	1,129,404	40.6
1961	169,798	37,102	38,361	56,671	114,538	316,355	322,697	410,128	732,825	443,934	618,221	1,062,155	41.8
1960	167,986	41,211	39,848	65,362	110,462	335,704	318,296	442,277	760,573	439,987	659,863	1,099,850	40.0
1959	164,120	41,389	39,641	68,093	105,634	307,855	309,395	417,337	726,732	429,500	622,902	1.052,402	40.8
1958	154,858	39,192	41,778	66,479	102,003	291,355	298,639	397,026	695,665	414,035	590,480	1,004,515	41.2
1957	153,689	42,730	41,487	71,741	104,625	358,590	299,801	473,061	772,862	419,341	712,061	1,131,402	37.1
1956	158,745	47,165	41,952	74,637	97,606	346,118	298,303	467,920	766,223	405,960	686,953	1,092,913	37.1
1955	153,163	42,554	40,825	73,989	90,676	343,826	284,664	460,369	745,033	377,971	638,165	1,016,136	37.2
1954	148,564	38,676	36,692	67,438	83,752	278,673	269,008	384,787	653,795	350,327	517,312	867,639	40.4
1953	148,325	40,433	34,101	69,714	91,828	321,751	274,254	431,898	706,152	359,534	564,014	923,548	38.9
1952	143,364	40,856	38,498	66,924	93,980	276,302	275,842	384,082	659,924	357,548	529,702	887,250	40.3
1951	145,868	40,805	37,652	75,793	84,218	307,650	267,738	424,248	691,986	340,889	583,093	923,982	36.9
1950	141,269	41,275	35,380	72,765	76,434	284,236	253,083	398,276	651,359	316,206	504,378	820,584	38.5
1949	127,367	34,064	33,316	69,322	69,965	241,329	230,648	344,715	575,363	283,460	457,261	740,721	38.3
1948	134,312	39,769	36,633	77,326	66,718	275,470	237,663	392,565	630,228	284,175	509,025	793,200	35.8

[1] Includes inland waterways.
[2] Atlantic, Gulf, and Pacific Coasts. Includes traffic between Great Lakes ports and seacoast ports.
[3] Includes traffic within a single channel of a port and traffic between the several channels of a port. Includes such traffic within Great Lakes ports.

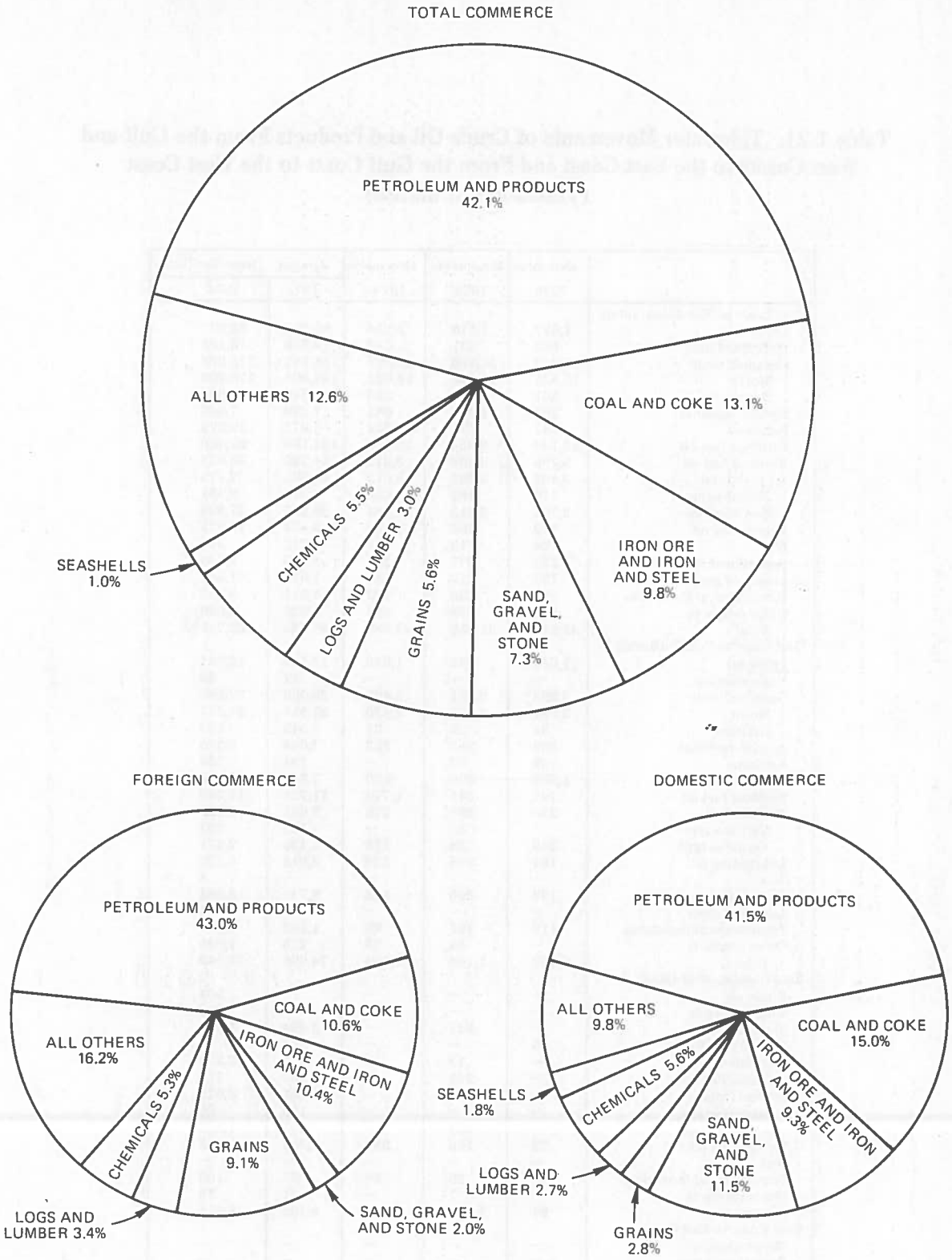
Source: Department of the Army, Corps of Engineers, *Waterborne Commerce of the United States* Part 5, 1974, pp. 3, 7, 8, 12, 13, 15, 16 and earlier editions for prior years.

Table 1-20. Summary of Foreign and Domestic Waterborne Commerce, by Type of Traffic and Commodity, Calendar Year 1974
(Net traffic in short tons of 2,000 pounds)

Commodity	Total	Foreign		Domestic					
		Imports	Exports	Total	Coastwise	Lakewise	Internal	Local	Intra-territory
Total, all commodities[1]	1,746,788,344	497,282,811	266,806,094	982,699,639	233,338,124	146,067,270	511,021,978	86,197,576	4,054,691
Coal and lignite	208,463,469	2,102,416	61,581,992	144,779,061	3,958,472	21,740,657	116,359,958	2,719,974	----------
Crude Petroleum	299,703,577	215,993,946	129,539	63,580,092	33,051,936	----------	46,805,741	3,537,204	185,211
Gasoline, including natural gasoline	95,562,795	5,242,874	75,338	90,244,583	49,271,109	1,591,122	31,807,891	7,499,797	74,664
Jet fuel	10,431,879	----------	----------	10,431,879	4,244,619	256,144	4,104,366	1,805,965	20,785
Kerosene	12,962,023	8,104,125	78,096	4,779,802	2,814,098	50,277	1,169,495	745,932	----------
Distillate fuel oil	95,758,676	12,082,345	102,893	83,573,438	40,818,365	1,662,549	24,973,186	15,945,453	173,885
Residual fuel oil	193,566,777	81,286,211	813,033	111,467,533	42,500,017	1,455,485	39,029,708	27,434,257	1,048,066
Lubricating oils and greases	8,057,651	47,405	1,466,773	6,543,473	3,906,143	1,510	2,281,006	119,236	235,578
Naphtha, mineral spirits, solvents, nec	4,732,370	----------	----------	4,732,370	1,876,876	7,952	1,497,100	390,448	959,994
Asphalt, tar, and pitches	8,949,844	----------	----------	8,949,844	3,803,249	181,309	4,724,600	239,692	994
Coke, including petroleum coke	2,411,971	----------	----------	2,411,971	85,383	112,218	2,153,873	60,497	----------
Liquefied petroleum gases, coal gases natural gas, and natural gas liquids	4,032,708	1,753,721	1,143,839	1,135,148	175,078	826	915,804	42,578	862
Asphalt building materials	95,020	22,793	57,113	15,114	14,758	245	----------	----------	111
Petroleum and coal products, nec	2,348,635	227,642	126,016	1,994,977	361,405	1,006	620,571	1,011,995	----------

[1] Includes the energy commodities listed in the table plus all other commodities.

Source: Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, 1974, pp. 7 and 8.



Source: Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, 1974, p. 11.

Figure 6. Principal Commodities Carried by Water, Calendar Year 1974

Table 1-21. Tidewater Movements of Crude Oil and Products From the Gulf and West Coasts to the East Coast and From the Gulf Coast to the West Coast (Thousands of barrels)

	December 1975	November 1975	December 1974	January - December (Incl.) 1975	January - December (Incl.) 1974
Gulf Coast to East Coast, total:					
Crude oil	1,627	1,810	2,330	23,794	52,337
Unfinished oils	685	931	1,089	10,938	18,128
Gasoline, total	16,042	15,506	16,899	188,751	179,888
Motor	15,841	15,178	16,633	186,005	176,908
Aviation	201	328	266	2,746	2,980
Special naphthas	769	1,051	681	7,039	7,646
Kerosene	887	797	1,224	8,971	10,879
Distillate fuel oil	10,740	9,354	13,195	124,160	93,460
Residual fuel oil	5,759	6,499	3,312	54,720	36,023
Jet fuel, total	3,499	3,795	3,072	45,695	37,475
Naphtha-type	715	982	608	9,399	9,481
Kerosene-type	2,784	2,813	2,464	36,296	27,994
Lubricating oil	739	883	1,134	10,474	12,922
Wax	24	19	15	212	353
Asphalt and road oil	232	277	364	3,469	5,796
Liquefied gases	157	213	144	1,053	1,541
Petrochemical feedstocks	293	228	192	3,911	3,757
Other products	363	289	338	2,836	2,536
Total	41,816	41,652	43,989	486,023	462,741
Gulf Coast to P.A.D. District II:					
Crude oil	1,039	741	1,010	13,191	12,841
Unfinished oils	—	—	—	17	59
Gasoline, total	2,282	2,861	2,497	28,059	27,890
Motor	2,251	2,836	2,470	27,514	27,357
Aviation	31	25	27	545	533
Special naphthas	239	263	252	2,644	3,275
Kerosene	149	92	—	794	764
Distillate fuel oil	1,007	920	620	7,804	6,449
Residual fuel oil	741	841	1,776	11,721	13,209
Jet fuel, total	240	398	276	2,601	2,698
Naphtha-type	—	60	—	162	227
Kerosene-type	240	338	276	2,439	2,471
Lubricating oil	164	598	329	3,015	4,125
Wax	—	—	—	—	8
Asphalt and road oil	199	205	118	2,748	3,684
Liquefied gases	—	—	—	5	71
Petrochemical feedstocks	119	103	98	1,192	1,381
Other products	—	86	28	275	1,095
Total	6,179	7,108	7,004	74,066	77,549
Gulf Coast to West Coast:					
Crude oil	—	—	—	—	564
Unfinished oils	—	—	—	—	288
Motor gasoline	—	525	—	3,464	1,392
Special naphthas	6	—	—	13	—
Distillate fuel oil	—	13	46	235	2,279
Residual fuel oil	—	245	—	2,500	316
Jet fuel, total	—	224	—	451	2,021
Naphtha-type	—	—	—	159	489
Kerosene-type	—	224	—	292	1,532
Lubricating oil	72	183	251	1,341	1,671
Wax	—	—	—	—	—
Petrochemical feedstocks	19	20	26	87	105
Other products	—	7	—	41	15
Total	97	1,217	323	8,132	8,651
West Coast to East Coast:					
Motor gasoline	—	—	—	—	—
Special naphthas	—	—	—	—	—
Distillate fuel oil	—	—	—	—	—
Residual fuel oil	—	—	—	—	—
Lubricating oil	—	22	88	220	785
Other products	—	—	22	36	324
Total	—	22	110	256	1,109
West Coast to Gulf Coast:					
Distillate fuel oil	—	—	—	403	—
Residual fuel oil	—	—	—	822	—
Total	—	—	—	1,225	—

Source: Department of the Interior, Bureau of Mines, *Mineral Industry Surveys, Petroleum Statement Monthly*, Dec., 1975, p. 14, Table 13.

Table 1-22. Shipment of Aviation Fuels in 1973 and 1974 (Thousands of barrels)

Product and use	Shipments to P.A.D. Districts: I	II	III	IV	V	United States Total
1974:						
I. Aviation gasoline:						
A. For commercial use, total	3,074	3,019	1,884	619	2,536	11,132
1. Airlines	552	461	116	13	221	1,363
2. Factory	31	60	31	2	45	169
3. General aviation	2,491	2,498	1,737	604	2,270	9,600
B. For military use	852	1,000	1,415	144	1,584	4,995
II. Jet fuel:						
A. For commercial use, total	103,261	54,094	26,542	7,497	71,444	262,838
1. Kerosene-type, total	99,197	53,628	25,047	7,398	68,025	253,295
a. Airlines	94,679	49,389	22,276	6,896	65,904	239,144
b. Factory	1,157	1,127	285	5	430	3,004
c. General aviation	3,361	3,112	2,486	497	1,691	11,147
2. Naphtha-type, total	4,064	466	1,495	99	3,419	9,543
a. Airlines	3,951	103	1,388	92	3,349	8,883
b. Factory	12	260	20	—	10	302
c. General aviation	101	103	87	7	60	358
B. For military use, total[1]	21,634	15,673	14,521	3,032	30,628	85,488
1. JP-4	12,243[1]	15,327	13,361	3,032	19,494[1]	63,457
2. JP-5	9,260[1]	338	973	—	9,194[1]	19,765
3. Other	131	8	187	—	1,940	2,266
C. Non-aviation use	3,878	839	213	9	231	5,170
1973:						
I. Aviation gasoline:						
A. For commercial use, total	2,982	3,160	2,144	661	2,561	11,508
1. Airlines	575	487	308	16	136	1,522
2. Factory	45	70	33	6	70	224
3. General aviation	2,362	2,603	1,803	639	2,355	9,762
B. For military use	1,264	975	1,131	63	1,502	4,935
II. Jet fuel:						
A. For commercial use, total	112,590*	61,206	22,656	8,049	78,748	283,249*
1. Kerosene-type, total	109,796*	60,876	21,886	8,049	74,335	274,942*
a. Airlines	105,527*	57,068	20,317	7,626	72,874	263,412*
b. Factory	858	1,276	292	—	562	2,988
c. General aviation	3,411	2,532	1,277	423	899	8,542
2. Naphtha-type, total	2,794	330	770	—	4,413	8,307
a. Airlines	2,503	4	661	—	4,254	7,422
b. Factory	224	142	15	—	100	481
c. General aviation	67	184	94	—	59	404
B. For military, use, total[2]	24,112	13,067	13,840	3,162	31,850	86,031
1. JP-4	13,137[2]	12,939	13,184	3,162	18,168[2]	60,590
2. JP-5	10,783[2]	117	653	—	13,411[2]	24,964
3. Other	192	11	3	—	271	477
C. Non-aviation use	4,630	1,266	150	—	303	6,349

*Revised

[1] Excludes direct imports by the military of napthta-type jet into: P.A.D. I, 6,318,000 barrels; P.A.D. V, 1,664,000 barrels. Also excludes direct imports by the military of kerosene-type jet into: P.A.D. I, 660,000 barrels; P.A.D. V, 73,000 barrels.

[2] Excludes direct imports by the military of naphtha-type jet into: P.A.D. I, 8,993,000 barrels; P.A.D. V, 1,946,000 barrels. Also excludes direct imports by the military of kerosene-type jet into: P.A.D. I, 1,376,000 barrels; P.A.D. V, 110,000 barrels.

Definitions of terms used in this table:

Aviation gasoline – Any fuel in the gasoline boiling range for use in a piston-type aviation engine.

Jet fuel – Any fuel for use in an aviation turbine engine.

Airline – Sales to U.S. certificated air carriers, including air freight carriers, international air carriers (if delivery is made in the U.S.), and to such other air carriers as supplemental or nonschedule carriers, air taxi, etc.

Factory – Direct sales to airframe and engine manufacturers. Does not include aviation fuels supplied to these accounts for Defense Fuel Supply Center (DFSC).

General Aviation – All non-military sales which are not classified as airline or factory. Primarily made up of sales to distributors and airport dealers.

Military – Sales to Defense Fuel Supply Center and to other military agencies of the Government.

Non-aviation – Sales for use in turbine engines other than aviation turbine engines. Sales to electric utilities are included in this category.

Source: Department of the Interior, Bureau of Mines, *Mineral Industry Surveys, Petroleum Statement Monthly*, March, 1975, Table 27.

Table 1-23. Interarea Total Oil Movements, 1975

From \ To	U.S.A	Canada	Latin America	Western Europe	Africa	South East Asia	Japan	Australasia	Other Eastern Hemisphere	Total Exports
				Million Tonnes (Metric Tons)[1]						
U.S.A.	—	1.0	3.3	3.6	0.3	—	1.5	0.5	0.5	10.7
Canada	39.8	—	—	—	—	—	—	—	—	39.8
Latin America	113.8	13.5	6.0	19.1	2.0	—	1.0	—	3.8	159.2
Western Europe	2.2	—	—	—	8.3	—	—	—	1.8	12.3
Middle East	56.7	26.7	75.5	436.9	23.6	72.1	182.4	12.6	31.3	917.8
North Africa	24.8	—	7.0	75.9	—	—	3.4	—	8.2	119.3
West Africa	42.1	1.0	9.9	41.4	—	—	3.5	—	—	97.9
East and South Africa	—	—	—	—	—	1.8	—	—	—	1.8
South Asia	—	—	—	0.2	—	—	—	—	—	0.2
South East Asia	19.9	—	4.0	—	0.5	—	43.9	4.0	—	72.3
Japan	—	—	—	0.2	—	—	—	—	—	0.2
Australasia	0.3	—	—	—	—	0.5	1.7	—	—	2.5
U.S.S.R., E. Europe & China	0.8	—	10.5	48.6	0.7	3.5	8.0	—	1.5	73.6
Total Imports	300.4	42.2	116.2	625.9	35.4	77.9	245.4	17.1	47.1	1,507.6
				Thousand Barrels Daily						
U.S.A.	—	20	65	70	5	—	30	10	10	210
Canada	800	—	—	—	—	—	—	—	—	800
Latin America	2,270	270	120	380	40	—	20	—	75	3,175
Western Europe	45	—	—	—	165	—	—	—	35	245
Middle East	1,140	540	1,525	8,815	475	1,450	3,675	255	630	18,505
North Africa	500	—	140	1,530	—	—	70	—	165	2,405
West Africa	850	20	200	835	—	—	70	—	—	1,975
East and South Africa	—	—	—	—	—	35	—	—	—	35
South Asia	—	—	—	5	—	—	—	—	—	5
South East Asia	400	—	80	—	10	—	885	80	—	1,455
Japan	—	—	—	5	—	—	—	—	—	5
Australasia	5	—	—	—	—	10	35	—	—	50
U.S.S.R., E. Europe & China	15	—	210	970	15	70	160	—	30	1,470
Total Imports	6,025	850	2,340	12,610	710	1,565	4,945	345	945	30,335

[1] One metric ton (tonne) equals 1.102 short tons.

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry, 1975*, p. 10.

Table 1-24. Imports and Exports, Crude Oil Products, 1975

Country/Area	Million Tonnes (Metric Tons)[1]				Thousand Barrels Daily			
	Imports		Exports		Imports		Exports	
	Crude	Products	Crude	Products	Crude	Products	Crude	Products
U.S.A.	203.5	96.9	0.3	10.4	4,105	1,920	5	205
Canada	40.4	1.8	29.7	10.1	815	35	600	200
Latin America	101.1	15.1	56.2	103.0	2,040	300	1,135	2,040
Western Europe	578.9	47.0	3.0	9.3	11,680	930	60	185
Middle East	6.9	5.6	876.2	41.6	140	110	17,680	825
North Africa	4.2	4.5	116.5	2.8	85	90	2,350	55
West Africa	0.2	2.3	97.1	0.8	5	45	1,960	15
East and South Africa	16.9	7.3	—	1.8	340	145	—	35
South Asia	14.6	4.8	—	0.2	295	95	—	5
South East Asia	57.2	20.7	58.2	14.1	1,155	410	1,175	280
Japan	226.2	19.2	—	0.2	4,565	380	—	5
Australasia	11.1	6.0	—	2.5	225	120	—	50
U.S.S.R., E. Europe & China	11.7	3.5	35.7	37.9	235	70	720	750
Total	1,272.9	234.7	1,272.9	234.7	25,685	4,650	25,635	4,650

[1] One metric ton (tonne) equals 1.102 short tons.

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1975, p. 10.

PART 2. RESERVES, PRODUCTION, AND REFINING

Table 2-1. Annual Estimates of Proved Crude Oil Reserves in the U.S., 1946 - 1975
(Thousands of barrels of 42 U.S. gallons)

Year	Proved Reserves at Beginning of Year	Revisions	Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Total of Discoveries, Revisions, and Extensions	Production	Proved Reserves at End of Year	Net Change From Previous Year
1946	19,941,846	1,254,705	1,158,923	(*)	244,434	2,658,062	1,726,348	20,873,560	931,714
1947	20,873,560	749,278	1,269,862	(*)	445,430	2,464,570	1,850,445	21,487,685	614,125
1948	21,487,685	1,958,853	1,439,873	269,438	127,043	3,795,207	2,002,448	23,280,444	1,792,759
1949	23,280,444	603,566	1,693,862	544,319	346,098	3,187,845	1,818,800	24,649,489	1,369,045
1950	24,649,489	663,378	1,334,391	407,739	157,177	2,562,685	1,943,776	25,268,398	618,909
1951	25,268,398	1,776,110	2,248,588	205,959	183,297	4,413,954	2,214,321	27,468,031	2,199,633
1952	27,468,031	743,729	1,509,131	280,066	216,362	2,749,288	2,256,765	27,960,554	492,523
1953	27,960,554	1,264,832	1,439,618	344,053	247,627	3,296,130	2,311,856	28,944,828	984,274
1954	28,944,828	537,788	1,749,443	307,625	278,181	2,873,037	2,257,119	29,560,746	615,918
1955	29,560,746	696,114	1,697,653	219,824	257,133	2,870,724	2,419,300	30,012,170	451,424
1956	30,012,170	804,803	1,702,311	234,727	232,495	2,974,336	2,551,857	30,434,649	422,479
1957	30,434,649	465,421	1,543,182	207,437	208,760	2,424,800	2,559,044	30,300,405	(134,244)
1958	30,300,405	954,605	1,338,908	151,210	163,519	2,608,242	2,372,730	30,535,917	235,512
1959	30,535,917	1,518,678	1,778,705	165,695	203,667	3,666,745	2,483,315	31,719,347	1,183,430
1960	31,719,347	787,934	1,323,538	141,296	112,560	2,365,328	2,471,464	31,613,211	(106,136)
1961	31,613,211	1,087,092	1,209,101	107,423	253,951	2,657,567	2,512,273	31,758,505	145,294
1962	31,758,505	759,053	1,041,257	92,488	288,098	2,180,896	2,550,178	31,389,223	(369,282)
1963	31,389,223	966,051	858,168	96,732	253,159	2,174,110	2,593,343	30,969,990	(419,233)
1964	30,969,990	899,292	1,419,182	126,682	219,611	2,664,767	2,644,247	30,990,510	20,520
1965	30,990,510	1,783,231	792,901	237,335	234,612	3,048,079	2,686,198	31,352,391	361,881
1966	31,352,391	1,839,307	814,249	160,384	150,038	2,963,978	2,864,242	31,452,127	99,736
1967	31,452,127	1,900,969	716,467	125,105	219,581	2,962,122	3,037,579	31,376,670	(75,457)
1968	31,376,670	1,320,109	776,780	166,291	191,455	2,454,635	3,124,188	30,707,117	(669,553)
1969	30,707,117	1,258,142	614,710	96,435	150,749	2,120,036	3,195,291	29,631,862	(1,075,255)
1970	29,631,862	2,088,927	631,354	9,852,512	116,125	12,688,918	3,319,445	39,001,335	9,369,473
1971	39,001,335	1,600,426	560,596	91,469	65,241	2,317,732	3,256,110	38,062,957	(938,378)
1972	38,062,957	820,107	459,311	123,210	155,220	1,557,848	3,281,397	36,339,408	(1,723,549)
1973	36,339,408	1,551,777	390,141	116,097	87,816	2,145,831	3,185,400	35,299,839	(1,039,569)
1974	35,299,839	1,310,929	368,918	226,163	87,563	1,993,573	3,043,456	34,249,956	(1,049,883)
1975	34,249,956	677,271	340,128	173,177	127,887	1,318,463	2,886,292	32,682,127	(1,567,829)

* All discoveries were classified as "New Reservoirs."

( ) Denotes negative volume.

Source: API, AGA, CPA, *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada and United States Productive Capacity as of December 31, 1975.* Volume 30, Part I, Table II.

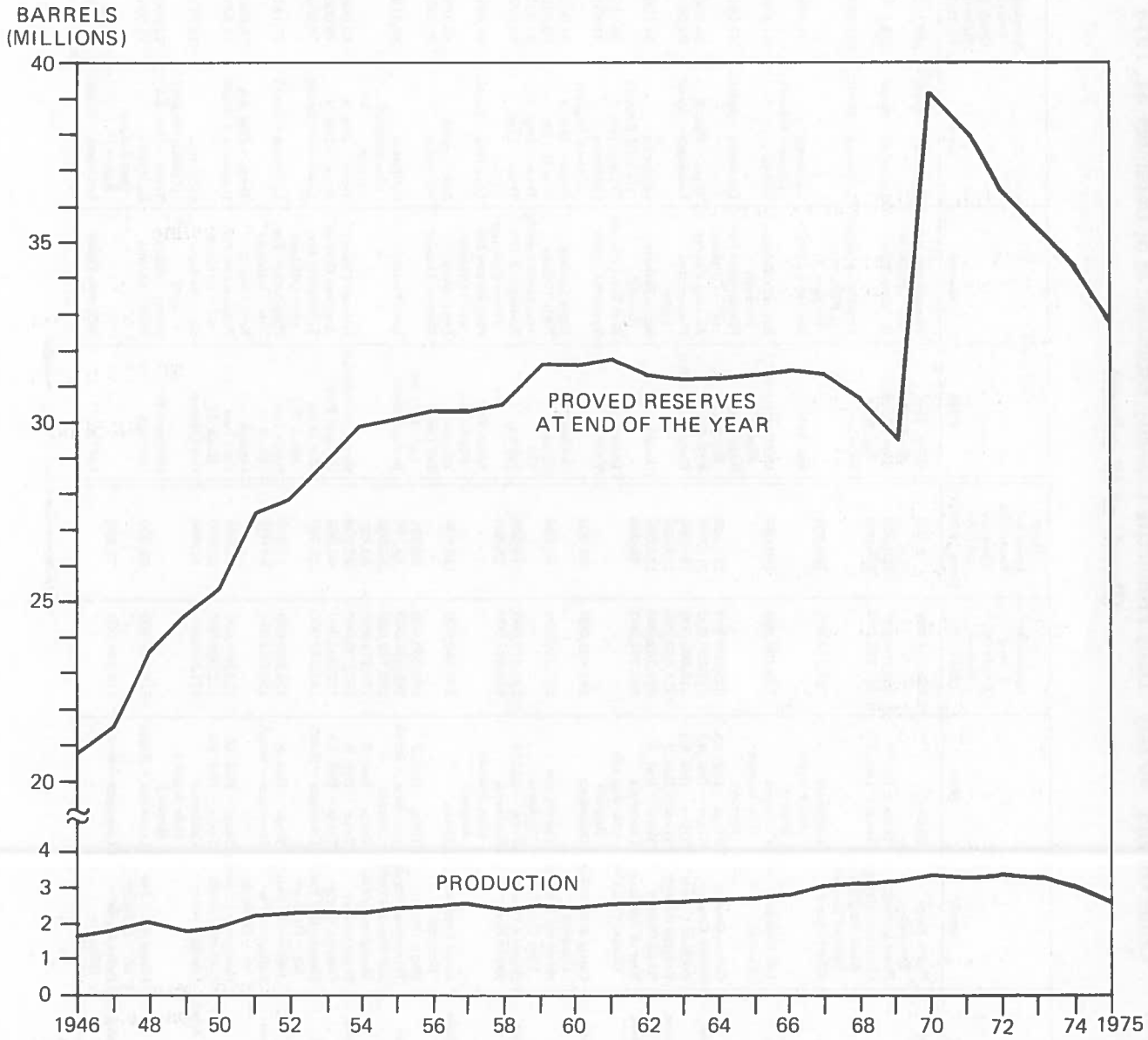


Figure 7. Production and Proved Crude Oil Reserves in the U.S., 1946 -1975

Table 2-2. The 100 Largest Fields in the U.S. with Remaining Estimated Proved Reserves of Crude Oil and "90 Day" Daily Productive Capacity Estimated as of December 31, 1974
(Barrels of 42 gallons)

Field	County	State	Remaining Proved Crude Oil Reserves 12/31/74	Daily Crude Oil Productive Capacity 90-Days From 12/31/74
Prudhoe Bay	North Slope Borough	Alaska	9,598,511,000	1,500
Yates	Pecos County	Texas — Dist. 8	1,398,000,000	250,000
East Texas	Cherokee, Gregg, Rusk, Smith & Upton Counties	Texas — Dist. 6	1,287,165,000	400,000
Elk Hills	Kern County	California (San Joaquin Region)	705,754,000	160,000
Wilmington	Los Angeles County	California (Los Angeles Region)	705,400,000	180,000
Wasson	Gaines County	Texas — Dist. 8A	636,000,000	247,500
Kelly Snyder	Scurry County	Texas — Dist. 8A	477,000,000	210,000
Slaughter	Cochran County	Texas — Dist. 8A	349,000,000	130,000
Tom O'Connor	Refugio County	Texas — Dist. 2	314,669,000	122,000
Hawkins	Wood County	Texas — Dist. 6	304,762,000	133,050
Midway-Sunset	Kern & San Luis Obispo Counties	California (San Joaquin Region)	303,794,000	98,000
Sho-Vel-Tum	Carter & Stephens Counties	Oklahoma	297,651,000	95,000
Jay	Escambia & Santa Rosa Counties	Florida and Alabama	267,936,000	93,606
Hastings, West	Brazoria County	Texas — Dist. 3	253,212,000	75,000
Kern River	Kern County	California (San Joaquin Region)	250,528,000	73,000
McArthur River	Kenai Peninsula Borough	Alaska	249,660,000	113,000
Webster	Harris County	Texas — Dist. 3	225,960,000	68,924
Caillou Island	Terrebonne Parish	Louisiana — South	205,086,000	43,175
Rangely	Rio Blanco County	Colorado	198,710,000	55,000
Conroe	Montgomery Co.	Texas — Dist. 3	196,774,000	60,827
Cowden, North	Ector County	Texas — Dist. 8	165,000,000	42,100
Seminole	Gaines County	Texas — Dist. 8A	162,000,000	60,000
Delta, West, Block 58	Plaquemines Parish — Offshore	Louisiana — South	161,337,000	28,000
Fullerton	Andrews County	Texas — Dist. 8	153,000,000	17,800
Bay Marchand Block 2	Lafourche Parish — Offshore	Louisiana — South	126,053,000	84,000
Panhandle	Hutchinson County	Texas — Dist. 10	124,860,000	31,000
Levelland	Cochran County	Texas — Dist. 8A	122,000,000	35,000
Huntington Beach	Orange County	California (Los Angeles Region)	121,530,000	51,000
Grand Isle, Block 43	Plaquemines Parish — Offshore	Louisiana — South	119,776,000	65,000
Eugene Island Block 330	Iberia Parish — Offshore	Louisiana — South	116,348,000	73,300
Delta, West Block 30	Plaquemines Parish — Offshore	Louisiana — South	110,125,000	46,700
Cote Blanche Bay, West	St. Mary Parish	Louisiana — South	103,138,000	21,500
Delhi	Franklin, Madison, & Richmond Parishes	Louisiana — North	102,359,000	17,968
San Ardo	Monterey County	California (Coastal Region)	101,079,000	37,000
Middle Ground Shoal	Kenai Peninsula Borough	Alaska	97,836,000	24,000
South Pass Block 27	Plaquemines Parish — Offshore	Louisiana — South	97,161,000	31,000
West Ranch	Jackson County	Texas — Dist. 2	96,266,000	39,838
Garden Island Bay	Plaquemines Parish	Louisiana — South	94,968,000	21,500
Hondo	Santa Barbara County	California (Coastal Region)	94,000,000	0*
Thompson	Fort Bend County	Texas — Dist. 3	93,717,000	37,836
Ventura	Ventura County	California (Coastal Region)	91,835,000	31,000
Goldsmith	Ector County	Texas — Dist. 8	91,000,000	40,500
Empire	Eddy County	New Mexico	90,697,000	48,019
Van	Van Zandt County	Texas — Dist. 5	89,997,000	55,901
Fairway	Anderson & Henderson Counties	Texas — Dist. 5 & 6	89,922,000	31,020
South Pass Block 24	Plaquemines Parish — Offshore	Louisiana — South	85,621,000	40,000
Vacuum	Lea County	New Mexico	83,459,000	38,453
Salt Creek	Natrona County	Wyoming	82,487,000	32,400
Belridge South Light Oil Unit	Kern County	California (San Joaquin Region)	80,718,000	23,000
Howard Glasscock	Howard County	Texas — Dist. 8	80,000,000	18,100
Midland Farms	Andrews County	Texas — Dist. 8	79,000,000	14,500
Ship Shoal Block 207	Terrebonne Parish — Offshore	Louisiana — South	78,266,000	14,000
South Pass Block 61	Plaquemines Parish — Offshore	Louisiana — South	77,157,000	20,000
Cogdell	Kent County	Texas — Dist. 8A	76,000,000	33,100
Main Pass Block 41	Plaquemines Parish — Offshore	Louisiana — South	74,847,000	22,000
Dos Cuadras	Santa Barbara County	California (Coastal Region)	72,977,000	40,000
Diamond M	Scurry County	Texas — Dist. 8A	72,000,000	18,400
Coalinga	Fresno County	California (San Joaquin Region)	71,934,000	17,000
Lafitte	Jefferson Parish	Louisiana — South	71,828,000	15,050

*Undeveloped

Table 2-2. The 100 Largest Fields in the U.S. with Remaining Estimated Proved Reserves of Crude Oil and "90 Day" Daily Productive Capacity Estimated as of December 31, 1974 (Continued)
(Barrels of 42 gallons)

Field	County	State	Remaining Proved Crude Oil Reserves 12/31/74	Daily Crude Oil Productive Capacity 90-Days From 12/31/74
Elk Basin	Park County	Wyoming	68,950,000	20,800
Swanson River	Kenai Peninsula Borough	Alaska	68,878,000	26,000
Main Pass Block 306	Plaquemines Parish — Offshore	Louisiana — South	67,289,000	11,170
Sooner Trend	Kingfisher County	Oklahoma	64,145,000	27,000
Andector	Ector County	Texas — Dist. 8	63,000,000	17,200
Eunice	Lea County	New Mexico	61,966,000	11,000
Golden Trend	Garvin County	Oklahoma	61,780,000	19,000
Lake Pasture	Refugio County	Texas — Dist. 2	61,766,000	15,000
Neches	Anderson & Cherokee Counties	Texas — Dist. 6	61,702,000	16,728
Oregon Basin	Park County	Wyoming	61,268,000	33,100
Lake Washington	Plaquemines Parish	Louisiana — South	61,170,000	18,000
Altamont	Duchesne County	Utah	58,814,000	32,000
Tule Elk	Kern County	California (San Joaquin Region)	58,232,000	30,000
Healdton	Carter County	Oklahoma	58,119,000	20,000
Foster	Ector County	Texas — Dist. 8	58,000,000	17,600
Anahuac	Chembers County	Texas — Dist. 3	56,390,000	24,339
Bay St. Elaine	Terrebonne Parish	Louisiana — South	55,172,000	11,140
Oyster Bayou	Chambers County	Texas — Dist. 3	54,848,000	16,046
Bluebell	Duchesne & Uintah Counties	Utah	53,882,000	32,000
Granite Point	Kenai Peninsula Borough	Alaska	53,864,000	12,200
Timbalier Bay Block 21	Lafourche Parish — Offshore	Louisiana — South	53,641,000	32,000

Field	County	State	Remaining Proved Crude Oil Reserves 12/31/74	Daily Crude Oil Productive Capacity 90-Days From 12/31/74
Talco	Franklin & Titus Counties	Texas — Dist. 6	53,117,000	10,360
Salt Creek	Kent County	Texas — Dist. 8A	53,000,000	36,500
Venice	Plaquemines Parish	Louisiana — South	51,952,000	12,165
Bell Creek	Powder River Co.	Montana	51,094,000	25,500
Cote Blanche Island	St. Mary Parish	Louisiana — South	51,002,000	14,300
Delta, West Block 73	Plaquemines Parish — Offshore	Louisiana — South	50,901,000	18,750
Grand Isle Block 16	Jefferson Parish — Offshore	Louisiana — South	50,530,000	31,600
Hobbs	Lea County	New Mexico	50,321,000	12,600
McKittrick	Kern County	California (San Joaquin Region)	49,427,000	16,000
McElroy	Crane County	Texas — Dist. 8	49,000,000	30,500
Ship Shoal Block 208	Terrebonne Parish — Offshore	Louisiana — South	48,574,000	25,700
Bay de Chene	Jefferson & Lafourche Parishes	Louisiana — South	47,067,000	14,392
Sprayberry Trend	Reagan County	Texas — Dist. 7C	45,635,000	14,438
Postle	Texas County	Oklahoma	44,021,000	16,000
Prentice	Yoakum County	Texas — Dist. 8A	44,000,000	16,200
Main Pass Block 69	Plaquemines Parish — Offshore	Louisiana — South	43,871,000	19,000
Lost Soldier	Sweetwater Co.	Wyoming	43,299,000	9,100
Beaver Lodge	Williams County	North Dakota	43,136,000	8,500
Teapot Dome	Natrona County	Wyoming	42,515,000	2,500
Lake Barre	Terrebonne Parish	Louisiana — South	42,254,000	10,000

Summary

	Remaining Proved Crude Oil Reserves 12/31/74	Daily Crude Oil Productive Capacity 90-Days From 12/31/74
Total United States	34,249,956,000	8,877,000
Total One Hundred Largest Fields	24,345,162,000	4,712,995
Per Cent of Total United States	71.1%	53.1%

Source: American Petroleum Institute, News Release, April 15, 1975

Table 2-3. Estimated Total Proved Reserves of Natural Gas in the U.S., 1974 and 1975
(Millions of cubic feet — 14.73 psia, at 60°F)

State	Reserves as of 12/31/74	Changes In Reserves During 1975						Reserves as of December 31, 1975			
		Revisions	Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Net Change in Underground Storage[e]	Production[c]	Total Gas	Non-Associated	Associated Dissolved	Underground Storage[f]
Alabama	507,370	80,613	34,757	169,066	0	0	20,825	770,981	732,799	38,182	0
Alaska	31,866,612	216,369	101,000	22,000	0	0	155,232	32,050,749	5,727,699	26,323,050	0
Arkansas	2,113,404	(38,950)	25,855	4,000	6,700	617	118,353	1,993,273	1,836,725	132,373	24,175
California	5,194,592[a]	390,881	194,169	11,100	29,515	(4,285)	331,945	5,484,027	2,249,260	2,906,497	328,270
San Joaquin Basin	3,958,784	433,974	193,044	11,100	29,315	(7,560)	240,501	4,378,156	2,220,517	2,044,350	113,289
Coastal Region	836,055[a]	(44,353)	1,125	0	200	2,681	52,542	743,166	28,084	545,782	169,300
Los Angeles Basin	399,753[a]	1,260	0	0	0	594	38,902	362,705	659	316,365	45,681
Colorado	1,881,695	(91,174)	250,982	11,041	839	4,937	165,303	1,893,017	1,659,151	204,572	29,294
Florida	308,866	1,683	0	0	0	0	43,645	266,904	0	266,904	0
Illinois	399,414	(15,814)	0	0	0	(1,492)	1,304	380,804	1,100	3,626	376,078
Indiana	64,141	(2,552)	0	0	0	(1,607)	143	59,839	2,010	21	57,808
Kansas	11,704,731	1,590,937	171,473	28,456	6,167	6,353	846,936	12,661,181	12,405,912	150,413	104,856
Kentucky	844,002	(331)	14,251	0	277	14,193	59,762	812,630	638,055	42,985	131,590
Louisiana	64,052,445[a,g]	877,251	1,712,942	1,208,503	601,519	37,505	7,180,742	61,309,423	51,471,615	9,626,511	211,297
North	2,836,554	(2,170)	39,089	31,015	19,172	34,024	328,011	2,629,673	1,592,595	844,279	192,799
South	61,215,891[a,g]	879,421	1,673,853	1,177,488	582,347	3,481	6,852,731	58,679,750	49,879,020	8,782,232	18,498
Michigan	1,458,254	36,927	0	155,967	0	61,304	105,703	1,606,749	483,268	536,766	586,715
Mississippi	1,079,420	7,953	103,939	33,687	73,052	(10,619)	79,805	1,207,627	1,032,310	94,201	81,116
Montana	901,260	13,701	13,617	27,347	0	26,485	52,424	929,986	686,350	73,912	169,724
Nebraska	54,609	245	308	271	0	4,435	4,050	55,818	12,748	7,214	35,856
New Mexico	11,944,902	446,806	422,575	41,552	21,886	2,388	1,120,815	11,759,294	9,442,073	2,287,375	29,846
Northwest	7,617,397	351,087	320,522	5,099	1,550	2,481	519,682	7,778,454	7,698,524	74,375	5,555
South	4,327,505	95,719	102,053	36,453	20,336	(93)	601,133	3,980,840	1,743,549	2,213,000	24,291
New York	165,546	50	44,850	3,000	0	9,029	6,632	215,843	103,446	38	112,359
North Dakota	432,682	1,347	2,551	8,242	77	0	28,051	416,848	5,715	411,133	0
Ohio	1,308,210	0	89,910	290	3,980	37,442	85,822	1,354,010	795,987	173,033	384,990
Oklahoma	13,390,312	307,183	878,459	106,208	67,133	6,141	1,672,408	13,083,028	10,250,503	2,612,725	219,800
Pennsylvania	1,492,145	0	219,750	2,376	3,149	49,812	84,772	1,682,460	1,074,414	11,722	596,324
Texas	78,540,717[a]	(3,083,061)	1,492,079	507,372	609,411	12,192	7,041,856	71,036,854	50,638,399	20,242,346	156,109
District 1	1,419,873	(7,780)	32,156	8,979	12,438	(433)	101,704	1,363,529	1,089,068	274,461	0
District 2	7,386,745	(953,365)	95,601	33,243	78,168	0	453,491	6,186,901	4,332,920	1,853,528	453
District 3	17,078,244[a]	151,635	144,560	170,601	127,478	11,399	1,256,967	16,426,950	11,259,397	5,080,236	87,317
District 4	17,291,294[a]	(942,862)	87,400	56,674	318,325	0	1,367,664	15,461,167	10,976,538	4,484,629	0
District 5	986,821	3,824	23,400	9,700	7,412	1,758	82,358	950,557	786,220	134,703	29,634
District 6	5,026,683	(833,347)	256,604	4,121	12,105	987	264,121	4,203,032	2,793,514	1,408,531	987
District 7B	659,615	(51,924)	76,874	17,597	1,857	(940)	82,867	620,212	289,800	304,473	25,939
District 7C	2,303,591	(126,200)	158,093	3,468	6,862	(510)	258,903	2,086,401	1,380,589	704,346	1,466
District 8	13,962,887	(241,273)	447,611	43,812	35,968	0	1,707,868	12,541,137	8,475,157	4,065,980	0
District 8A	1,953,860	(406,963)	5,018	327	96	0	162,551	1,389,787	70,943	1,318,844	0
District 9	1,416,465	15,625	5,328	11,671	3,100	(69)	135,843	1,316,277	996,419	309,545	10,313
District 10	9,054,639	291,569	159,434	147,179	5,602	0	1,167,519	8,490,904	8,187,834	303,070	0
Utah	1,031,409	(87,304)	25,042	6,401	228	240	58,583	917,433	493,885	420,266	3,282
Virginia	44,707	0	8,550	300	0	0	6,092	47,465	47,465	0	0
West Virginia	2,265,581	68	154,525	2,292	8,130	28,529	147,789	2,311,336	1,887,516	50,853	372,967
Wyoming	3,917,387	(269,769)	64,149	72,391	216,761	1,384	299,144	3,703,159	3,093,138	555,715	54,306
Miscellaneous	168,084[d]	390	1,700	1,520	600	17,578	434	189,438	14,008	1,546	173,884
Total United States	237,132,497	383,449	6,027,433	2,423,382	1,649,424	302,561	19,718,570	228,200,176	156,785,551	67,173,979	4,240,646
Gulf of Mexico	35,347,841[b]	3,197,872	1,438,926	1,131,935	334,912	0	4,118,844	37,332,642	32,879,111	4,453,531	0

[a] Includes offshore
[b] Included with Louisiana and Texas
[c] Preliminary net production
[d] Includes Arizona, Iowa, Maryland, Minnesota, Missouri, South Dakota, Tennessee, and Washington
[e] The net difference between gas stored in and gas withdrawn from underground storage reservoirs, inclusive of adjustments and native gas transferred from other reserve categories. (Adjustments include change of reporting basis starting in 1974 to report only gas reserves considered recoverable, in effect, reducing gas reserves by 1,024,140 MMCF that would have been reported since 1972 using the former basis.)
[f] Proved recoverable gas contained in underground gas storage reservoirs, including native and net injected gas. (First reported on a recoverable basis in 1973.)
[g] Reported quantities include reserves estimated to be recoverable from some reservoirs considered natural gas bearing based on electrical logs, core data, and other available engineering and geological data.
( ) Denotes negative volume

Source: API, AGA, CPA, *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada and United States Productive Capacity as of December 31, 1975*, Volume 30, Part II, Table I.

Table 2-4. Annual Estimates of Proved Natural Gas and Natural Gas Liquids Reserves in the U.S.,[b] 1945 - 1975
(Millions of cubic feet — 14.73 psia, at 60°F, and thousands of barrels of 42 U.S. gallons)

Year	NATURAL GAS Year-End Reserves				NATURAL GAS LIQUIDS Year-End Reserves		
	Non-Associated	Associated-Dissolved	Underground Storage[d]	Total Gas	Non-Associated	Associated-Dissolved	Total NGL
1945	110,113,066	36,873,657	(a)	146,986,723	(a)	(a)	(a)
1946	115,807,949	43,895,864	(a)	159,703,813	1,929,926	1,233,293	3,163,219
1947	119,101,110	45,924,655	(a)	165,025,765	1,928,127	1,325,848	3,253,975
1948	122,724,358	49,995,941	204,757	172,925,056	2,023,155	1,517,628	3,540,783
1949	125,432,561	53,682,229	286,903	179,401,693	2,104,620	1,624,392	3,729,012
1950	129,919,009	54,325,898	339,838	184,584,745	2,372,189	1,895,474	4,267,663
1951	133,044,892	59,242,150	471,868	192,758,910	2,404,128	2,320,474	4,724,602
1952	136,892,642	61,069,290	669,634	198,631,566	2,411,496	2,585,155	4,996,651
1953	146,052,855	63,062,645	1,183,263	210,298,763	2,729,919	2,708,003	5,437,922
1954	145,282,729	64,004,531	1,273,671	210,560,931	2,648,599	2,595,858	5,244,457
1955	151,229,351	69,892,358	1,360,835	222,482,544	2,619,926	2,818,639	5,488,565
1956	159,163,774	75,825,365	1,494,076	236,483,215	2,809,846	3,092,486	5,902,332
1957	167,558,391	75,998,909	1,672,837	245,230,137	2,706,246	2,981,114	5,687,360
1958	176,894,570	74,136,803	1,730,419	252,761,792	3,230,975	2,973,043	6,204,018
1959	183,170,257	76,109,302	1,890,872	261,170,431	3,417,915	3,104,393	6,522,308
1960	185,291,523	74,862,658	2,172,145	262,326,326	3,686,986	3,129,073	6,816,059
1961	190,669,393	73,272,560	2,331,689	266,273,642	3,852,152	3,196,944	7,049,096
1962	198,687,335	71,100,603	2,490,920	272,278,858	4,237,659	3,073,858	7,311,517
1963	201,219,649	72,186,931	2,744,653	276,151,233	4,571,636	3,102,342	7,673,978
1964	207,122,360	71,189,331	2,939,763	281,251,454	4,791,833	2,954,799	7,746,632
1965	213,315,274	70,063,403	3,090,246	286,468,923	5,040,024	2,983,510	8,023,534
1966	217,426,169	68,681,867	3,224,769	289,332,805	5,229,261	3,099,705	8,328,966
1967	221,751,275	67,780,256	3,376,172	292,907,703	5,575,956	3,038,275	8,614,231
1968	220,990,299	62,864,813	3,494,740	287,349,852	5,693,001	2,905,107	8,598,108
1969	211,873,282	59,633,644	3,601,909	275,108,835	5,416,898	2,726,276	8,143,174
1970	204,098,552	82,643,929	4,003,927	290,746,408	5,110,939	2,592,002	7,702,941
1971	195,953,617	78,537,773	4,314,228	278,805,618	4,867,070	2,437,157	7,304,227
1972	186,072,643	75,541,412	4,470,791[c]	266,084,846	4,572,721	2,213,838	6,786,559
1973	172,245,938	73,587,760	4,116,509[c]	249,950,207	4,124,031	2,330,676	6,454,707
1974	162,192,222	71,002,190	3,938,085[c]	237,132,497	4,109,128	2,241,321	6,350,449
1975	156,785,551	67,173,979	4,240,646	228,200,176	4,040,128	2,227,702	6,267,830

[a]Not estimated.
[b]Includes offshore reserves.
[c]See footnote e, Table 2-3.
[d]See footnote f, Table 2-3.

Source: API, AGA, CPA, *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada and United States Productive Capacity as of December 31, 1975*, Volume 30, Table XIII-1.

Table 2-5. Production and Disposition of Natural Gas in the U.S., 1950 - 1974
(Millions of cubic feet)

Note: Production data include allowance for natural gas liquids content in the natural gas, and therefore differ from totals developed by A.G.A.

	Production					Disposition					
	Gross[a]										
Year	Gas Wells	Oil Wells	Total	Repressuring	Net	Losses and Waste[a]	Marketed Production	Field Use	Net Change in Underground Storage	Lost in Transmission	Net Marketed Production
1950	5,603,200	2,876,450	8,479,650	1,396,546	7,083,104	801,044	6,282,060	1,187,473	54,492	175,437	4,864,658
1951	6,481,452	3,207,920	9,689,372	1,438,827	8,250,545	793,186	7,457,359	1,441,870	138,262	192,372	5,684,855
1952	6,839,177	3,433,389	10,272,566	1,410,501	8,862,065	848,608	8,013,457	1,483,754	176,684	203,646	6,149,373
1953	7,095,237	3,550,561	10,645,798	1,438,606	9,207,192	810,276	8,396,916	1,471,085	158,036	240,445	6,527,350
1954	7,466,007	3,518,843	10,984,850	1,518,737	9,466,113	723,567	8,742,546	1,456,883	102,106	215,709	6,967,848
1955	7,841,958	3,877,836	11,719,794	1,540,804	10,178,990	773,639	9,405,351	1,507,671	67,934	246,933	7,582,813
1956	8,306,550	4,066,355	12,372,905	1,426,648	10,946,257	864,334	10,081,923	1,420,550	136,470	212,992	8,311,911
1957	8,716,835	4,189,834	12,906,669	1,417,263	11,489,406	809,148	10,680,258	1,479,720	191,396	205,373	8,803,769
1958	9,154,051	3,992,584	13,146,635	1,482,975	11,663,660	633,412	11,030,248	1,604,104	83,081	283,597	9,059,466
1959	10,101,754	4,127,518	14,229,272	1,612,109	12,617,163	571,048	12,046,115	1,737,402	118,742	223,312	9,966,659
1960	10,853,426	4,234,485	15,087,911	1,753,996	13,333,915	562,877	12,771,038	1,779,671	131,694	274,231	10,585,442
1961	11,195,087	4,265,225	15,460,312	1,682,754	13,777,558	523,533	13,254,025	1,881,208	145,616	234,808	10,992,393
1962	11,702,382	4,336,591	16,038,973	1,736,722	14,302,251	425,629	13,876,622	1,993,128	86,487	285,726	11,511,281
1963	12,606,022	4,367,346	16,973,368	1,843,297	15,130,071	383,408	14,746,663	2,081,339	130,772	364,658	12,169,894
1964	13,035,200	4,405,100	17,440,300	1,638,161	15,802,139	339,996	15,462,143	2,082,029	128,804	302,781	12,948,529
1965	13,523,600	4,439,500	17,963,100	1,604,204	16,358,896	319,143	16,039,753	1,909,697	118,115	318,711	13,693,230
1966	13,893,921	5,139,918	19,033,839	1,451,516	17,582,323	375,695	17,206,628	1,772,708	68,855	401,203	14,963,862
1967	15,346,853	4,904,923	20,251,776	1,590,574	18,661,202	489,877	18,171,325	1,925,500[b]	184,829	296,214	15,764,782
1968	16,539,925	4,785,075	21,325,000	1,486,092	19,838,908	516,508	19,322,400	2,065,008[b]	95,539	325,062	16,836,791
1969	17,489,415	5,189,780	22,679,195	1,455,205	21,223,990	525,750	20,698,240	2,212,208[b]	119,500	331,587	18,034,945
1970	18,594,658	5,191,795	23,786,453	1,376,351	22,410,102	489,460	21,920,642	2,305,171[b]	398,160	227,650	18,989,661
1971	18,925,136	5,162,895	24,088,031	1,310,458	22,777,573	284,561	22,493,012	2,296,777[b]	331,768	338,999	19,525,468
1972	19,042,592	4,973,517	24,016,109	1,236,292	22,779,817	248,119	22,531,698	2,363,556[b]	135,734	328,002	19,704,406
1973	19,371,600	4,695,602	24,067,202	1,171,361	22,895,841	248,292	22,647,549	2,412,466[b]	441,504	195,863	19,597,716
1974	18,669,212	4,180,581	22,849,793	1,079,890	21,769,903	169,381	21,600,522	2,364,876[b]	83,663	288,731	18,863,252

[a] Includes gas (mostly residue gas) blown to the air but does not include direct waste on producing properties, except where data are available.
[b] Beginning in 1967, computed by A.G.A. from "Extraction loss" and "Lease and plant fuel."

Sources: American Gas Association, *Gas Facts, 1974*, p. 22, Table 15; U.S. Department of the Interior, Bureau of Mines, *Natural Gas Annual 1974*.

Table 2-6. Oil Shale Deposits

	Billions of Barrels of Oil in Place			
	Colorado	Utah	Wyoming	Total
Intervals 10 ft. or more thick averaging 25 gal./ton or more of oil	480	90	30	600
Intervals 10 ft. or more thick averaging 10 to 25 gal./ton of oil	800	230	400	1,430
Total: intervals 10 ft. or more thick averaging over 10 gal./ton	1,280	320	430	2,030

Over 2 trillion barrels of oil are locked in known shale oil deposits in the Green River Formation, but less than one third of this is in reasonably thick deposits which average more than 25 gal. of oil per ton of shale; only these are generally regarded as potentially exploitable.

	Percent	Weight Percent
Mineral matter:		
Content of raw shale		86.2
Estimated mineral constituents:		
Carbonates, principally dolomite	50	
Feldspars	19	
Illite	15	
Quartz	10	
Analcite and others	5	
Pyrite	1	
Organic matter:		
Content of raw shale		13.8
Ultimate organic composition:		
Carbon	80.5	
Hydrogen	10.3	
Nitrogen	2.4	
Sulfur	1.0	
Oxygen	5.8	

The richest oil shales occur in the Mahogany Zone of Colorado (the Piceance Creek Basin near Rifle) and adjacent portions of Utah. Even here the organic matter represents less than 15 percent of the total shale content; one ton of shale may yield as much as 75 gal. of crude oil, but the average even in this richest shale deposit is more nearly 25 to 30 gal./ton.

Source: *Technology Review*, January 1974, pp 28 and 29.

Table 2-7. World Oil Production, 1965 - 1975
(Million tonnes)

Country Area	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Yearly Change 1975 over 1965	Yearly Change 1975 over 1970
NORTH AMERICA													
U.S.A.													
Crude Oil	387.6	411.9	437.5	452.9	458.7	478.6	469.9	470.1	457.3	436.8	415.2	+ 0.7%	− 2.8%
Natural Gas Liquids	43.6	46.1	50.4	53.8	56.4	58.9	60.1	62.1	61.7	59.9	58.0	+ 2.9%	− 0.3%
Total	431.2	458.0	487.9	506.7	515.1	537.5	530.0	532.2	519.0	496.7	473.2	+ 0.9%	− 2.5%
Canada	44.6	49.2	53.8	58.2	62.2	71.5	76.6	88.8	102.3	96.5	83.5	+ 6.5%	+ 3.1%
TOTAL NORTH AMERICA	475.8	507.2	541.7	564.9	577.3	609.0	606.6	621.0	621.3	593.2	556.7	+ 1.6%	− 1.8%
LATIN AMERICA													
Argentina	14.0	15.0	16.4	17.9	18.6	20.4	22.1	22.6	22.0	21.6	20.3	+ 3.8%	− 0.1%
Brazil	4.6	5.6	7.1	8.0	8.5	8.0	8.3	8.1	8.1	8.5	8.4	+ 6.2%	+ 1.0%
Columbia	10.2	10.0	9.6	8.8	10.7	11.2	11.0	10.0	9.4	8.7	8.1	− 2.2%	− 6.3%
Ecuador	0.4	0.3	0.3	0.2	0.2	0.2	0.2	3.5	10.2	8.7	7.9	+35.3%	+100.2%
Mexico	17.8	18.3	20.2	21.7	22.8	23.9	23.8	24.8	26.9	31.6	39.3	+ 8.2%	+ 10.5%
Trinidad	7.0	7.9	9.3	9.5	8.2	7.3	6.7	7.3	8.6	9.4	10.7	+ 4.4%	+ 7.9%
Venezuela	182.2	177.0	186.1	189.9	188.7	195.2	187.7	171.5	179.0	158.5	124.7	− 3.7%	− 8.6%
Other Latin America	5.2	5.5	7.0	7.8	7.2	6.5	6.4	7.5	7.9	7.7	7.0	+ 3.0%	+ 1.6%
TOTAL LATIN AMERICA	241.4	239.6	256.0	263.8	264.9	272.7	266.2	255.3	272.1	254.7	226.4	− 0.6%	− 3.7%
TOTAL WESTERN HEMISPHERE	717.2	746.8	797.7	828.7	842.2	881.7	872.8	876.3	893.4	847.9	783.1	+ 0.9%	− 2.3%
WESTERN EUROPE													
Austria	2.9	2.8	2.7	2.7	2.8	2.8	2.5	2.5	2.6	2.2	2.0	− 3.6%	− 6.7%
France	3.0	2.9	2.8	2.7	2.5	2.3	1.9	1.5	1.3	1.1	1.0	−10.2%	− 15.0%
Italy	2.3	1.9	1.7	1.6	1.8	1.6	1.4	1.2	1.0	1.0	1.0	− 7.6%	− 8.9%
Norway	—	—	—	—	—	—	0.3	1.6	1.8	1.7	9.3	*	*
Turkey	1.5	2.0	2.8	3.1	3.6	3.5	3.5	3.4	3.5	3.3	3.1	+ 7.3%	− 2.6%
United Kingdom	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2	+31.0%	+ 70.4%
West Germany	7.9	7.9	7.9	8.0	7.9	7.5	7.4	7.1	6.6	6.2	5.7	− 3.1%	− 5.3%
Yugoslavia	2.1	2.2	2.4	2.5	2.7	2.9	3.0	3.2	3.3	3.5	3.9	+ 6.6%	+ 6.4%
Other Western Europe	2.4	2.4	2.3	2.3	2.2	2.1	1.8	1.7	2.4	3.5	3.4	+ 3.5%	+ 10.3%
TOTAL WESTERN EUROPE	22.2	22.2	22.7	23.0	23.6	22.8	21.9	22.3	22.6	22.6	30.6	+ 3.3%	+ 6.1%
MIDDLE EAST													
Abu Dhabi	13.5	17.3	18.3	23.9	28.9	33.4	44.9	50.6	62.6	67.7	67.3	+17.4%	+ 15.1%
Dubai	—	—	—	—	0.5	4.3	6.2	7.6	10.8	12.0	12.6	*	+ 24.2%
Iran	95.0	105.2	129.6	141.8	168.1	191.3	227.0	251.9	293.2	301.4	267.9	+10.9%	+ 7.0%
Iraq	64.4	68.1	60.2	73.9	74.9	76.9	83.5	72.1	99.0	96.9	109.3	+ 5.4%	+ 7.3%
Kuwait	109.1	114.4	115.2	122.1	129.5	137.5	147.1	151.2	138.4	114.4	92.4	− 1.6%	− 7.6%
Neutral Zone	19.4	21.7	21.5	21.0	21.7	26.0	28.3	29.3	27.6	28.0	25.8	+ 2.9%	− 0.2%
Oman	—	—	2.9	12.1	16.4	16.6	14.4	14.2	14.7	14.5	17.1	*	+ 0.6%
Qatar	11.1	13.8	15.5	16.3	17.0	17.7	20.5	23.2	27.3	24.9	21.0	+ 6.6%	+ 3.5%
Saudi Arabia	100.6	118.8	129.0	140.9	148.6	176.2	223.4	285.4	364.7	412.4	343.9	+13.1%	+ 14.3%
Sharjah	—	—	—	—	—	—	—	—	—	1.4	1.9	*	*
Other Middle East	3.0	3.3	3.6	5.3	9.0	8.2	10.0	9.9	8.8	9.8	12.1	+15.0%	+ 8.0%
TOTAL MIDDLE EAST	416.1	462.6	495.8	557.3	614.6	688.1	805.3	895.4	1,047.1	1,083.4	971.3	+ 8.8%	+ 7.1%
AFRICA													
Algeria	26.6	34.2	39.1	42.9	44.5	48.5	36.5	50.1	51.2	48.5	45.0	+ 5.4%	− 1.5%
Egypt	6.5	6.3	6.2	11.2	17.1	23.5	21.0	17.6	13.0	11.5	13.6	+ 7.6%	− 10.4%
Gabon	1.3	1.4	3.5	4.6	5.0	5.4	5.8	5.8	8.1	10.0	10.0	+23.0%	+ 13.1%
Libya	58.9	72.4	84.1	125.7	149.9	159.8	133.1	108.2	104.9	73.5	71.9	+ 2.0%	− 14.8%
Nigeria	13.5	20.4	15.6	7.2	26.4	52.9	74.7	88.9	100.1	112.2	88.8	+20.7%	+ 10.9%
Other North Africa	0.1	0.7	2.3	3.3	3.8	4.3	4.2	4.0	3.8	4.0	4.8	+46.9%	+ 2.5%
Other West Africa	0.7	0.8	0.6	1.2	2.5	5.5	5.7	7.8	9.5	11.3	10.0	+29.8%	+ 12.7%
TOTAL AFRICA	107.6	136.2	151.4	196.1	249.2	299.9	281.0	282.4	290.6	271.0	244.1	+ 8.5%	− 4.0%
SOUTH ASIA	4.1	5.8	6.8	7.0	7.5	8.2	8.6	9.2	9.0	8.9	9.5	+ 8.6%	+ 2.9%
SOUTH EAST ASIA													
Brunei	4.0	4.6	5.3	6.0	6.3	6.9	7.5	8.6	11.6	10.0	9.5	+ 9.1%	+ 6.5%
Indonesia	24.0	23.5	25.2	29.7	37.1	42.2	44.1	53.4	66.0	69.0	65.0	+10.5%	+ 9.0%
Other South East Asia	†	0.1	†	0.2	0.5	0.9	3.5	3.7	4.4	4.0	4.4	+57.1%	+ 37.7%
TOTAL SOUTH EAST ASIA	28.0	28.2	30.5	35.9	43.9	50.0	55.1	65.7	82.0	83.0	78.9	+10.9%	+ 9.5%
Japan	0.6	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.6	− 0.6%	− 4.7%
Australasia	0.3	0.5	1.0	1.8	2.0	8.6	15.0	16.8	18.5	18.4	19.9	+50.2%	+ 18.2%
U.S.S.R.	242.9	265.1	288.1	309.2	328.3	353.0	372.0	394.0	421.0	452.0	485.0	+ 7.2%	+ 6.6%
Eastern Europe	15.9	16.4	17.1	17.4	17.3	17.6	18.2	19.3	19.2	19.7	20.0	+ 2.3%	+ 2.6%
China	10.0	12.5	11.0	13.0	14.5	20.0	25.5	29.5	40.0	54.0	65.0	+20.6%	+ 26.6%
TOTAL EASTERN HEMISPHERE	847.7	950.2	1,025.1	1,161.4	1,301.6	1,469.0	1,603.3	1,735.3	1,950.7	2,013.7	1,924.9	+ 8.5%	+ 5.6%
WORLD	1,564.9	1,697.0	1,822.8	1,990.1	2,143.8	2,350.7	2,476.1	2,611.6	2,844.1	2,861.6	2,708.0	+ 5.6%	+ 2.9%
WORLD (excl. U.S.S.R., E. Europe & China)	1,296.1	1,403.0	1,506.6	1,650.5	1,783.7	1,960.1	2,060.4	2,168.8	2,363.9	2,335.9	2,138.0	+ 5.1%	+ 1.8%

Note: Egypt (UAR) includes onshore Gulf of Suez and Sinai production.

*Greater than 300%.

†Less than 0.05 million tonnes.

Source: British Petroleum Co. Ltd., *BP Statistical Review of the World Oil Industry*, 1975, p. 18.

Table 2-8. API Refinery Capacity Survey
(Barrels of 42 gallons per calendar day)

P.A.D. District	September 30 1975	December 31 1975	March 31 1976	June 30 1976	September 30 1976	Operable Capacity Shut Down on Sept. 30 1975 (included in Column 1)	Inoperable Refinery Capacity Sept. 30, 1975 Through Sept. 30, 1976
East Coast	1,534,800	1,536,800	1,536,800	1,616,800	1,616,800	107,200	15,000
Appalachian No. 1	216,410	216,410	216,410	216,410	216,410	--	1,400
1 Total	1,751,210	1,753,210	1,753,210	1,833,210	1,833,210	107,200	16,400
Appalachian No. 2	64,000	64,000	64,000	64,000	64,000	--	--
Ind., Ill., Ky.	2,615,696	2,621,420	2,618,420	2,621,420	2,618,420	16,520	168,900
Minn., Wisc., Daks.	309,101	309,101	309,101	309,101	309,101	10,000	--
Okla., Kans., Mo.	1,067,425	1,109,163	1,109,163	1,114,163	1,114,163	1,740	11,200
2 Total	4,056,222	4,103,684	4,100,684	4,108,684	4,105,684	28,260	180,100
Inland Texas	544,950	549,950	550,450	550,950	550,950	3,500	22
Texas Gulf Coast	3,459,550	3,452,550	3,452,550	3,545,550	3,578,850	3,000	20,500
Louisiana Gulf Coast	1,995,397	1,995,700	2,005,700	2,005,700	2,005,700	28,700	20,000
No. La. & Ark.	230,275	230,275	230,275	230,275	230,275	2,000	1,400
New Mexico	101,826	102,739	101,823	103,839	103,739	--	8,016
3 Total	6,331,998	6,331,214	6,340,798	6,436,314	6,469,514	37,200	49,938
4 Other Rocky Mt.	544,781	551,331	562,931	563,481	563,281	15,300	5,800
5 West Coast	2,368,322	2,380,822	2,382,522	2,732,522	2,732,522	106,700	4,000
Total United States	15,052,533	15,120,261	15,140,145	15,674,211	15,704,211	294,660	256,238

Source: American Petroleum Institute, *Weekly Statistical Bulletin*, Dec. 5, 1975

See Appendix B for new definition of operable refinery capacity.

Table 2-9. Number and Capacity of U.S. Refineries, 1945 - 1975

Year	Number of Refineries As of January 1			Capacity as of January 1 (Barrels Per Day)					
	Operating	Shutdown	Total Operating and Shutdown	Operating	Shutdown[1]	Total Operating and Shutdown	Building[2]	Total Operating, Shutdown and Building	Daily Average Crude Oil Runs To Stills (barrels)
1975	262	28	290	14,696,750	472,060	15,168,810	1,210,578	16,379,388	12,442,000[3]
1974	257	27	284	14,220,316	269,120	14,489,436	1,319,490	15,808,926	12,133,000[r]
1973	252	25	277	13,454,471	320,175	13,774,646	100,500	13,875,146	12,431,000
1972	250	32	282	13,034,818	402,650	13,437,468	223,470	13,660,938	11,696,000
1971	253	26	279	12,658,248	361,830	13,019,978	621,300	13,641,278	11,199,000
1970	262	19	281	11,882,393	191,930	12,074,323	386,700	12,461,023	10,870,000
1969	264	20	284	11,575,829	163,680	11,739,509	362,500	12,102,009	10,630,000
1968	270	21	291	11,172,694	360,160	11,532,854	751,550	12,284,404	10,312,000
1967	260	21	281	10,412,447	347,160	10,759,607	391,700	11,151,307	9,815,000
1966	267	19	286	10,171,159	321,580	10,492,739	148,300	10,641,039	9,444,364
1965	273	27	300	10,161,311	613,284	10,774,595	74,960	10,849,555	9,043,403
1964	282	22	304	10,063,164	322,210	10,385,374	54,700	10,440,074	8,806,910
1963	287	21	308	9,814,791	303,530	10,118,321	178,300	10,296,621	8,686,718
1962	287	24	311	9,812,248	292,899	10,105,147	110,350	10,215,497	8,409,947
1961	289	22	311	9,629,685	380,388	10,010,073	36,500	10,046,573	8,183,994
1960	290	20	310	9,543,329	358,095	9,901,424	70,947	9,972,371	8,067,032
1959	291	22	313	9,450,741	369,105	9,819,846	108,400	9,928,246	7,993,591
1958	289	29	318	8,939,907	467,800	9,407,707	185,265	9,592,972	7,605,737
1957	298	21	319	8,808,841	314,833	9,123,674	256,350	9,380,024	7,919,003
1956	294	24	318	8,380,801	251,589	8,632,390	267,000	8,899,390	7,937,448
1955	296	30	326	8,069,154	351,476	8,420,630	146,800	8,567,430	7,480,049
1954	308	29	337	7,782,103	224,794	8,006,897	397,500	8,404,397	6,957,710
1953	315	28	343	7,481,701	156,960	7,638,661	509,721	8,148,382	6,999,630
1952	327	23	350	7,161,366	171,519	7,332,885	282,680	7,615,565	6,670,106
1951	325	32	357	6,701,815	261,829	6,963,644	160,100	7,123,744	6,494,258
1950	320	47	367	6,222,998	473,302	6,696,300	145,600	6,841,900	5,739,362
1949	336	39	375	6,230,505	208,490	6,438,995	341,500	6,780,495	5,236,633
1948	352	38	390	5,825,566	208,686	6,034,252	367,250	6,401,502	5,596,583
1947	361	38	399	5,336,399	233,083	5,569,482	162,200	5,731,682	5,074,646
1946	364	29	393	5,086,165	229,691	5,315,856	53,100	5,368,956	4,740,266
1945	380	33	413	5,077,690	223,463	5,301,153	36,075	5,337,228	4,711,052

[r] Revised.

[1] Shutdown capacity includes inoperative portions of operating refineries as well as plants completely shutdown.

[2] Includes capacity under construction for replacement.

[3] DOT/TSC computation from monthly averages in the 1975 *Petroleum Statements, Monthly.*

Source: U.S. Dept. of the Interior, Bureau of Mines, *Petroleum Refineries in the United States and Puerto Rico: January 1, 1975*, p. 3 and equivalent tables in earlier editions;
U.S. Dept. of the Interior, Bureau of Mines, *Petroleum Statements, Monthly*, 1975.

Table 2-10. Total Input at U.S. Refineries and Per Cent Yields of Products, 1956 - 1975

Year	Thousands of 42 Gallon Barrels			Percent Yield							
	Crude Oil Run To Stills	Unfinished Oils Re-run (Net)[1]	Total Input[2]	Gasoline From Crude[8]	Kerosene	Jet Fuel Naphtha Type	Jet Fuel Kerosene Type	Dist. Fuel Oil	Resid. Fuel Oil	Lubricants	Others
1956	2,905,106	+ 4,008	2,909,114	43.37	4.24			22.88	14.67	2.04	12.80
1957	2,890,436	- 1,355	2,889,081	43.79	3.77	Prior		23.14	14.39	1.93	12.98
1958	2,789,404	+32,493	2,821,897	45.17	3.90	years		22.38	12.88	1.82	13.85
1959[3]	2,917,661	+25,868	2,943,529	44.85	3.76	not		23.06	11.82	1.91	14.60
1959[4]	2,917,661	+25,868	2,943,529	44.85	3.76	available		23.06	11.82	1.91	14.60
1960	2,952,534	+22,094	2,974,628	45.16	4.56[5]	on a		22.42	11.17	2.00	14.69
1961	2,987,158	+19,260	3,006,418	44.67	4.70	comparable		23.15	10.50	1.97	15.01
1962	3,069,631	+27,733[6]	3,097,364	44.80	5.05	basis.		23.23	9.55	1.98	15.39
1963	3,170,652	+31,934	3,202,586	44.14	5.14			23.87	8.62	1.97	16.26
1964	3,223,329	+27,322	3,250,651	44.10[7]	5.17			22.83	8.21	1.96	17.73
1965	3,300,842	+32,111	3,332,953	44.05	2.79	2.47	3.26	22.95	8.06	1.89	14.53
1966	3,447,193	+34,632	3,481,825	44.46	2.90	2.57	3.62	22.54	7.58	1.88	14.45
1967	3,582,594	+34,237	3,616,831	44.07	2.74	3.03	4.52	22.24	7.63	1.79	13.98
1968	3,774,360	+26,152	3,800,512	43.97	2.65	3.19	5.09	22.09	7.25	1.73	14.03
1969	3,879,605	+34,346	3,913,951	44.81	2.60	2.68	5.54	21.64	6.79	1.66	14.28
1970	3,967,503	+38,091	4,005,594	45.32	2.36	2.10	5.44	22.36	6.43	1.65	14.34
1971	4,087,809	+43,608	4,131,417	46.15	2.09	2.07	5.31	22.04	6.65	1.58	14.11
1972	4,280,863	+51,518	4,332,381	46.24	1.83	1.76	5.39	22.21	6.75	1.51	14.31
1973	4,537,254	+45,768	4,583,022	45.61	1.73	1.44	5.41	22.46	7.74	1.50	14.11
1974	4,428,726	+37,351	4,466,077	45.93	1.27	1.59	5.24	21.80	8.74	1.58	13.85
1975	4,541,426	+12,664	4,554,090	46.67	1.22	1.44	5.56	21.32	9.92	1.24	12.63
1974											
January	356,206	+ 4,924	361,130	43.87	1.63	1.51	5.36	24.72	9.20	1.63	12.08
February	310,863	+ 6,100	316,963	45.82	1.77	1.53	5.38	21.19	9.09	1.64	13.58
March	352,008	- 6,721	345,287	47.31	1.35	1.93	5.54	19.99	8.18	1.77	13.93
April	354,689	+ 3,803	358,492	47.00	1.00	1.71	5.56	21.10	8.24	1.68	13.71
May	382,331	- 683	381,648	45.97	1.02	1.80	5.26	21.97	8.08	1.59	14.31
June	386,912	+ 1,662	382,574	46.69	1.06	1.68	4.67	21.82	8.04	1.59	14.45
July	397,142	+ 5,798	402,940	46.78	.92	1.29	4.88	21.48	8.12	1.48	15.05
August	391,978	+ 7,303	399,281	47.20	1.02	1.29	4.96	21.00	8.28	1.51	14.74
September	363,711	+ 5,125	368,836	46.73	1.11	1.76	5.30	20.75	8.40	1.57	14.38
October	380,854	+ 1,852	382,706	45.05	1.51	1.60	5.43	21.87	8.90	1.55	14.09
November	369,948	+ 2,843	372,791	44.32	1.43	1.74	5.20	22.54	9.89	1.56	13.32
December	388,084	+ 5,345	393,429	44.32	1.52	1.36	5.42	23.04	10.52	1.48	12.34
Total	4,428,726	+37,351	4,466,077	45.93	1.27	1.59	5.24	21.80	8.74	1.58	13.85
1975											
January	381,193	+ 9,464	390,657	45.69	1.56	1.10	5.50	22.63	11.23	1.24	11.05
February	339,777	- 371	339,406	38.87	1.68	1.37	5.52	22.10	11.17	1.08	18.21
March	369,056	- 2,833	366,223	45.23	1.33	1.68	5.91	21.43	10.99	1.27	12.16
April	354,104	- 2,909	351,195	45.88	1.27	1.41	5.96	21.24	10.63	1.25	12.36
May	371,481	- 6,010	365,471	46.63	1.15	1.55	5.75	20.62	9.76	1.24	13.30
June	372,502	+ 3,608	376,110	47.89	0.74	1.30	5.39	20.53	9.19	1.23	13.73
July	400,376	+ 4,379	404,755	48.22	0.91	1.44	5.33	19.83	8.84	1.18	14.25
August	404,433	- 1,113	403,320	47.55	1.08	1.44	5.92	19.92	8.81	1.16	14.12
September	388,344	+ 4,201	392,545	46.81	1.11	1.46	5.47	21.49	9.04	1.24	13.38
October	383,329	+ 2,259	385,588	45.73	1.15	1.58	5.37	22.06	9.37	1.32	13.42
November	380,679	- 1,604	379,075	46.23	1.24	1.60	5.24	21.90	9.61	1.32	12.86
December	396,152	+ 3,593	399,745	47.01	1.46	1.38	5.26	21.78	10.59	1.29	11.23
Total	4,541,426	+12,664	4,554,090	46.67	1.22	1.44	5.56	21.32	9.92	1.24	12.63

[1] This figure represents the net of running imported unfinished oils and the change in stocks of unfinished oils. A decrease in stocks appears here as a plus, indicating the re-running of a larger amount of unfinished oils than was produced in the period.
[2] Excludes natural gas liquids and benzol blended and the re-running of unfinished gasoline. Beginning with 1968, other hydrocarbons are excluded.
[3] These figures and those for preceding years are on a 48 state basis.
[4] These figures and those for subsequent years are on a 50 state basis.
[5] These figures and those through 1964 include commercial jet fuel.
[6] Includes net re-running of unfinished gasoline beginning with January 1962.
[7] Beginning with 1964 Special Naphthas are excluded.
[8] Based on total gasoline output minus input of natural gas liquids and other hydrocarbons.

Source: American Petroleum Institute, *Annual Statistical Review*, 1965 - 1974.
U.S. Department of the Interior, Bureau of Mines, *Petroleum Statements Monthly*, 1975, Table 9 and similar tables in issues of previous years. Percent Yield for 1975 computed by DOT/TSC.

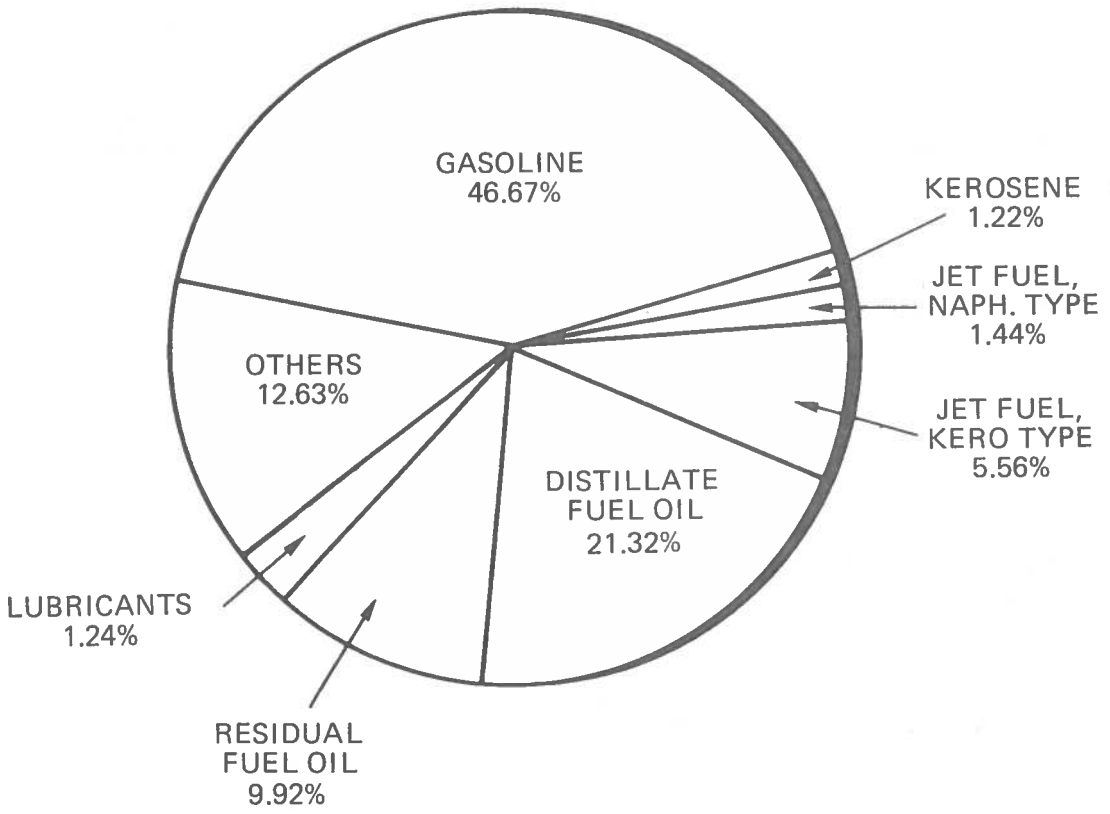


Figure 8. Percentage Yields of Petroleum Products at U.S. Refineries, 1975

Table 2-11. Gasoline and Jet Fuel Availability, 1965–1975
(Thousands of barrels)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Production											
Finished Gasoline	1,704,401	1,792,638	1,845,783	1,940,038	2,028,152	2,105,258	2,202,573	2,319,950	2,401,860	2,337,467	2,393,637
Motor Gasoline	1,655,832	1,751,394	1,808,709	1,908,475	2,001,692	2,085,546	2,184,116	2,302,957	2,385,447	2,321,572	2,379,919
Aviation Gasoline	48,569	41,244	37,074	31,563	26,460	19,712	18,457	16,993	16,413	15,895	13,718
Jet Fuel	191,168	215,496	273,229	314,928	321,718	301,913	304,674	310,029	313,689	305,064	317,981
Naphtha-type	82,529	89,523	109,694	121,442	104,766	84,081	85,326	76,565	65,997	71,175	65,620
Kerosene-type	108,639	125,923	163,535	193,486	216,952	217,832	219,348	233,464	247,692	233,889	252,361
Stocks											
Finished Gasoline	183,058	194,177	207,980	211,526	217,392	214,348	223,771	217,149	213,417	221,881	238,002
Motor Gasoline	174,717	186,393	200,055	204,496	211,199	209,255	219,352	212,894	209,478	218,410	234,978
Aviation Gasoline	8,341	7,784	7,925	7,030	6,193	5,093	4,419	4,255	3,939	3,471	3,024
Jet Fuel	18,699	19,374	22,312	24,277	28,073	27,610	27,737	25,493	28,544	29,435	30,380
Naphtha-type	8,338	7,235	9,037	8,904	8,556	6,621	6,990	6,147	5,599	5,529	5,222
Kerosene-type	10,361	12,139	13,275	15,373	19,517	20,989	20,747	19,346	22,945	23,906	25,158
Imports											
Finished Gasoline	10,052	15,648	15,215	21,591	22,709	24,320	21,658	24,787	48,759	74,402	67,249
Motor Gasoline	10,052	15,648	15,215	21,591	22,709	24,320	21,658	24,787	48,759	74,402	67,249
Aviation Gasoline	—	—	—	—	—	—	—	—	—	—	—
Jet Fuel	29,426	31,338	32,391	38,507	45,539	52,696	65,712	71,174	77,557	59,396	48,523
Naphtha-type	15,948	12,574	5,450	7,117	5,134	7,005	11,092	11,998	13,315	10,006	10,339
Kerosene-type	13,478	18,764	26,941	31,390	40,405	45,691	54,620	59,176	64,242	49,390	38,184
Exports											
Finished Gasoline	4,827	3,786	4,877	2,083	2,449	1,370	1,649	656	1,664	1,013	850
Motor Gasoline	629	434	848	249	703	461	410	424	1,466	865	744
Aviation Gasoline	4,198	3,352	4,029	1,834	1,746	909	1,239	232	198	148	106
Jet Fuel	1,007	1,773	2,021	2,092	1,730	2,094	1,536	957	1,568	969	610
Naphtha-type	694	1,585	1,804	2,091	1,730	2,094	1,317	911	640	80	—
Kerosene-type	313	208	217	1	—	—	219	46	928	889	610
Domestic Demand											
Finished Gasoline	1,720,201	1,793,381	1,842,686	1,956,000	2,042,546	2,131,252	2,213,159	2,350,703	2,452,687	2,402,392	2,450,296
Motor Gasoline	1,676,304	1,754,932	1,809,782	1,925,376	2,016,995	2,111,349	2,195,267	2,333,778	2,436,156	2,386,177	2,436,229
Aviation Gasoline	43,897	38,449	32,904	30,624	25,551	19,903	17,892	16,925	16,531	16,215	14,067
Jet Fuel	219,632	244,386	300,700	349,378	361,731	352,978	368,723	382,490	386,627	362,600	365,290
Naphtha-type	97,813	101,635	111,546	126,601	108,518	90,927	94,732	88,495	79,220	81,171	76,543
Kerosene-type	121,819	142,751	189,224	222,777	253,213	262,051	273,991	293,995	307,407	281,429	288,747

Source: U.S. Department of the Interior, Bureau of Mines, *Petroleum Statements Annual*, December 1975, Table 2, and previous issues.

Table 2-12. U.S. Motor, Aviation, and Total Gasoline Production, 1964 - 1975
(Thousand barrels)

Year	Motor Gasoline		Aviation Gasoline		Total Production	Daily Average	Annual Percent Change
	Total	Daily Average	Total	Daily Average			
1964*	1,610,087	4,399	51,214	140	1,661,301	4,539	—
1965	1,655,832	4,537	48,569	133	1,704,401	4,670	+2.9
1966	1,751,394	4,798	41,244	113	1,792,638	4,911	+5.2
1967	1,808,709	4,955	37,074	102	1,845,783	5,057	+3.0
1968	1,908,475	5,214	31,563	86	1,940,038	5,301	+4.8
1969	2,001,692	5,484	26,460	72	2,028,152	5,557	+4.8
1970	2,085,546	5,714	19,712	54	2,105,258	5,768	+3.8
1971	2,184,116	5,984	18,457	51	2,202,573	6,034	+4.6
1972	2,302,957	6,292	16,993	46	2,319,950	6,339	+5.1
1973	2,385,447	6,535	16,413	45	2,401,860	6,580	+3.8
1974[p]	2,321,572	6,360	15,895	44	2,337,467	6,404	−2.7

[p]Preliminary

*Prior to 1964 comparable data not available.

Source: American Petroleum Institute, *Basic Petroleum Data Book*, Section VIII, Table 5.

Table 2-13. U.S. Jet Fuel Production (Naphtha and Kerosene Types), 1965 - 1974
(Thousands of barrels)

Year	Naphtha			Kerosene			Naphtha and Kerosene		
	Total Production	Barrels Per Day	Annual Percent Change	Total Production	Barrels Per Day	Annual Percent Change	Total Production	Barrels Per Day	Annual Percent Change
1965*	82,416	226	—	108,639	298	—	191,055	523	—
1966	89,473	245	+ 8.4	125,973	345	+15.8	215,446	590	+12.8
1967	109,694	300	+22.4	163,535	448	+29.9	273,229	749	+26.9
1968	121,442	332	+10.7	193,486	529	+18.1	314,928	860	+14.8
1969	104,766	287	-13.6	216,952	594	+12.3	321,718	881	+ 2.4
1970	84,081	230	-19.9	217,832	597	+ 0.5	301,913	827	- 6.1
1971	85,326	234	+ 1.7	219,348	601	+ 0.7	304,674	835	+ 1.0
1972	76,565	209	-10.7	233,464	638	+ 6.2	310,029	847	+ 1.4
1973	65,997	181	-13.4	247,692	679	+ 6.4	313,689	859	+ 1.4
1974	71,175	195	+ 7.7	233,889	641	- 5.6	305,064	836	- 2.7

*Prior years are not available on a comparable basis.

Sources: American Petroleum Institute, *Basic Petroleum Data Book*, Section VIII, Table 8;
U.S. Department of the Interior; Bureau of Mines, *Petroleum Statement, Annual*, 1974, Table 16, and previous issues.

Table 2-14. Facts About Prudhoe Bay Reserves and the Trans-Alaska Pipeline

Oil industry investment in North Slope exploration and preliminary development, to date	$2 billion
Expected Cost	$6.375 billion
Anticipated future investment	$3 billion

Estimated proved crude oil reserves at the end of 1975:

Prudhoe Bay area	9.6 billion barrels
All Alaska	10.0 billion barrels
Total United States	32.7 billion barrels

Estimated proved natural gas reserves at the end of 1974:

Prudhoe Bay area	25 trillion cu. ft.
All Alaska	32.0 trillion cu. ft.
Total United States	228.2 trillion cu. ft.

Characteristics of the proposed Trans-Alaska Pipeline System (T.A.P.S.):

- 800 miles long, running south from Prudhoe Bay to Valdez
- 4 feet in diameter
- In geological fault areas, the pipe is designed with flexibility to move 5 feet vertically and 20 feet horizontally without rupture. Can bend 6 feet in a 100-foot span without a wrinkle.
- Oil pressure would be regulated by a series of 12 pump stations and temporary storage tanks.
- Power-operated, remote-control, cut-off valves would be spaced at 15-mile intervals.
- Approximate time of construction is 3 years; completion Nov. 1976; on stream, 3rd quarter, 1977.
- Expected initial oil flow is 1,200,000 barrels per day at 4 miles per hour.
- Design peak oil flow is 2,000,000 barrels per day at 7 miles per hour.

Sources: American Gas Association, News Release, March 30, 1976.
American Petroleum Institute, News Release, March 30, 1976.
Alyeska Pipeline Service Company, News Release and Personal Communication.

Table 2-15. Total Estimated Remaining U.S. Coal Resources, January 1, 1974

[In millions (10^6) of short tons. Estimates include beds of bituminous coal and anthracite generally 14 in. or more thick, and beds of subbituminous coal and lignite generally 2½ ft or more thick, to overburden depths of 3,000 and 6,000 ft. Figures are for resources in the ground]

State	Overburden 0-3,000 Feet							Overburden 3,000-6,000 Feet	Overburden 0-6,000 Feet
	Remaining Identified Resources, Jan. 1, 1974					Estimated Hypothetical Resources in Unmapped and Unexplored Areas[1]	Estimated Total Identified and Hypothetical Resources Remaining in the Ground	Estimated Additional Hypothetical Resources In Deeper Structural Basins[1]	Estimated Total Identified and Hypothetical Resources Remaining in the Ground
	Bituminous Coal	Subbituminous Coal	Lignite	Anthracite and Semianthracite	Total				
Alabama	13,262	0	2,000	0	15,262	20,000	35,262	6,000	41,262
Alaska	19,413	110,666	([2])	([3])	130,079	130,000	260,079	5,000	265,079
Arizona	21,234[4]	([4])	0	0	21,234	0	21,234	0	21,234
Arkansas	1,638	0	350	428	2,416	4,000[5]	6,416	0	6,416
Colorado	109,117	19,733	20	78	128,948	161,272	290,220	143,991	434,211
Georgia	24	0	0	0	24	60	84	0	84
Illinois	146,001	0	0	0	146,001	100,000	246,001	0	246,001
Indiana	32,868	0	0	0	32,868	22,000	54,868	0	54,868
Iowa	6,505	0	0	0	6,505	14,000	20,505	0	20,505
Kansas	18,668	0	([6])	0	18,668	4,000	22,668	0	22,668
Kentucky:									
Eastern	28,226	0	0	0	28,226	24,000	52,226	0	52,226
Western	36,120	0	0	0	36,120	28,000	64,120	0	64,120
Maryland	1,152	0	0	0	1,152	100	1,552	0	1,552
Michigan	205	0	0	0	205	500	705	0	705
Missouri	31,184	0	0	0	31,184	17,489	48,673	0	48,673
Montana	2,299	176,819	112,521	0	291,639	180,000	471,639	0	471,639
New Mexico	10,718	50,639	0	1	61,391	65,556[7]	126,947	74,000	200,947
North Carolina	110	0	0	0	110	20	130	5	135
North Dakota	0	0	350,602	0	350,602	180,000	530,602	0	530,602
Ohio	41,166	0	0	0	41,166	6,152	47,318	0	47,318
Oklahoma	7,117	0	([6])	0	7,117	15,000	22,117	5,000[8]	27,117
Oregon	50	284	0	0	334	100	434	0	434
Pennsylvania	63,940	0	0	18,812	82,752	4,000[9]	86,752	3,600[10]	90,352
South Dakota	0	0	2,185	0	2,185	1,000	3,185	0	3,185
Tennessee	2,530	0	0	0	2,530	2,000	4,530	0	4,530
Texas	6,018	0	10,293	0	16,311	112,100[11]	128,441	([11])	128,441
Utah	23,186[12]	173	0	0	23,359	22,000[13]	45,359	35,000	80,359
Virginia	9,216	0	0	335	9,551	5,000	14,551	100	14,651
Washington	1,867	1,180	117	5	6,169	30,000	36,169	15,000	51,169
West Virginia	100,150	0	0	0	100,150	0	100,150	0	100,150
Wyoming	12,703	123,240	([2])	0	135,943	700,000	835,943	100,000	935,943
Other States[14]	610	32[15]	46[16]	0	688	1,000	1,688	0	1,688
Total	747,357	485,766	478,134	19,662	1,730,919	1,849,649	3,580,568	387,696	3,968,264

[1] Source of estimates: Alabama, W.C. Culbertson; Arkansas, B.R. Haley; Colorado, Holt (1975); Illinois, M.E. Hopkins and J.A. Simon; Indiana, G.E. Wier; Iowa, E.R. Landis; Kentucky, K. J. England; Missouri, Robertson (1971, 1973); Montana, R.E. Matson; New Mexico, Fassett and Hinds (1971); North Dakota, R.A. Brant; Ohio, H.R. Collins and D.O. Johnson from data in Struble and others (1971); Oklahoma, S.A. Friedman; Oregon, R.S. Mason; Pennsylvania anthracite, Arndt and others (1968); Pennsylvania bituminous coal, W.E. Edmunds; Tennessee, E.T. Luther; Texas lignite, Kaiser (1971); Virginia, K.J. England; Utah, H.H. Doeling; Washington, H.M. Beikman; Wyoming, N. M. Denson, G. B. Glass, W. R. Keefer, and E. M. Sobell, remaining States, by P. Averitt.

[2] Small resources of lignite included under subbituminous coal.

[3] Small resources of anthracite in the Bering River field believed to be too badly crushed and faulted to be economically recoverable (Barnes, 1951).

[4] All tonnage is in the Black Mesa field. Some coal in the Dakota Formation is near the rank boundary between bituminous and subbituminous coal. Does not include small resources of thin and impure coal in the Deer Creek and Pinedale fields.

[5] Lignite.

[6] Small resources of lignite in western Kansas and western Oklahoma in beds generally less than 30 in. thick.

[7] After Fassett and Hinds (1971), who reported 85,222 million tons "inferred by zone" to an overburden depth of 3,000 ft in the Fruitland Formation of the San Juan basin. Their figure has been reduced by 19,666 million tons as reported by Read and others (1950) for coal in all categories also to an overburden depth of 3,000 ft in the Fruitland Formation of the San Juan basin. The figure of Read and others was based on measured surface sections.

[8] Includes 100 million tons inferred below 3,000 ft.

[9] Bituminous coal.

[10] Anthracite.

[11] Lignite, overburden 200-3,000 ft; identified and hypothetical resources undifferentiated. All beds assumed to be 2 ft thick, although many are thicker.

[12] Excludes coal in beds less than 14 in. thick.

[13] Includes coal in beds 14 in. or more thick, of which 15,000 million tons is in beds 4 ft or more thick.

[14] California, Idaho, Nebraska, and Nevada.

[15] California and Idaho.

[16] California, Idaho, Louisiana, and Mississippi.

Source: Paul Averitt, *Coal Resources of the United States, Jan. 1, 1974*, U.S. Geological Survey, Bulletin 1412, pp. 14-15.

Table 2-16. Coal Production, by States, 1960 - 1973

(In thousands of short tons. Includes coal consumed at mines)

State	1961-1965, avg.	1966-1970, avg.	1960	1965	1967	1968	1969	1970	1971	1972	1973
Total	473,559	570,410	434,329	526,954	564,882	556,706	570,978	612,661	560,919	602,492	598,568
Anthracite (Pa.)	16,931	11,372	18,817	14,866	12,256	11,461	10,473	9,729	8,727	7,106	6,830
Bituminous and lignite	456,628	559,038	415,512	512,088	552,626	545,245	560,505	602,932	552,192	595,386	591,738
Alabama	13,484	16,832	13,011	14,832	15,486	16,440	17,456	20,560	17,945	20,814	19,230
Colorado	3,978	5,555	3,607	4,790	5,439	5,558	5,530	6,025	5,337	5,522	6,233
Illinois	51,795	64,197	45,977	58,483	65,133	62,441	64,722	65,119	58,402	65,523	61,572
Indiana	15,311	19,387	15,538	15,565	18,772	18,486	20,086	22,263	21,396	25,949	25,253
Kentucky	75,621	105,792	66,847	85,766	100,294	101,156	109,050	125,305	119,389	121,187	127,645
Missouri	3,165	3,646	2,890	3,564	3,696	3,205	3,301	4,447	4,036	4,551	4,658
Ohio	35,968	48,854	33,957	39,390	46,014	48,323	51,242	55,351	51,431	50,967	45,783
Pennsylvania	71,261	79,235	65,425	80,308	79,412	76,200	78,631	80,491	72,835	75,939	76,403
Tennessee	6,010	7,522	5,931	5,865	6,832	8,148	8,082	8,237	9,271	11,260	8,219
Utah	4,706	4,503	4,955	4,992	4,175	4,316	4,657	4,733	4,626	4,802	5,500
Virginia	31,209	35,965	27,838	34,053	36,721	36,966	35,555	35,016	30,628	34,028	33,961
West Virginia	130,948	146,887	118,944	149,191	153,749	145,921	141,011	144,072	118,258	123,743	115,448
Wyoming	2,917	4,582	2,024	3,260	3,588	3,829	4,602	7,222	8,052	10,928	14,886
Other States	10,255	16,080	8,568	12,029	13,315	14,254	16,580	24,091	30,586	40,172	50,595

Source: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, 1973, Vol. 1, pg. 378, Table 1, Pg. 324, Table 7. and previous years.

Table 2-17. Number and Production of Bituminous Coal and Lignite Mines, by State, Size of Output, and Type of Mining, in 1973

(Thousand short tons)

State	500,000 tons and over		200,000 to 500,000 tons		100,000 to 200,000 tons		50,000 to 100,000 tons		10,000 to 50,000 tons		Less than 10,000 tons		Total*	
	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity
Alabama:														
Underground	6	6,294	3	1,140	–	–	1	91	4	68	7	25	21	7,618
Strip	6	4,351	11	3,015	17	2,360	17	1,193	17	488	15	92	83	11,529
Auger	–	–	–	–	–	–	1	81	–	–	–	–	1	81
Total*	12	10,645	14	4,185	17	2,360	19	1,367	21	557	22	117	105	19,230
Alaska:														
Strip	1	694	–	–	–	–	–	–	–	–	–	–	1	694
Arizona:														
Strip	1	3,247	–	–	–	–	–	–	–	–	–	–	1	3,247
Arkansas:														
Underground	–	–	–	–	–	–	–	–	–	–	1	3	1	3
Strip	–	–	–	–	2	269	2	121	2	26	4	16	10	432
Total*	–	–	–	–	2	269	2	121	2	26	5	18	11	434
Colorado:														
Underground	2	1,279	1	1,063	6	896	–	–	5	100	4	23	21	3,361
Strip	3	2,408	–	–	3	415	–	–	–	–	2	11	8	2,834
Auger	–	–	–	–	–	–	–	–	1	38	–	–	1	38
Total*	5	3,687	1	1,063	9	1,310	–	–	6	138	6	34	30	6,233
Illinois:														
Underground	18	31,937	1	421	–	–	2	159	2	51	–	–	23	32,570
Strip	18	26,749	5	1,937	–	–	4	269	2	29	3	18	32	29,002
Total*	36	58,686	6	2,361	–	–	6	428	4	80	3	18	55	61,572
Indiana:														
Undergrouoni	1	614	–	–	–	–	2	174	–	–	–	–	3	789
Strip	12	22,618	4	1,091	3	340	2	118	11	282	4	16	36	24,465
Total*	13	23,232	4	1,091	3	340	4	292	11	282	4	16	39	25,253
Iowa:														
Underground	–	–	1	249	1	107	–	–	–	–	–	–	2	356
Strip	–	–	–	–	–	–	1	52	8	188	1	5	10	245
Total*	–	–	1	249	1	107	1	52	8	188	1	5	12	601
Kansas:														
Strip	1	725	1	213	1	140	–	–	–	–	1	7	4	1,086
Kentucky:														
Eastern:														
Underground	18	13,813	34	10,375	40	5,600	58	4,004	230	5,753	204	1,008	584	40,553
Strip	4	3,527	28	7,326	30	3,999	64	4,383	151	3,879	122	557	399	23,671
Auger	–	–	1	267	18	2,504	27	1,999	180	4,284	153	688	379	9,742
Total	22	17,340	63	17,968	88	12,103	149	10,386	561	13,916	479	2,253	1,362	73,966
Kentucky:														
Western:														
Underground	16	20,713	4	1,244	1	105	3	245	1	29	1	6	26	22,342
Strip	17	27,748	4	1,403	10	1,505	6	113	8	209	10	58	55	31,337
Total*	33	48,462	8	2,647	11	1,610	9	658	9	238	11	61	81	53,679
Total Kentucky:														
Underground	34	34,526	38	11,619	41	5,705	61	4,249	231	5,782	205	1,014	610	62,895
Strip	21	31,276	32	8,729	40	5,504	70	4,796	159	4,088	132	615	454	55,008
Auger	–	–	1	267	18	2,504	27	1,999	180	4,284	153	688	379	9,742
Total*	55	65,802	71	20,616	99	13,713	158	11,044	570	14,154	490	2,317	1,143	127,615
Maryland:														
Underground	–	–	–	–	–	–	1	62	–	–	1	5	2	66
Strip	–	–	–	–	3	464	8	601	20	501	15	76	46	1,643
Auger	–	–	–	–	–	–	–	–	1	31	7	45	8	79
Total*	–	–	–	–	3	464	9	663	21	535	23	126	56	1,789
Missouri:														
Strip	5	4,027	1	498	–	–	1	72	2	53	1	8	10	4,658
Montana:														
Underground	–	–	–	–	–	–	–	–	–	–	1	1	1	1
Strip	3	10,385	1	313	–	–	–	–	–	–	1	26	8	10,724
Total	3	10,385	1	313	–	–	–	–	–	–	5	27	9	10,725
New Mexico:														
Underground	1	733	–	–	–	–	–	–	–	–	–	–	1	733
Strip	1	7,325	2	814	1	192	–	–	–	–	1	5	5	8,336
Total	2	8,058	2	814	1	192	–	–	–	–	1	5	6	9,069
North Dakota:														
Strip	4	5,665	2	934	2	291	–	–	–	–	4	16	12	6,906

Table 2-17. Number and Production of Bituminous Coal and Lignite Mines, by State, Size of Output, and Type of Mining, in 1973 - Continued

(Thousand short tons)

State	500,000 tons and over		200,000 to 500,000 tons		100,000 to 200,000 tons		50,000 to 100,000 tons		10,000 to 50,000 tons		Less than 10,000 tons		Total*	
	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity	Number of mines	Quantity
Ohio:														
Underground	15	15,275	2	576	1	122	2	131	4	98	4	23	28	16,225
Strip	13	15,240	15	4,838	27	3,990	38	2,675	55	1,610	28	173	176	28,527
Auger	—	—	—	—	3	403	4	301	14	279	10	47	31	1,031
Total	28	30,515	17	5,414	31	4,515	44	3,107	73	1,987	42	243	235	45,783
Oklahoma: Strip	2	1,557	—	—	3	424	2	138	2	58	2	5	11	2,183
Pennsylvania:														
Underground	39	34,401	26	8,534	14	1,864	14	930	15	351	26	127	134	46,207
Strip	2	1,256	5	1,311	55	6,340	112	7,405	459	12,743	142	774	775	29,829
Auger	—	—	—	—	—	—	—	—	9	143	46	224	55	366
Total*	41	35,657	31	9,845	69	8,204	126	8,335	483	13,236	214	1,125	964	76,403
Tennessee:														
Underground	1	1,231	3	832	1	150	11	792	22	589	8	41	46	3,636
Strip	—	—	4	810	11	1,500	18	1,282	22	593	9	50	64	4,236
Auger	—	—	—	—	—	—	2	128	6	211	1	8	9	348
Total*	1	1,231	7	1,642	12	1,650	31	2,203	50	1,394	18	99	119	8,219
Texas: Strip	2	6,700	1	244	—	—	—	—	—	—	—	—	3	6,944
Utah: Underground	3	2,324	7	2,698	3	387	—	—	3	91	—	—	16	5,500
Virginia														
Underground	6	5,599	27	8,677	12	1,583	50	3,006	182	4,460	23	111	300	23,437
Strip	—	—	3	1,085	12	1,571	15	1,133	183	4,670	29	241	242	8,700
Auger	—	—	—	—	1	121	1	81	99	1,581	7	40	108	1,824
Total*	6	5,599	30	9,762	25	3,275	66	4,219	464	10,712	59	393	650	33,961
Washington:														
Underground	—	—	—	—	—	—	—	—	1	16	—	—	1	16
Strip	1	3,246	—	—	—	—	—	—	—	—	1	8	2	3,254
Total*	1	3,246	—	—	—	—	—	—	1	16	1	8	3	3,270
West Virginia														
Underground	49	48,701	85	26,117	77	11,532	72	5,353	135	3,328	104	486	522	95,516
Strip	—	—	21	6,256	24	3,228	51	3,754	156	4,153	52	313	304	17,704
Auger	—	—	—	—	2	228	7	463	66	1,385	31	152	106	2,228
Total*	49	48,701	106	32,373	103	14,988	130	9,570	357	8,865	187	950	932	115,448
Wyoming:														
Underground	—	—	1	315	—	—	1	96	—	—	3	14	5	425
Strip	9	13,997	1	445	—	—	—	—	1	19	1	1	12	14,461
Total*	9	13,997	2	760	—	—	1	96	1	19	4	16	17	14,886
United States:														
Underground	175	182,914	198	62,244	156	22,346	217	15,043	604	14,934	387	1,873	1,737	299,353
Strip	105	161,466	109	32,563	204	27,028	341	23,609	1,099	29,501	451	2,476	2,309	276,645
Auger	—	—	1	267	24	3,256	42	3,056	376	7,955	255	1,204	608	15,739
Total*	280	344,380	308	95,074	384	52,629	600	41,707	2,079	52,391	1,093	5,553	4,744	591,738

*Data may not add up to totals shown because of independent rounding.

Source: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook* 1973, Vol. 1, p. 336, Table 17.

Table 2-18. Natural Uranium Resources

(In thousands of tons U_3O_8)

	United States	Free World Excluding United States	Total Free World
$15/lb. U_3O_8:			
Reasonably assured	430	1,040	1,470
Estimated additional	655	640	1,295
Total	1,085	1,680	2,765
$30/lb. U_3O_8:			
Reasonably assured	640	1,770	2,410
Estimated additional	1,060	1,040	2,100
Total	1,700	2,810	4,510

Source: U.S. Energy Research and Development Administration. News Release 76-94, April 2, 1976, p. 4.
John A. Patterson, *Foreign Resources and Production Capability*, U.S. Energy Research and Development administration, October 1975.

Table 2-19. Estimated Uranium Ore Reserves[1] by States, January 1, 1976

State	Tons of Ore (Millions)	Grade of Ore (% U_3O_8)	Tons of U_3O_8
New Mexico	57.2	0.26	151,000
Wyoming	62.6	0.12	73,000[2]
Colorado & Utah	6.3	0.30	19,000
Texas	19.8	0.08	15,000[2]
Others: (Arizona, North Dakota, South Dakota, Washington, California)	10.3	0.11	12,000
Total	156.2	0.17	270,000

[1] Ore reserves at a cost of $10 per pound.
[2] Includes low grade reserves recoverable at $10 per pound by solution mining.

Source: U.S. Energy Research and Development Administration, press release, "ERDA Issues Latest Estimate of U.S. Uranium Reserves," April 2, 1976.

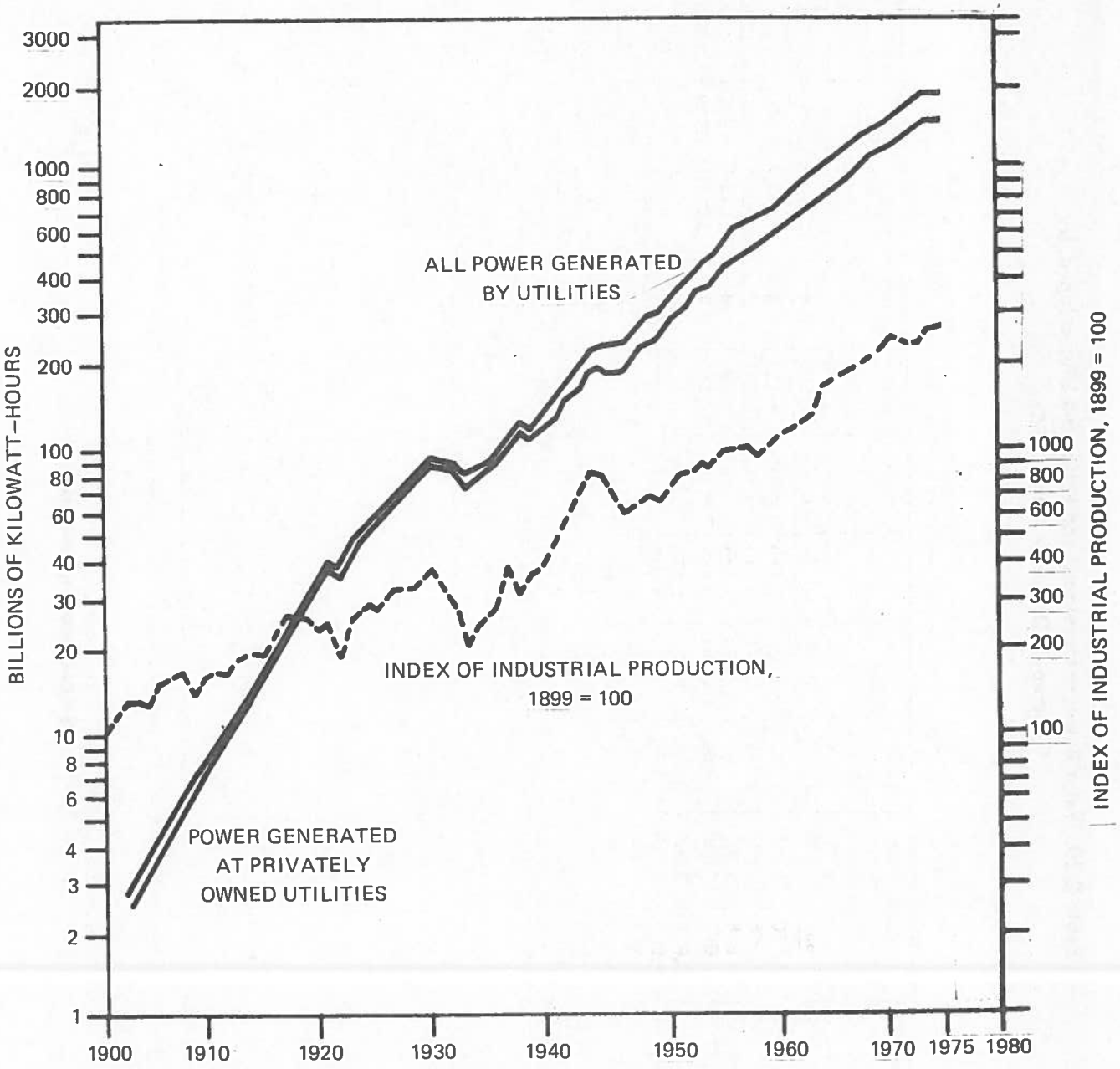
Table 2-20. Water Power — Developed and Estimated Undeveloped, by Geographic Division: 1945 - 1975

(In thousands of kilowatts. Prior to 1960, excludes Alaska and Hawaii. As of December 31)

Item and Division	1945	1950	1955	1960	1965	1969	1970	1971	1972	1973	1974	1975
Developed Water Power[1]												
United States	15,892	18,675	25,742	33,180	44,490	50,248	51,952	53,404	53,791	54,974	55,262	57,036
New England	1,170	1,239	1,385	1,520	1,495	1,495	1,473	1,511	1,508	1,490	1,509	1,506
Middle Atlantic	1,668	1,678	1,789	2,472	4,815	4,231	4,264	4,252	4,252	4,246	4,235	4,232
East North Central	818	901	943	929	886	933	936	944	944	935	927	926
West North Central	617	629	962	1,594	2,982	2,785	2,728	2,726	2,724	2,769	2,769	2,771
South Atlantic	2,664	2,767	3,536	3,773	5,170	5,271	5,265	5,473	5,472	5,467	5,604	5,795
East South Central	2,229	2,729	3,576	3,750	4,497	5,111	5,224	5,225	5,267	5,340	5,386	5,460
West South Central	374	466	948	944	1,661	1,840	1,946	2,096	2,116	2,237	2,257	2,255
Mountain	2,007	2,286	3,706	4,621	5,560	6,097	6,202	6,219	6,248	6,665	6,657	6,880
Pacific [3]	4,345	5,979	8,898	13,578	17,424	22,485	23,914	24,958	25,165	25,681	25,775	22,070
Alaska [3]									76	124	122	123
Hawaii [3]									19	19	18	18
Undeveloped Water Power												
United States	77,130[2]	87,604	86,895	114,200	124,087	128,900	127,990	125,203	126,125	119,202	116,432	112,260
New England	3,348	3,250	2,586	2,900	3,240	3,300	3,330	3,318	3,332	3,327	3,205	3,274
Middle Atlantic	5,175	6,572	8,023	7,600	4,986	4,545	4,455	4,269	4,301	4,301	4,093	4,089
East North Central	2,574	2,344	3,051	3,000	1,351	1,288	1,576	1,305	1,333	1,321	1,356	1,358
West North Central	4,735	5,775	6,284	6,400	4,146	4,604	4,390	4,329	4,329	4,284	5,951	2,088
South Atlantic	7,462	8,161	7,943	8,400	9,977	9,708	9,556	9,059	8,989	9,066	8,279	8,101
East South Central	4,552	4,736	3,707	4,600	4,287	3,660	3,810	3,877	3,832	3,778	3,237	3,127
West South Central	2,894	3,568	3,506	3,900	3,056	3,394	3,279	3,029	3,009	2,847	2,417	2,355
Mountain	17,755	23,440	20,668	23,600	26,530	26,923	26,655	26,174	25,508	21,829	21,319	19,087
Pacific [3]	28,635	29,768	31,127	53,800	66,514	71,478	70,939	69,843	38,978	35,935	34,051	35,467
Alaska [3]									32,478	32,478	32,488	33,277
Hawaii [3]									35	35	35	35

[1] Capacity of actual installations only. Electric utilities and industrial plants, excluding pumped storage capacity.
[2] 1947 data.
[3] Alaska and Hawaii data included in Pacific division, 1960 - 1971.

Source: U.S. Federal Power Commission, unpublished annual summaries and related monthly reports;
U.S. Department of Commerce, Bureau of Census, *Statistical Abstract of the U.S.*, 1975, p. 543.



Source: Federal Power Commission — Press Release, Telephone Communication.
U.S. Dept. of Commerce, Bureau of the Census, *Historical Statistics of the U.S.*, 1960.
U.S. Dept. of Commerce, Bureau of the Census, *Statistical Abstract of the U.S.*, 1975.

Figure 9. Electric Power Generating Capacity, 1900 - 1975

PART 3. ENERGY CONSUMPTION

Table 3-1. Estimated Cost of Operating a *Standard* Size 1967 Model Automobile, Including Cost of Gasoline and Oil[1]

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost $	Cost Per Mile ¢	Total Cost $	Cost Per Mile ¢	Total Cost $	Cost Per Mile ¢
Costs Excluding Taxes:						
Depreciation	842.00	5.81	589.00	4.53	2,806.00	2.81
Repairs and Maintenance	58.10	0.40	120.50	0.93	1,788.31	1.79
Replacement Tires	—	—	—	—	232.10	0.23
Accessories	24.51	0.17	17.14	0.13	81.67	0.08
Gasoline	216.99	1.50	194.55	1.50	1,496.50	1.50
Oil	32.99	0.23	29.48	0.23	227.21	0.23
Insurance	181.00	1.25	170.00	1.31	1,415.00	1.41
Garaging, Parking, Tolls, etc.	207.73	1.43	198.65	1.53	1,805.00	1.80
Total	1,563.32	10.79	1,319.32	10.16	9,851.79	9.85
Taxes and Fees:						
State						
Gasoline	65.91	0.45	59.09	0.45	454.55	0.45
Registration	10.00	0.07	10.00	0.08	100.00	0.10
Titling	85.68	0.59	—	—	85.68	0.09
Subtotal	161.59	1.11	69.09	0.53	640.23	0.64
Federal:						
Gasoline	40.56	0.28	36.36	0.28	279.72	0.28
Oil[2]	0.85	—	0.76	—	5.83	0.01
Tires	50.49	0.34	35.32	0.27	196.88	0.19
Subtotal	91.90	0.62	72.44	0.55	482.43	0.48
Total Taxes	258.49	1.77	146.53	1.12	1,172.66	1.17
Total of All Costs	1,821,81	12.56	1,465.85	11.28	11,024.45	11.02
Total Gasoline and Oil Costs, Including Taxes	357.30	2.16	320.24	2.46	2,463.81	2.47
Gasoline and Oil Costs as Percent of all Costs	20%	20%	22%	22%	22%	22%

[1] This estimate covers the total costs of a fully equipped, medium priced, standard size, 4-door sedan, purchased for $2,806, operated 100,000 miles over a 10-year period, then scrapped. Baltimore city prices, considered to be in the middle range, were used.

[2] Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column.

NOTE: 1967 was the last year that autos did not have antipollution equipment.

See Appendix C for bases of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, Jan. 1968.

Table 3-2. Estimated Cost of Operating a *Standard* Size 1972 Model Automobile, Including Cost of Gasoline and Oil[1]
(Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	1,226.00	8.46	900.00	6.92	4,379.00	4.38
Repairs and Maintenance	81.84	.56	115.37	.89	2,146.91	2.14
Replacement Tires	17.90	.12	16.05	.12	399.85	.40
Accessories	3.21	.02	3.08	.02	52.18	.05
Gasoline	286.75	1.98	257.16	1.98	1,977.96	1.98
Oil	11.25	.08	11.25	.09	118.50	.12
Insurance[2]	164.00	1.13	156.00	1.20	1,350.00	1.35
Garaging, Parking, Tolls, etc.	208.36	1.44	199.22	1.53	1,809.40	1.81
Total	1,999.31	13.79	1,658.13	12.75	12,233.80	12.23
Taxes and Fees:						
State:						
Gasoline	74.62	.51	66.92	.52	514.71	.51
Registration	30.00	.21	30.00	.23	300.00	.30
Titling	177.15	1.22	--	—	177.15	.18
Subtotal	281.77	1.94	96.92	.75	991.86	.99
Federal:						
Gasoline	42.64	.30	38.24	.30	294.12	.30
Oil[3]	.22	—	.22	—	2.37	—
Tires	1.38	.01	1.24	.01	30.80	.03
Subtotal	44.24	.31	39.70	.31	327.29	.33
Total Taxes	326.01	2.25	136.62	1.06	1,319.15	1.32
Total of All Costs	2,325.32	16.04	1,794.75	13.81	13,552.95	13.55
Total Gasoline and Oil Costs, Including Taxes	415.48	2.87	373.79	2.89	2,907.66	2.94
Gasoline and Oil Costs as Percent of all Costs	18%	18%	21%	21%	22%	22%

[1] This estimate covers the total costs of a fully equipped, medium priced, standard size, 4-door sedan, purchased for $4,379, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used.

[2] Previous editions of this study used insurance rates designated for Baltimore city. The rates shown above are for the Baltimore suburbs, and consequently are less than the rates presented in the previous study. If the Baltimore city rates had been used in this study, the insurance costs would have been higher. (For example, the first year would have been $232).

[3] Where costs per mile were computed to be less than 1/20 cent, a dash (–) appears in the column.

See Appendix C for bases of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, April 1972.

Table 3-3. Estimated Cost of Operating a *Compact* Size 1972 Model Automobile, Including Cost of Gasoline and Oil[1]
(Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	674.00	4.65	519.00	3.99	2,696.00	2.70
Repairs and Maintenance	79.41	.55	107.14	.83	1,784.50	1.79
Replacement Tires	15.30	.11	13.71	.11	341.77	.34
Accessories	3.21	.02	3.08	.02	52.18	.05
Gasoline	244.25	1.68	218.97	1.69	1,684.48	1.68
Oil	10.50	.07	10.50	.08	113.25	.11
Insurance	155.00	1.07	147.00	1.13	1,299.00	1.30
Garaging, Parking, Tolls, etc.	208.36	1.44	199.22	1.53	1,809.40	1.81
Total	1,390.03	9.59	1,218.62	9.38	9,780.58	9.78
Taxes and Fees:						
State:						
Gasoline	63.56	.44	56.98	.44	438.34	.44
Registration	20.00	.14	20.00	.15	200.00	.20
Titling	109.86	.75	—	—	109.86	.11
Subtotal	193.42	1.33	76.98	.59	748.20	.75
Federal:						
Gasoline	36.32	.25	32.56	.25	250.48	.25
Oil[2]	.21	—	.21	—	2.27	—
Tires	1.17	.01	1.05	.01	26.07	.03
Subtotal	37.70	.26	33.82	.26	276.82	.28
Total Taxes	231.12	1.59	110.80	.85	1,027.02	1.03
Total of All Costs	1,621.15	11.18	1,329.42	10.23	10,807.60	10.81
Total Gasoline and Oil Costs Including Taxes	354.84	2.40	319.22	2.46	2,488.82	2.48
Gasoline and Oil Costs as Percent of All Costs	22%	22%	24%	24%	23%	23%

[1] This estimate covers the total costs of a medium priced, compact size, 2-door sedan, purchased for $2,696, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used.

[2] Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column.

See Appendix C for bases of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, April 1972.

Table 3-4. Estimated Cost of Operating a *Subcompact* Size 1972 Model Automobile, Including Cost of Gasoline and Oil[1]
(Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	310.00	2.14	285.00	2.19	2,064.00	2.07
Repairs and Maintenance	76.15	0.53	114.59	0.88	1,775.71	1.78
Replacement Tires	13.98	0.10	12.53	0.10	312.29	0.31
Accessories	3.21	0.02	3.08	0.02	52.18	0.05
Gasoline	181.84	1.25	163.02	1.25	1,255.15	1.25
Oil	10.50	0.07	9.75	0.08	103.50	0.10
Insurance	145.00	1.00	140.00	1.08	1,251.00	1.25
Garaging, Parking, Tolls, etc.	208.36	1.44	199.22	1.53	1,809.40	1.81
Total	949.04	6.55	927.19	7.13	8,623.23	8.62
Taxes and Fees:						
State:						
Gasoline	47.32	0.33	42.42	0.33	326.62	0.33
Registration	20.00	0.14	20.00	0.15	200.00	0.20
Titling	84.57	0.58	—	—	84.57	0.08
Subtotal	151.89	1.05	62.42	0.48	611.19	0.61
Federal:						
Gasoline	27.04	0.18	24.24	0.19	186.64	0.19
Oil[2]	0.21	—	0.19	—	2.07	—
Tires	0.94	0.01	0.84	0.01	20.90	0.02
Subtotal	28.19	0.19	25.27	0.20	209.61	0.21
Total Taxes	180.08	1.24	87.69	0.68	820.80	0.82
Total of All Costs	1,129.12	7.79	1,014.88	7.81	9,444.03	9.44
Total Gasoline and Oil Costs, Including Taxes	266.91	1.83	239.62	1.85	1,873.98	1.87
Gasoline and Oil Costs as Percent of All Costs	24%	24%	24%	24%	20%	20%

[1] This estimate covers the total costs of a low priced, subcompact size, 2-door sedan, purchased for $2,064, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used. Since cost data for American made subcompacts do not exist past the second year, only the first, second, and estimated ten-year totals are shown.

[2] Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column.

See Appendix C for bases of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, April 1972.

Table 3-5. Estimated Cost of Operating a *Standard* Size 1974 Model Automobile, Including Cost of Gasoline and Oil[1]

(Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	1,046.00	7.21	647.00	4.98	4,201.00	4.20
Repairs and Maintenance	122.96	0.85	158.01	1.21	2,933.94	2.94
Replacement Tires	18.63	0.13	16.71	0.13	385.99	0.38
Accessories	3.53	0.02	3.39	0.03	57.40	0.06
Gasoline	438.70	3.03	393.35	3.02	3,025.96	3.03
Oil	20.00	0.14	19.00	0.15	195.00	0.19
Insurance[2]	205.00	1.41	192.00	1.48	1,618.00	1.62
Garaging, Parking, Tolls, etc.	224.80	1.55	215.20	1.65	1,960.00	1.96
Total	2,079.62	14.34	1,644.66	12.65	14,383.29	14.38
Taxes and Fees:						
State:						
Gasoline	100.98	0.70	90.54	0.70	696.51	0.70
Registration	30.00	0.21	30.00	0.23	300.00	0.30
Tilting	170.04	1.17	—	—	170.04	0.17
Subtotal	301.02	2.08	120.54	0.93	1,166.55	1.17
Federal:						
Gasoline	44.88	0.31	40.24	0.31	309.56	0.31
Oil[3]	0.30	—	0.29	—	2.93	—
Tires	1.45	0.01	1.30	0.01	30.03	0.03
Subtotal	46.63	0.32	41.83	0.32	342.52	0.34
Total Taxes	347.65	2.40	162.37	1.25	1,509.07	1.51
Total of All Costs	2,427.27	16.74	1,807.03	13.90	15,892.36	15.89
Total Gasoline and Oil Costs, Including Taxes	604.86	4.18	560.16	4.18	4,229.96	4.23
Gasoline and Oil Costs as Percent of All Costs	25%	25%	30%	30%	27%	27%

[1] This estimate covers the total costs of a fully equipped, medium priced, standard size, 4-door sedan, *less* the average dealer discount allowed on that car, purchased for $4,251, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used.

[2] Previous editions of this study used insurance rates designated for Baltimore city. The rates shown above are for the Baltimore suburbs, and consequently are less than the rates presented in the previous study. If the Baltimore city rates had been used in this study, the insurance costs would have been higher. (For example, the first year would have been $232).

[3] Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column. See Appendix C for bases of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, April 1974

Table 3-6. Estimated Cost of Operating a *Compact* Size 1974 Model Automobile, Including Cost of Gasoline and Oil[1] (Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	400.00	2.76	372.00	2.86	2,860.00	2.86
Repairs and Maintenance	108.48	0.75	186.38	1.43	2,365.53	2.36
Replacement Tires	15.42	0.10	13.83	0.11	330.77	0.33
Accessories	3.53	0.02	3.39	0.03	57.40	0.06
Gasoline	355.03	2.45	318.27	2.45	2,448.45	2.45
Oil	17.00	0.12	16.00	0.12	167.00	0.17
Insurance	190.00	1.31	180.00	1.38	1,532.00	1.53
Garaging, Parking, Tolls, etc.	224.80	1.55	215.20	1.66	1,960.00	1.96
Total	1,314.26	9.06	1,305.07	10.04	11,721.15	11.72
Taxes and Fees:						
State:						
Gasoline	81.72	0.57	73.26	0.57	563.58	0.56
Registration	20.00	0.14	20.00	0.15	200.00	0.20
Titling	116.40	0.80	—	—	116.40	0.12
Subtotal	218.12	1.51	93.26	0.72	879.98	0.88
Federal:						
Gasoline	36.32	0.25	32.56	0.25	250.48	0.25
Oil[2]	0.26	—	0.24	—	2.51	—
Tires	1.18	0.01	1.06	0.01	25.41	0.03
Subtotal	37.76	0.26	33.86	0.26	278.40	0.28
Total Taxes	255.88	1.77	127.12	0.98	1,158.38	1.16
Total of All Costs	1,570.14	10.83	1,432.19	11.02	12,879.53	12.88
Total Gasoline and Oil Costs Including Taxes	490.33	3.39	440.33	3.39	3,432.02	3.43
Gasoline and Oil Costs as Percent of All Costs	31%	31%	31%	31%	27%	27%

[1] This estimate covers the total costs of a medium priced, compact size, 2-door sedan, less the average dealer discount allowed on that car, purchased for $2,910, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used.

[2] Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column. See Appendix C for bases of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, April 1974.

Table 3-7. Estimated Cost of Operating a *Subcompact* Size 1974 Model Automobile, Including Cost of Gasoline and Oil[1]
(Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	283.00	1.95	265.00	2.04	2,360.00	2.36
Repairs and Maintenance	97.69	0.67	150.55	1.16	2,119.61	2.12
Replacement Tires	13.64	0.09	12.23	0.09	302.72	0.30
Accessories	3.53	0.03	3.39	0.03	57.40	0.06
Gasoline	264.32	1.82	236.95	1.82	1,824.41	1.82
Oil	14.00	0.10	13.00	0.10	138.00	0.14
Insurance	177.00	1.22	169.00	1.30	1,466.00	1.47
Garaging, Parking, Tolls, etc.	224.80	1.55	215.20	1.65	1,960.00	1.96
Total	1,077.98	7.43	1,065.32	8.19	10,228.14	10.23
Taxes and Fees:						
State:						
Gasoline	60.84	0.42	54.54	0.42	419.14	0.42
Registration	20.00	0.14	20.00	0.15	200.00	0.20
Titling	96.40	0.66	—	—	96.40	0.09
Subtotal	177.24	1.22	74.54	0.57	716.34	0.71
Federal:						
Gasoline	27.04	0.19	24.24	0.19	186.64	0.19
Oil[2]	0.21	—	0.20	—	2.07	—
Tires	0.90	0.01	0.80	0.01	19.91	0.02
Subtotal	28.15	0.20	25.24	0.20	208.62	0.21
Total Taxes	205.39	1.42	99.78	0.77	924.96	0.92
Total of All Costs	1,283.37	8.85	1,165.10	8.96	11,153.10	11.15
Total Gasoline and Oil Costs, Including Taxes	366.41	2.53	328.93	2.53	2,570.26	2.57
Gasoline and Oil Costs as Percent of All Costs	29%	29%	28%	28%	23%	23%

[1] This estimate covers the total costs of a low priced, subcompact size, 2-door sedan, *less* the average dealer discount allowed on that car, purchased for $2,410, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used. Since cost data for American made subcompacts do not exist past the second year, only the first, second, and estimated ten-year totals are shown.

[2] Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column.

See Appendix C for bases of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, April 1974.

Table 3-8. Estimated Cost of Operating a *Standard* Size 1976 Model Automobile, Including Cost of Gasoline and Oil[1] (Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 Miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 Miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	1,215.00	8.38	748.00	5.75	4,864.00	4.86
Repairs and Maintenance	157.05	1.08	199.95	1.54	3,664.13	3.67
Replacement Tires	30.94	.22	27.74	.21	448.00	.45
Accessories	8.38	.06	7.79	.06	91.50	.09
Gasoline	463.03	3.19	415.13	3.19	3,193.32	3.19
Oil	14.84	.10	13.78	.11	169.60	.17
Insurance	214.00	1.48	200.00	1.54	1,678.00	1.68
Garaging, Parking, Tolls, etc.	250.98	1.73	240.94	1.86	2,208.80	2.21
Total	2,354.22	16.24	1,853.33	14.26	16,317.35	16.32
Taxes and Fees:						
State:						
Gasoline	87.00	.60	78.00	.60	600.00	.60
Registration	30.00	.20	30.00	.23	300.00	.30
Titling	195.76	1.35	—	—	195.76	.20
Sales	8.45	.06	9.97	.07	174.93	.17
Subtotal	321.21	2.21	117.97	.90	1,270.69	1.27
Federal:						
Gasoline	38.67	.27	34.67	.27	266.68	.27
Oil[2]	.21	—	.20	—	2.40	—
Tires	1.51	.01	1.35	.01	21.84	.02
Subtotal	40.39	.28	36.22	.28	290.92	.29
Total Taxes	361.60	2.49	154.19	1.18	1,561.61	1.56
Total of All Costs	2,715.82	18.73	2,007.52	15.44	17,878.96	17.88
Total Gasoline and Oil Costs, Including Taxes	603.75	4.16	541.98	4.16	4,232.00	4.23
Gasoline and Oil Costs as Percent of All Costs	22%	22%	27%	27%	24%	24%

[1] This estimate covers the total costs of a fully equipped, medium priced, standard size, 4-door sedan, purchased for $4,899, operated 100,000 miles over a 10-year period, then scrapped for $35. Baltimore area prices, considered to be in the middle range, were used.
[2] Where costs per miles are less than 1/20 cent, a dash (—) appears in the column.

See Appendix C for basis of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile, 1976.*

Table 3-9. Estimated Cost of Operating a *Compact* Size 1976 Model Automobile, Including Cost of Gasoline and Oil[1] (Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 Miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 Miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	536.00	3.70	498.00	3.83	3,830.00	3.83
Repairs and Maintenance	139.33	.96	234.68	1.81	2,961.00	2.96
Replacement Tires	20.23	.14	18.14	.14	387.20	.39
Accessories	7.59	.05	7.07	.05	86.00	.09
Gasoline	330.74	2.28	296.52	2.28	2,280.94	2.28
Oil	14.84	.10	13.78	.10	169.60	.17
Insurance	199.00	1.38	187.00	1.44	1,594.00	1.59
Garaging, Parking, Tolls, etc.	240.98	1.66	230.94	1.78	2,108.80	2.11
Total	1,488.71	10.27	1,486.13	11.43	13,417.54	13.42
Taxes and Fees						
State:						
Gasoline	62.10	.43	55.71	.43	428.40	.43
Registration	20.00	.14	20.00	.15	200.00	.20
Titling	154.60	1.06	—	—	154.60	.16
Sales	7.28	.05	10.95	.09	144.15	.14
Subtotal	243.98	1.68	86.66	.67	927.15	.93
Federal:						
Gasoline	27.60	.19	24.76	.19	190.40	.19
Oil[2]	.21	—	.20	—	2.40	—
Tires	1.25	.01	1.12	.01	23.97	.02
Subtotal	29.06	.20	26.08	.20	216.77	.21
Total Taxes	273.04	1.88	112.74	.87	1,143.92	1.14
Total of All Costs	1,761.75	12.15	1,598.87	12.30	14,561.46	14.56
Total Gasoline and Oil Costs, Including Taxes	435.49	3.00	390.97	3.01	3,071.74	3.07
Gasoline and Oil Costs as Percent of All Costs	25%	25%	24%	24%	21%	21%

[1] This estimate covers the total costs of a medium priced, compact size, 2-door sedan, purchased for $3,865, operated 100,000 miles over a 10-year period, then scrapped for $35. Baltimore area prices, considered to be in the middle range, were used.
[2] Where costs per mile are less than 1/20 cent, a dash (—) appears in the column.

See Appendix C for basis of estimate.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile, 1976*.

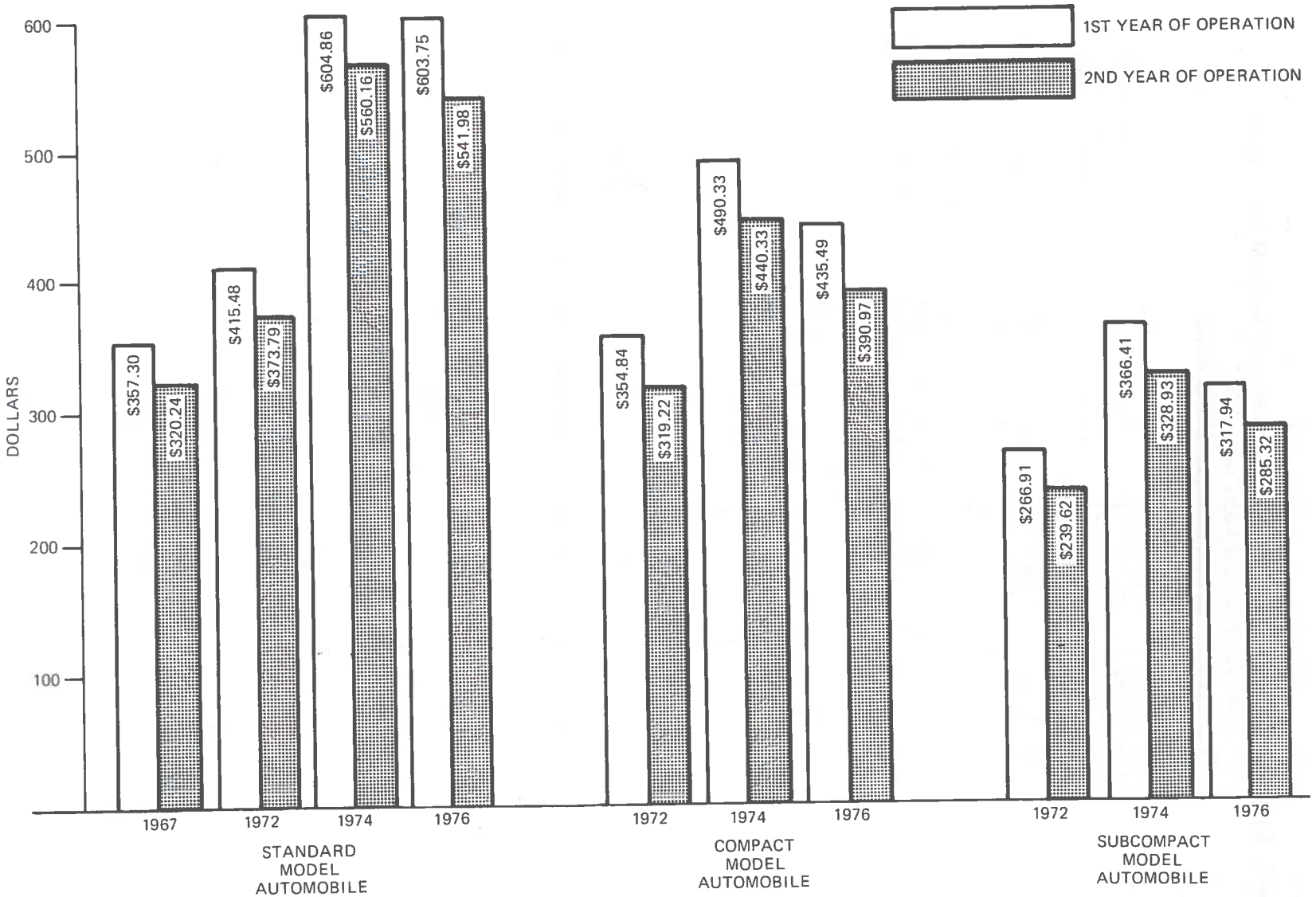
Table 3-10. Estimated Cost of Operating a *Subcompact* Size 1976 Model Automobile, Including Cost of Gasoline and Oil[1] (Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 Miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 Miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	383.00	2.64	351.00	2.70	3,189.00	3.19
Repairs and Maintenance	126.12	.87	190.82	1.47	2,659.97	2.66
Replacement Tires	24.17	.17	21.67	.17	350.00	.35
Accessories	8.02	.06	7.46	.06	89.00	.09
Gasoline	239.50	1.65	214.72	1.65	1,651.72	1.65
Oil	13.25	.09	12.19	.09	154.23	.15
Insurance	185.00	1.28	176.00	1.35	1,511.00	1.51
Garaging, Parking, Tolls, etc.	240.98	1.66	230.94	1.78	2,108.80	2.11
Total	1,220.04	8.42	1,204.80	9.27	11,713.72	11.71
Taxes and Fees:						
State:						
Gasoline	45.00	.31	40.32	.31	310.32	.31
Registration	20.00	.14	20.00	.15	200.00	.20
Titling	128.96	.89	—	—	128.96	.13
Sales	6.86	.04	9.29	.07	130.13	.13
Subtotal	200.82	1.38	69.61	.53	769.41	.77
Federal:						
Gasoline	20.00	.14	17.92	.14	137.92	.14
Oil[2]	.19	—	.17	—	2.18	—
Tires	1.04	.01	.94	.01	15.12	.02
Subtotal	21.23	.15	19.03	.15	155.22	.16
Total Taxes	222.05	1.53	88.64	.68	924.63	.93
Total of All Costs	1,442.09	9.95	1,293.44	9.95	12,638.35	12.64
Total Gasoline and Oil Costs, Including Taxes	317.94	2.19	285.32	2.19	2,256.37	2.26
Gasoline and Oil Costs as Percent of All Costs	22%	22%	22%	22%	18%	18%

[1] This estimate covers the total costs of a subcompact size, 2-door sedan, purchased for $3,224, operated 100,000 miles over a 10-year period, then scrapped for $35. Baltimore area prices, considered to be in the middle range, were used.
[2] Where costs per miles are less than 1/20 cent, a dash (—) appears in the column.

See Appendix C for basis of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile, 1976.*



NOTE: First year of operation based on 14,500 miles.
Second year of operation based on 13,000 miles.
See Appendix C for bases of these estimates.

Figure 10. Estimated Annual Automobile Gasoline and Oil Costs, Including Taxes, by Size and Year of Operation

Table 3-11. Average Fuel Efficiency of U.S. Passenger Cars, 1950-1974

Year	Miles Per Gallon	Year	Miles Per Gallon
1950	14.95	1963	14.26
1951	14.99	1964	14.25
1952	14.67	1965	14.07
1953	14.70	1966	14.00
1954	14.58	1967	13.93
1955	14.53	1968	13.79
1956	14.36	1969	13.63
1957	14.40	1970	13.57
1958	14.30	1971	13.57
1959	14.30	1972	13.49
1960	14.28	1973	13.10
1961	14.38	1974	13.49
1962	14.37		

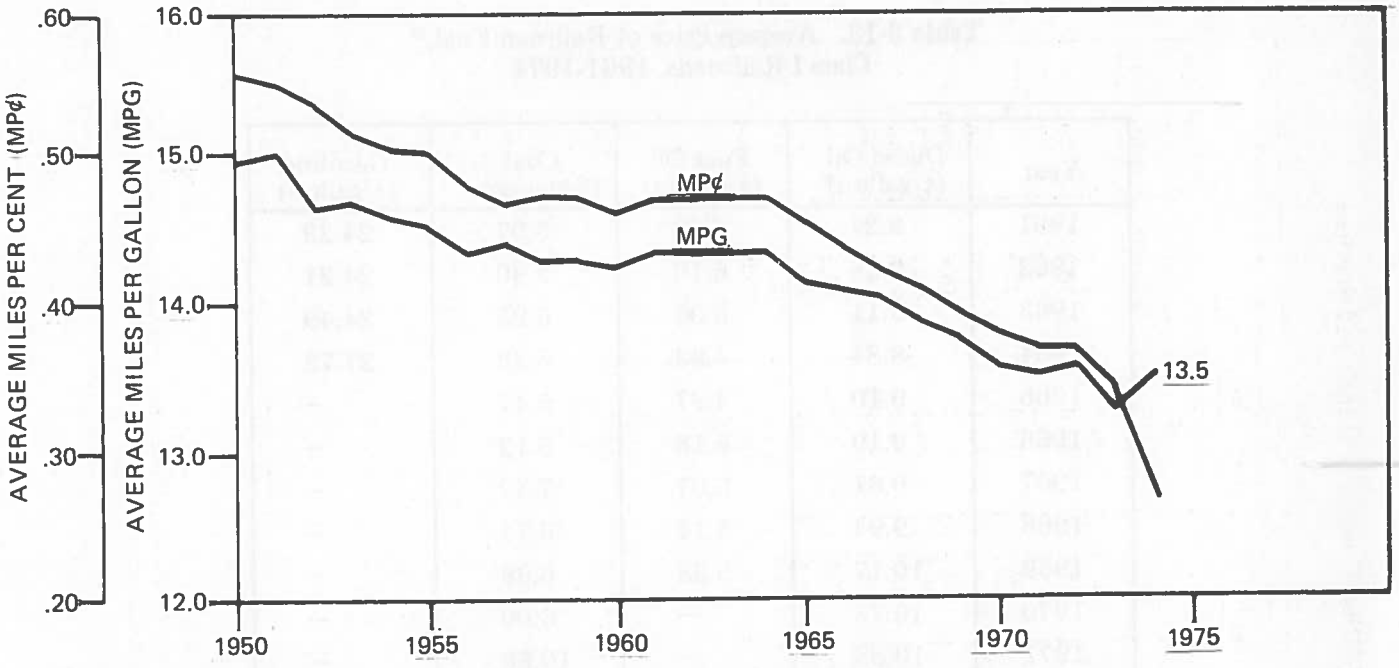
Source: Federal Highway Administration, *Highway Statistics*, 1974, Table VM-1, and previous issues, 1966 - 1974.
Federal Highway Administration, *Highway Statistics Summary*, 1965, Table VM-201A.

Table 3-12. Trend of Regular Grade Gasoline Prices vs. Prices of Other Consumer Goods and Services

Year	Retail Price of Regular Grade Gasoline (Cents Per Gallon)			Price Indexes of Regular and Premium Gasoline and Some Other Consumer Items (Index: 1967 = 100)					
	Service Station Price Excl. Taxes	State and Federal Taxes	Service Station Price Incl. Taxes	All Items	Food	Rent	Apparel and Upkeep	Regular and Premium Gasoline	Reading and Recreation
1947	16.93	6.18	23.11	66.9	70.6	61.1	78.2	62.2	68.7
1948	19.54	6.34	25.88	72.1	76.6	65.1	83.3	70.4	72.2
1949	20.27	6.52	26.79	71.4	73.5	68.0	80.1	72.3	74.9
1950	20.08	6.68	26.76	72.1	74.5	70.4	79.0	71.8	74.4
1951	20.31	6.84	27.15	77.8	82.8	73.2	86.1	73.9	76.6
1952	20.04	7.32	27.36	79.5	84.3	76.2	85.3	75.8	76.9
1953	21.28	7.41	28.69	80.1	83.0	80.3	84.6	80.3	77.7
1954	21.56	7.48	29.04	80.5	82.8	83.2	84.5	82.5	76.9
1955	21.42	7.65	29.07	80.2	81.6	84.3	84.1	83.6	76.7
1956	21.57	8.36	29.93	81.4	82.2	85.9	85.8	86.5	77.8
1957	22.11	8.85	30.96	84.3	84.9	87.5	87.3	90.0	80.7
1958	21.47	8.91	30.38	86.6	88.5	89.1	87.5	88.8	83.9
1959	21.18	9.31	30.49	87.3	87.1	90.4	88.2	89.9	85.3
1960	20.99	10.14	31.13	88.7	88.0	91.7	89.6	92.5	87.3
1961	20.53	10.23	30.76	89.6	89.1	92.9	90.4	91.4	89.3
1962	20.36	10.28	30.64	90.6	89.9	94.0	90.9	91.9	91.3
1963	20.11	10.31	30.42	91.7	91.2	95.0	91.9	91.8	92.8
1964	19.98	10.37	30.35	92.9	92.4	95.9	92.7	91.4	95.0
1965	20.70	10.45	31.15	94.5	94.4	96.9	93.7	94.9	95.9
1966	21.57	10.51	32.08	97.2	99.1	98.2	96.1	97.0	97.5
1967	22.55	10.61	33.16	100.0	100.0	100.0	100.0	100.0	100.0
1968	22.93	10.78	33.71	104.2	103.6	102.4	105.4	101.4	104.7
1969	23.85	10.99	34.84	109.8	108.9	105.7	111.5	104.7	108.7
1970	24.55	11.14	35.69	116.3	114.9	110.1	116.1	105.6	113.4
1971	25.20	11.23	36.43	121.3	118.4	115.2	119.8	106.3	119.3
1972	24.46	11.67	36.13	125.3	123.5	119.2	122.3	107.6	122.8
1973	26.88	11.94	38.82	133.1	141.4	124.3	126.8	118.1	125.9
1974	40.41	12.00	52.41	147.7	161.7	130.6	136.2	159.9	133.8
1975[p]	45.44	11.77	57.22	161.2	175.4	137.3	142.3	170.8	144.4

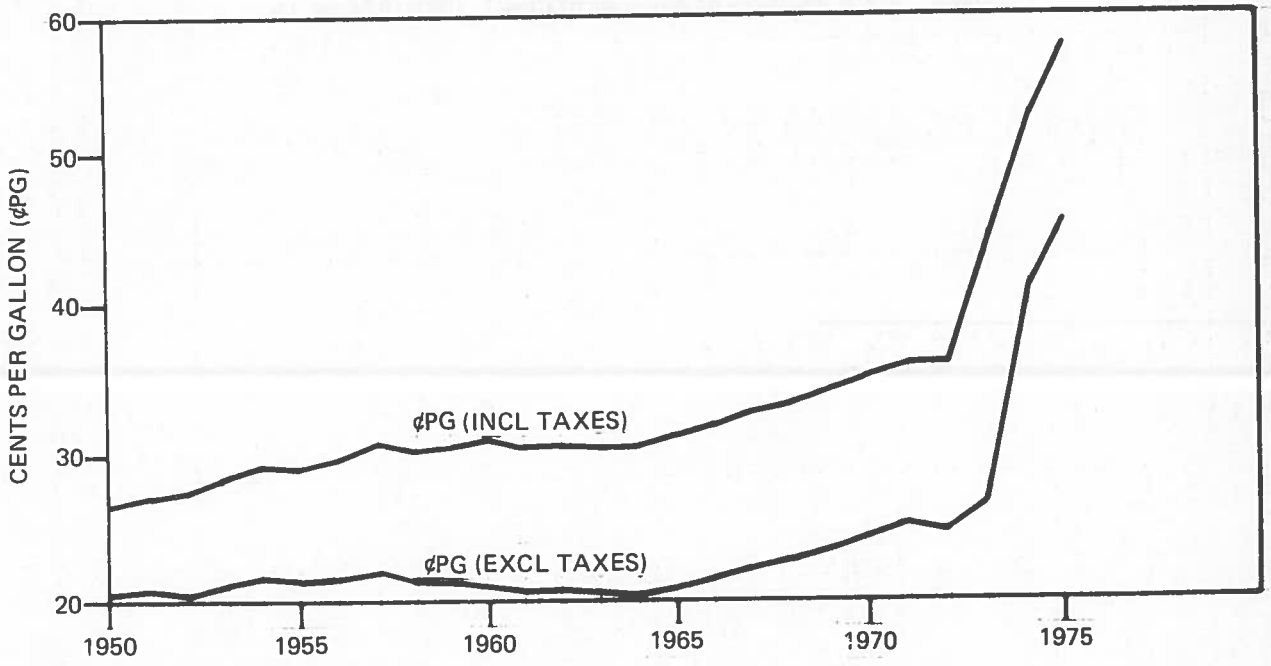
[p]Preliminary

Sources: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4; *Platt's Oil Price Handbook and Oilmanac*; U.S. Department of Labor, Bureau of Labor Statistics. 1947 - 1973: *Handbook of Labor Statistics*, 1974. 1974-1975: Monthly Labor Review, January and June Issues.



Source: Federal Highway Administration, *Highway Statistics*, 1974 Table VM-1, and previous issues;
Federal Highway Administration, *Highway Statistics Summary to 1965*, Table VM-201A;
U. S. Department of Transportation/Transportation Systems Center computation of Average Miles per Cent.

Figure 11. Average Fuel Efficiency of U.S. Passenger Cars, 1950 - 1974 (Average Miles per Gallon and Average Miles Per Cent Cost of Gasoline)



Source: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4.

Figure 12. Trends of Regular Grade Gasoline Prices, 1950 - 1975

Table 3-13. Average Price of Railroad Fuel,* Class I Railroads, 1961-1974

Year	Diesel Oil (¢/gallon)	Fuel Oil (¢/gallon)	Coal ($/net ton)	Gasoline (¢/gallon)
1961	9.27	6.33	5.97	24.23
1962	9.16	6.16	5.90	24.21
1963	9.11	6.06	5.93	24.49
1964	8.84	4.83	5.38	27.72
1965	9.10	4.97	5.47	—
1966	9.19	5.18	6.12	—
1967	9.61	5.07	7.42	—
1968	9.94	5.14	6.71	—
1969	10.17	5.38	6.68	—
1970	10.73	—	6.00	—
1971	10.88	—	10.68	—
1972	10.97	—	10.69	—
1973	13.49	—	12.40	—
1974	26.59	—	12.93	—

*Average costs exclude nonlocomotive fuel use beginning in 1964.

Source: A.A.R. *Statistics of Railroads of Class I, 1962-1974*, pg. 15.

Table 3-14. Aircraft Fuel Expense and Consumption — Domestic Trunks and Local Service Carriers, 1968-1975

Calendar Years	Aircraft Fuel[1] Consumption (Thousand gallons)	Aircraft Fuel Expense (Thousand dollars)	Aircraft Fuel Expense Per Gallon (Cents)
1968	6,531,002	658,859	10.088
1969[2]	7,423,139	787,263	10.606
1970[2]	7,663,565	844,175	11.015
1971	7,669,707	889,599	11.599
1972	7,822,980	906,972	11.594
1973	8,157,992	1,024,912	12.563
1974	7,350,836	1,601,357	21.785
1975	7,395,246	2,031,307	27.468

[1] Includes jet fuel and aviation gasoline.

[2] Trunk carriers switched from a 48-state to a 50-state reporting concept at varying times during 1969 and 1970. Most made the switch as of January 1, 1970.

Source: Civil Aeronautics Board, Bureau of Accounts and Statistics, Personal Communication (Form 41).

Table 3-15. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200, B-737, and DC-9-30, First Quarter 1974

	B-727-200						DC-9-30				B-737		
	AA	BI	CO	NA	TW	UA	AL	DL	EA	NC	PI	UA	WA
Traffic & Service													
Fleet Size	40.7	27.9	29.0	25.0	36.8	28.0	37.7	74.7	70.8	19.0	16.0	66.0	28.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)													
Flying Operations													
Crew Salaries & Expenses	$246.34	$196.56	$203.67	$198.10	$233.50	$255.29	$168.99	$176.54	$224.16	$150.88	$160.20	$276.62	$218.74
Fuel, Oil & Taxes	228.18	249.45	249.30	196.34	275.03	240.87	184.12	172.82	176.69	156.78	150.96	161.03	183.30
Insurance	5.56	11.87	7.33	9.86	6.81	4.42	8.16	5.36	6.09	2.90	16.29	4.03	3.97
Other	.12	—	—	—	1.78	.02	—	—	—	.38	1.42	.03	—
Total	$480.20	$457.88	$460.30	$404.30	$517.12	$500.60	$361.27	$354.72	$406.94	$310.94	$328.87	$441.71	$406.01
Maintenance													
Airframe	$ 38.29	$ 21.04	$ 63.31	$ 65.81	$ 27.13	$ 47.57	$ 54.30	$ 45.19	$ 39.01	$ 37.66	$ 41.71	$ 53.95	$ 49.75
Engine	42.54	8.62	54.97	60.19	16.06	53.12	59.23	22.41	45.25	44.14	43.80	43.79	37.27
Other	6.20	2.62	13.50	9.53	8.10	17.05	9.84	2.87	10.10	8.46	5.52	17.81	4.30
Total Direct Maint. Burden	$ 87.03	$ 32.28	$131.78	$135.53	$ 51.29	$117.74	$123.37	$ 70.47	$ 94.36	$ 90.26	$ 91.03	$115.55	$ 91.32
	108.28	20.29	90.05	119.71	61.49	92.98	77.96	74.42	73.70	71.62	31.35	95.88	47.31
Total	$195.31	$ 52.57	$221.83	$255.24	$112.78	$210.72	$201.33	$144.89	$168.06	$161.88	$122.38	$211.43	$138.63
Cash Acft. Oper. Exp.	$675.51	$510.45	$682.13	$659.54	$629.90	$711.32	$562.60	$499.61	$575.00	$472.82	$451.25	$653.14	$544.64
Depr. & Rentals	162.52	156.10	126.15	132.67	220.32	184.15	127.42	106.62	120.22	121.02	97.04	128.57	99.23
Total Acft. Oper. Exp.	$838.03	$666.55	$808.28	$792.21	$850.22	$895.47	$690.02	$606.23	$695.22	$593.84	$548.29	$781.71	$643.87
Cost Per Rev. Mile	$ 2.32	$ 1.96	$ 2.18	$ 2.37	$ 2.38	$ 2.55	$ 2.38	$ 2.06	$ 2.24	$ 2.13	$ 1.99	$ 2.84	$ 1.98
Cost Per Sch. Seat Mile	1.92¢	1.53¢	1.71¢	1.83¢	2.00¢	2.06¢	2.38¢	2.29¢	2.48¢	2.30¢	2.21¢	2.99¢	2.09¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	27.2	37.4	30.8	24.8	32.3	26.9	26.7	28.5	25.4	26.4	27.5	20.6	28.5

Source: "Jet Operating Data," *Air Transport World*, October 1974.

Table 3-16. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, First Quarter 1974

	B-747							
	AA Combined	BI Dom.	DL* Dom.	NA Dom.	NW Combined	PA Combined	TW Combined	UA Dom.
Traffic & Service								
Fleet Size	7.4	1.0	5.0	2.0	15.0	29.3	18.0	18.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)								
Flying Operations								
Crew Salaries & Expenses	$ 441.92	$ 294.70	$ 365.66	$ 323.13	$ 323.54	$ 468.16	$ 368.36	$ 359.74
Fuel, Oil & Taxes	740.67	597.12	596.08	480.94	928.37	993.67	1,383.54	589.63
Insurance	19.60	23.91	23.66	52.07	30.65	44.51	29.53	21.56
Other	.48	—	—	—	1.01	2.52	1.10	.02
Total	$1,202.67	$ 915.73	$ 985.40	$ 856.14	$1,283.57	$1,508.86	$1,782.53	$ 970.95
Maintenance								
Airframe	$ 241.16	$ 140.51	$ 220.83	$ 91.79	$ 74.88	$ 94.44	$ 235.38	$ 92.73
Engine	324.09	286.28	210.05	213.10	156.24	111.73	255.44	143.58
Other	15.54	4.43	9.94	26.30	16.11	26.51	48.47	29.67
Total Direct	$ 580.79	$ 431.22	$ 440.82	$ 331.19	$ 247.23	$ 232.68	$ 539.29	$ 265.98
Maint. Burden	286.57	8.42	449.77	110.04	86.43	298.72	406.11	154.16
Total	$ 867.36	$ 439.64	$ 890.59	$ 441.23	$ 333.66	$ 531.40	$ 945.40	$ 420.14
Cash Acft. Oper. Exp.	$2,070.03	$1,355.37	$1,875.99	$1,297.37	$1,617.23	$2,040.26	$2,727.93	$1,391.09
Depr. & Rentals	1,737.57	547.61	673.24	542.14	449.90	771.54	739.86	585.07
Total Acft. Oper. exp.	$3,807.60	$1,902.98	$2,549.23	$1,839.51	$2,067.13	$2,811.80	$3,467.79	$1,976.16
Cost Per Rev. Mile	$ 8.57	$ 3.88	$ 6.38	$ 4.32	$ 4.59	$ 6.16	$ 7.38	$ 4.39
Cost Per Sch. Seat Mile	2.51¢	1.19¢	1.72¢	1.19¢	1.32¢	1.70¢	2.04¢	1.38¢
Fuel and Oil Costs as a % of Total Acft. Oper. Exp.	19.5	31.4	23.4	26.1	44.9	35.3	39.9	29.8

*Does not include expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, September 1974.

Table 3-17. Jet Operating Expenses, Including Fuel and Oil Costs: L-1011 and DC-10, First Quarter 1974

	DC-10							L-1011		
	AA Dom.	CO Dom.	DL Dom.	NA Dom.	NW Dom.	UA Dom.	WA Dom.	DL Dom.	EA Combined	TW Dom.
Traffic & Service										
Fleet Size	20.4	8.9	5.0	9.0	12.8	18.2	2.8	4.0	28.0	14.3
Aircraft Operating Expenses (Dollars Per Total Block Hours)										
Flying Operations										
Crew Salaries & Expenses	$ 325.76	$ 289.13	$ 413.40	$ 241.20	$ 299.31	$ 354.86	$ 342.51	$ 245.06	$ 378.97	$ 315.66
Fuel, Oil & Taxes	377.44	398.16	424.38	316.00	511.60	394.85	392.78	417.19	521.30	502.65
Insurance	12.39	15.77	35.54	26.69	26.34	18.61	24.61	30.04	26.25	31.64
Other	.27	—	—	—	.73	.02	—	—	—	2.18
Total	$ 715.86	$ 703.06	$ 873.32	$ 583.89	$ 837.98	$ 768.34	$ 759.90	$ 692.29	$ 926.52	$ 852.13
Maintenance										
Airframe	$ 148.62	$ 81.63	$ 122.58	$ 71.36	$ 36.19	$ 94.14	$ 98.48	$ 113.34	$ 83.49	$ 36.98
Engine	356.41	192.16	81.61	264.77	18.34	153.29	94.43	35.60	108.81	240.21
Other	9.44	23.79	5.37	8.40	5.52	21.61	6.13	6.24	28.90	46.91
Total Direct	$ 514.47	$ 297.58	$ 209.56	$ 344.53	$ 60.05	$ 269.04	$ 199.04	$ 155.18	$ 221.20	$ 324.10
Maint. Burden	229.35	250.87	254.25	121.41	35.05	141.41	103.16	176.37	168.45	150.42
Total	$ 743.82	$ 548.45	$ 463.81	$ 465.94	$ 95.10	$ 410.45	$ 302.20	$ 331.55	$ 389.65	$ 474.52
Cash Acft. Oper. Exp.	$1,459.68	$1,251.51	$1,337.13	$1,049.83	$ 933.08	$1,178.79	$1,062.10	$1,023.84	$1,316.17	$1,326.65
Depr. & Rentals	577.30	315.39	1,123.29	313.53	461.31	509.75	382.26	602.68	606.32	669.07
Total Acft. Oper. Exp.	$2,036.98	$1,566.90	$2,460.42	$1,363.36	$1,394.39	$1,688.54	$1,444.36	$1,626.52	$1,922.49	$1,995.72
Cost Per Rev. Mile	$ 4.96	$ 3.65	$ 7.05	$ 3.52	$ 3.76	$ 4.06	$ 3.23	$ 4.45	$ 5.02	$ 4.65
Cost Per Sch. Seat Mile	2.07¢	1.83¢	2.82¢	1.42¢	1.60¢	1.71¢	1.45¢	1.78¢	1.97¢	2.24¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	18.5	25.4	17.2	23.2	36.7	23.4	27.2	25.6	27.1	25.2

Source: "Jet Operating Data," *Air Transport World*, September 1974.

Table 3-18. Jet Operating Expenses, Including Fuel and Oil Costs: B-707 and DC-8, First Quarter 1974

	B-707						DC-8			
	AA −100B	AA −300B	NW −300B/C	TW −100B	TW −300B	WA −300C	DL −61	UA −20	UA −30	UA −61
Traffic & Service Fleet Size	51.0	7.0	11.3	40.0	9.8	4.3	12.0	21.7	6.6	29.2
Aircraft Operating Expenses (Dollars Per Total Block Hours)										
Flying Operations										
Crew Salaries & Expenses	$ 270.63	$ 329.53	$ 258.42	$ 270.65	$ 267.64	$ 299.85	$ 284.78	$ 291.45	$ 292.46	$ 299.20
Fuel, Oil & Taxes	268.87	311.35	396.01	322.49	492.87	371.90	377.94	385.51	363.59	351.27
Insurance	4.97	5.78	7.55	2.86	5.14	8.77	10.05	1.44	2.38	5.17
Other	.15	.34	.42	1.97	1.90	—	—	.02	.02	.02
Total	$ 544.62	$ 647.00	$ 662.40	$ 597.97	$ 767.55	$ 680.52	$ 673.67	$ 678.42	$ 658.45	$ 655.66
Maintenance										
Airframe	$ 58.30	$ 44.12	$ 44.60	$ 49.50	$ 51.22	$ 82.26	$ 66.68	$ 46.80	$ 44.87	$ 46.26
Engine	69.35	76.35	137.26	64.96	47.52	51.67	59.12	76.68	73.56	78.48
Other	8.68	12.73	9.72	13.98	16.20	9.96	2.66	23.01	23.85	22.28
Total Direct	$ 136.33	$ 133.20	$ 191.58	$ 128.44	$ 114.94	$ 143.89	$ 128.46	$ 146.49	$ 142.28	$ 147.02
Maint. Burden	167.86	151.21	79.27	145.39	136.38	74.52	154.09	105.22	105.10	106.12
Total	$ 304.19	$ 284.41	$ 270.85	$ 273.83	$ 251.32	$ 218.41	$ 282.55	$ 251.71	$ 247.38	$ 253.14
Cash Acft. & Oper. Exp.	$ 848.81	$ 931.41	$ 933.35	$ 871.80	$1,018.87	$ 898.93	$ 956.22	$ 930.13	$ 905.83	$ 908.80
Depr. & Rentals	133.12	241.94	260.89	123.94	203.95	226.16	238.23	218.37	445.10	257.02
Total Acft. Oper. Exp.	$ 981.93	$1,173.35	$1,194.24	$ 995.74	$1,222.82	$1,125.09	$1,194.45	$1,148.50	$1,350.93	$1,165.82
Cost Per Rev. Mile	$ 2.47	$ 2.89	$ 3.20	$ 2.51	$ 3.01	$ 2.45	$ 3.25	$ 2.88	$ 3.53	$ 2.85
Cost Per Sch. Seat Mile	2.05¢	2.29¢	2.78¢	1.95¢	2.11¢	1.82¢	1.67¢	2.31¢	2.79¢	2.22¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	27.4	26.5	33.2	32.4	40.3	33.1	31.6	33.6	26.9	30.1

Source: "Jet Operating Data," *Air Transport World*, October 1974.

Table 3-19. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200, B-737, and DC-9-30, Second Quarter 1974

	B-727-200						DC-9-30				B-737		
	AA	B1	CO	NA	TW	UA	AL	DL	EA	NC	PI	UA	WA
Traffic & Service													
Fleet Size	41.3	26.2	29.0	25.0	37.0	28.0	39.0	71.7	71.3	19.0	16.2	65.5	28.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)													
Flying Operations													
Crew Salaries & Expenses	$242.52	$201.88	$198.60	$198.98	$219.92	$255.84	$165.79	$179.61	$197.36	$158.41	$153.54	$268.23	$225.59
Fuel, Oil & Taxes	286.68	270.20	310.13	200.78	335.63	282.10	218.55	200.60	192.40	180.98	174.35	188.49	210.61
Insurance	5.72	15.42	10.28	13.66	7.12	5.10	7.23	5.60	5.06	15.41	15.26	4.30	4.24
Other	(.35)	.02	—	—	.73	.02	—	—	—	.21	(.04)	.02	—
Total	$534.57	$487.52	$519.01	$413.42	$563.40	$543.06	$391.57	$385.81	$394.82	$355.01	$343.11	$461.04	$440.44
Maintenance													
Airframe	$ 37.50	$ 19.01	$ 54.81	$ 69.50	$ 51.22	$ 39.69	$ 46.44	$ 52.59	$ 31.89	$ 37.79	$ 45.57	$ 52.45	$ 68.84
Engine	43.96	13.78	43.13	67.97	29.41	52.17	73.54	24.71	41.12	63.29	48.59	45.78	52.07
Other	6.19	5.08	15.88	7.89	10.01	9.11	10.82	3.09	8.62	9.49	7.49	19.44	4.96
Total Direct	$ 87.65	$ 37.87	$113.82	$145.36	$ 90.64	$100.97	$130.80	$ 80.39	$ 81.63	$110.57	$101.65	$117.67	$125.87
Maint. Burden	101.91	27.02	101.85	112.92	93.10	80.89	66.89	82.35	56.32	63.34	24.27	92.70	59.88
Total	$189.56	$ 64.89	$215.57	$258.28	$183.74	$181.86	$187.69	$162.74	$137.95	$173.91	$125.92	$210.37	$185.75
Cash Acft. Oper. Exp.	$724.13	$552.41	$734.68	$671.70	$747.14	$724.92	$579.26	$548.55	$532.77	$528.92	$469.03	$671.41	$626.19
Depr. & Rentals	157.90	150.32	122.63	128.84	176.96	174.86	126.44	110.20	110.16	117.34	89.55	116.46	110.78
Total Acft. Oper. Exp.	$882.03	$702.73	$857.31	$800.54	$924.10	$899.78	$705.70	$658.75	$642.93	$646.26	$558.58	$787.87	$736.97
Cost Per Rev. Mile	$ 2.44	$ 2.03	$ 2.26	$ 2.37	$ 2.56	$ 2.57	$ 2.37	$ 2.21	$ 2.01	$ 2.34	$ 1.99	$ 2.81	$ 2.24
Cost Per Sch. Seat Mile	2.03¢	1.59¢	1.83¢	1.83¢	1.42¢	2.08¢	2.37¢	2.46¢	2.22¢	2.44¢	2.22¢	2.97¢	2.37¢
Fuel and Costs as a % of Total Acft. Oper. Exp.	32.5	38.5	36.2	25.1	36.3	31.4	31.0	30.5	29.9	28.0	31.2	23.9	28.6

Source: "Jet Operating Data," *Air Transport World*, February 1975.

Table 3-20. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, Second Quarter 1974

	B-747							
	AA Combined	BI Domestic	DL* Domestic	NA Domestic	NW Combined	PA* Combined	TW Combined	UA Domestic
Traffic & Service								
Fleet Size	11.0	1.0	5.0	1.1	15.0	29.7	19.0	18.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)								
Flying Operations								
Crew Salaries & Expenses	$ 429.44	$ 300.71	$ 377.18	$ 396.31	$ 304.71	$ 388.12	$ 360.74	$ 365.73
Fuel, Oil & Taxes	824.16	681.91	738.43	462.21	1,085.93	1,093.07	1,364.02	697.34
Insurance	13.20	32.35	37.16	66.78	22.67	39.40	30.40	26.35
Other	(1.02)	.02	—	—	1.13	1.63	1.10	.02
Total	$1,265.78	$1,014.99	$1,152.77	$ 925.30	$1,414.44	$1,522.22	$1,756.26	$1,089.44
Maintenance								
Airframe	$ 119.59	$ 182.92	$ 136.27	$ 169.60	$ 178.04	$ 95.48	$ 146.79	$ 98.04
Engine	273.30	356.39	200.46	235.50	150.73	115.40	216.83	159.54
Other	15.43	7.97	8.77	19.33	18.56	40.42	41.50	16.90
Total Direct	$ 408.32	$ 547.28	$ 345.50	$ 424.43	$ 347.33	$ 251.30	$ 405.12	$ 274.48
Maint. Burden	219.90	11.54	406.19	297.89	81.82	253.24	331.82	161.40
Total	$ 628.22	$ 558.82	$ 751.69	$ 722.32	$ 429.15	$ 504.54	$ 736.94	$ 435.88
Cash Acft. Oper. Exp.	$1,894.00	$1,573.81	$1,904.46	$1,647.63	$1,843.59	$2,026.76	$2,493.20	$1,525.32
Depr. & Rentals	1,470.66	546.03	704.81	519.33	430.30	674.41	561.13	580.65
Total Acft. Oper. Exp.	$3,364.66	$2,119.84	$2,609.27	$2,166.96	$2,273.89	$2,701.17	$3,054.33	$2,105.97
Cost Per Rev. Mile	$ 7.52	$ 4.21	$ 6.30	$ 5.43	$ 5.01	$ 5.87	$ 6.38	$ 4.59
Cost Per Sch. Seat Mile	2.15¢	1.17¢	1.70¢	1.52¢	1.39¢	1.63¢	1.76¢	1.44¢
Fuel and Oil Costs as a % of Total Acft. Oper. Exp.	24.5	32.2	28.3	21.3	47.8	40.5	44.7	33.1

*Does not include expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, February 1975

Table 3-21. Jet Operating Expenses, Including Fuel and Oil Costs: L-1011 and DC-10, Second Quarter 1974

	DC-10 Domestic							L-1011		
	AA	CO	DL	NA	NW	UA	WA*	DL Dom.	EA Combined	TW Dom.
Traffic & Service										
Fleet Size	22.4	11.8	5.0	9.0	14.9	21.0	3.5	6.0	24.3	19.8
Aircraft Operating Expenses (Dollars Per Total Block Hours)										
Flying Operations										
Crew Salaries & Expenses	$ 301.79	$ 268.51	$ 451.48	$ 263.45	$ 276.99	$ 354.22	$ 332.40	$ 346.57	$ 343.37	$ 282.51
Fuel, Oil & Ta:	481.08	498.79	516.54	353.43	627.26	464.83	498.26	510.14	627.67	613.83
Insurance	11.44	24.26	40.84	81.02	17.88	22.70	21.75	28.95	23.98	27.52
Other	(.57)	—	—	—	.62	.02	—	—	(.01)	.88
Total	$ 793.74	$ 791.56	$1,008.86	$ 697.90	$ 922.75	$ 841.77	$ 852.41	$ 885.66	$ 995.01	$ 924.74
Maintenance										
Airframe	$ 45.60	$ 90.85	$ 187.07	$ 77.76	$ 54.02	$ 128.74	$ 66.55	$ 119.85	$ 109.79	$ 43.93
Engine	420.45	201.11	5.51	398.49	41.53	155.27	78.42	21.00	232.95	108.87
Other	10.22	23.44	4.06	9.08	8.73	3.03	7.99	5.12	37.92	35.33
Total Direct	$ 476.27	$ 315.40	$ 196.64	$ 485.33	$ 104.28	$ 287.04	$ 152.96	$ 145.97	$ 380.66	$ 188.13
Maint. Burden	201.03	122.65	201.16	141.21	37.39	150.11	72.76	228.06	203.91	132.97
Total	$ 677.30	$ 438.05	$ 397.80	$ 626.54	$ 141.57	$ 437.15	$ 225.72	$ 374.03	$ 584.57	$ 321.10
Cash Acft. Oper. Exp.	$1,471.04	$1,229.61	$1,406.66	$1,324.44	$1,064.42	$1,278.92	$1,078.13	$1,259.69	$1,579.58	$1,245.84
Depr. & Rentals	566.96	316.02	1,180.23	306.75	453.49	502.37	339.63	546.81	572.29	627.07
Total Acft. Oper. Exp.	$2,038.00	$1,545.63	$2,586.89	$1,631.20	$1,517.91	$1,781.29	$1,417.76	$1,806.50	$2,151.87	$1,872.91
Cost Per Rev. Mile	$ 4.86	$ 3.48	$ 6.99	$ 4.03	$ 4.02	$ 4.21	$ 3.13	$ 4.85	$ 5.56	$ 4.39
Cost Per Sch. Seat Mile	2.03¢	1.74¢	2.80¢	1.63¢	1.71¢	1.78¢	1.40¢	1.94¢	2.21¢	2.00¢
Fuel and Oil Cost as % of Total Acft. Oper. Exp.	23.6	32.3	20.0	21.7	41.3	26.1	35.1	28.2	29.2	32.8

*Does not include expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, February 1975.

Table 3-22. Jet Operating Expenses, Including Fuel and Oil Costs: B-707 and DC-8, Second Quarter 1974

	B-707					DC-8		
	AA −100B	AA −300B	NW −300B/C	TW −300B	WA −300C	DL −61	UA −20	UA −61
Traffic & Service								
Fleet Size	50.6	7.5	7.6	10.7	4.2	11.0	23.7	29.9
Aircraft Operating Expenses (Dollars Per Total Block Hours)								
Flying Operations								
Crew Salaries & Expenses	$ 249.68	$ 297.53	$ 242.99	$ 250.90	$ 288.69	$ 317.04	$ 287.79	$ 296.58
Fuel, Oil & Taxes	339.12	332.02	454.88	516.89	434.86	415.39	452.13	409.84
Insurance	5.25	5.99	4.64	4.32	7.88	9.63	1.57	5.97
Other	(.48)	(.79)	.39	.87	—	—	.02	.02
Total	$ 593.57	$ 634.75	$ 702.90	$ 772.98	$ 731.43	$ 742.06	$ 741.51	$ 712.41
Maintenance								
Airframe	$ 48.06	$ 58.59	$ 49.90	$ 50.83	$ 62.96	$ 64.75	$ 92.71	$ 84.73
Engine	64.85	71.19	120.54	49.72	28.48	44.79	58.57	72.41
Other	8.86	14.81	10.91	8.47	10.72	2.07	22.51	22.31
Total Direct	$ 121.77	$ 144.59	$ 181.35	$ 109.02	$ 102.16	$ 111.61	$ 173.79	$ 179.45
Maint. Burden	142.18	164.91	73.02	119.41	48.55	121.02	136.10	124.57
Total	$ 263.95	$ 309.50	$ 254.37	$ 228.43	$ 150.71	$ 232.63	$ 309.89	$ 304.02
Cash Acft. Oper. Exp.	$ 857.52	$ 944.25	$ 957.27	$1,001.41	$ 882.14	$ 974.69	$1,051.40	$1,016.43
Depr. & Rentals	132.02	233.90	241.78	159.86	215.23	240.38	127.89	246.61
Total Acft. Oper. Exp.	$ 989.54	$1,178.15	$1,199.05	$1,161.27	$1,097.37	$1,215.07	$1,179.29	$1,263.04
Cost Per Rev. Mile	$ 2.47	$ 2.90	$ 3.31	$ 2.84	$ 2.39	$ 3.35	$ 2.90	$ 3.05
Cost Per Sch. Seat Mile	1.93¢	2.26¢	2.47¢	1.93¢	1.70¢	1.72¢	2.32¢	2.20¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	34.3	28.2	37.9	44.5	39.6	34.2	38.3	32.4

Source: "Jet Operating Data," *Air Transport World*, February 1975.

Table 3-23. Jet Operating Expenses, Including Fuel and Oil Costs: B-707, DC-8, and DC-8 Cargo, Second Quarter 1974

	B-707					DC-8			DC-8 Cargo	
	AA -100B	AA -300B	NW -300B/C	TW -300B	WA -300C	DL -61	UA -20	UA -61	FT -63F	UA -F
Traffic & Service										
Fleet size	50.6	7.5	7.6	10.7	4.2	11.0	23.7	29.9	10.0	15.0
Aircraft Operating Expenses (Dollars per total block hours)										
Flying Operations										
Crew salaries & exp.	$ 249.68	$ 297.53	$ 242.99	$ 250.90	$ 288.69	$ 317.04	$ 287.79	$ 296.58	$ 264.66	$ 297.37
Fuel, oil & taxes	339.12	332.02	454.88	516.89	434.86	415.39	452.13	409.84	592.14	400.56
Insurance	5.25	5.99	4.64	4.32	7.88	9.63	1.57	5.97	28.73	5.11
Other	(.48)	(.79)	.39	.87	—	—	.02	.02	.03	.02
Total	593.57	634.75	702.90	772.98	731.43	742.06	741.51	712.41	885.56	703.06
Maintenance										
Airframe	48.06	58.59	49.90	50.83	62.96	64.75	92.71	84.73	74.18	90.39
Engine	64.85	71.19	120.54	49.72	28.48	44.79	58.57	72.41	67.23	73.53
Other	8.86	14.81	10.91	8.47	10.72	2.07	22.51	22.31	34.43	22.62
Total direct	121.77	144.59	181.35	109.02	102.16	111.61	173.79	179.45	175.84	186.54
Maint. burden	142.18	164.91	73.02	119.41	48.55	121.02	136.10	124.57	118.80	127.30
Total	$ 263.95	$ 309.50	$ 254.37	$ 228.43	$ 150.71	$ 232.63	$ 309.89	$ 304.02	$ 294.64	$ 313.84
Cash acft. oper. exp.	857.52	944.25	957.27	1001.41	882.14	974.69	1051.40	1016.43	1180.20	1016.90
Depr. & rentals	132.02	233.90	241.78	159.86	215.23	240.38	127.89	246.61	295.10	243.77
Total acft. oper. exp.	$ 989.54	$1178.15	$1199.05	$1161.27	$1097.37	$1215.07	$1179.29	$1263.04	$1475.30	$1260.67
Cost per rev. mile	$ 2.47	$ 2.90	$ 3.31	$ 2.84	$ 2.39	$ 3.35	$ 2.90	$ 3.05	$ 3.51	$ 2.95
Cost per sch. seat mile	1.93¢	2.26¢	2.47¢	1.93¢	1.70¢	1.72¢	2.32¢	2.20¢	—	—
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	34.27	28.18	37.94	44.51	39.63	34.19	38.34	32.45	40.14	31.77

Source: "Jet Operating Data," *Air Transport World*, March 1975.

Table 3-24. Jet Operating Expenses, Including Fuel and Oil Costs: DC-10 and L-1011, Third Quarter 1974

	DC-10 Domestic						L-1011		
	AA	CO	DL	NW	UA	WA[1]	DL Dom.	EA Combined	TW Dom.
Traffic & Service									
Fleet Size	23.6	12.0	5.0	18.5	25.0	4.4	10.2	23.0	24.0
Aircraft Operating Expenses (Dollars per total block hours)									
Flying Operations									
Crew salaries & exp.	277.32	259.40	401.53	236.83	305.80	282.96	318.62	345.32	275.84
Fuel, oil & taxes	467.23	507.78	601.02	677.71	488.85	476.04	603.55	713.81	675.34
Insurance	9.13	29.71	29.59	17.05	18.49	16.50	29.46	26.60	25.89
Other	1.00	—	—	.59	—	—	—	—	.68
Total	754.68	796.89	1032.14	932.18	813.14	775.50	951.63	1085.73	977.75
Maintenance									
Airframe	70.43	68.17	149.23	50.83	101.71	83.12	82.80	115.31	39.94
Engine	219.75	102.88	247.46	66.89	196.87	89.48	-103.81	313.16	182.52
Other	10.58	24.63	4.59	9.28	(20.96)	4.57	6.76	36.99	30.27
Total direct	300.76	195.68	401.28	127.00	277.62	177.17	193.37	465.46	252.73
Maint. burden	136.57	121.88	240.56	37.07	125.50	86.50	198.23	240.71	133.88
Total	437.33	317.56	641.84	164.07	403.12	263.67	391.60	706.17	386.61
Cash acft. oper. exp.	1192.01	1114.45	1673.98	1096.25	1216.26	1039.17	1343.23	1791.90	1364.36
Depr. & rentals	427.04	290.36	1264.29	414.80	405.09	324.52	509.87	546.02	612.59
Total acft. oper. exp.	$1619.05	$1404.81	$2938.27	$1511.05	$1621.35	$1363.69[1]	$1853.10	$2337.92	$1976.95
Cost per rev. mile	$ 3.97	$ 3.14	$ 7.54	$ 4.04	$ 3.84	$ 2.95	$ 5.07	$ 5.95	$ 4.48
Cost per sch. seat mile	1.66¢	1.57¢	3.02¢	1.71¢	1.62¢	1.26¢	2.03¢	2.37¢	2.04¢
Cost per gallon of fuel	21.0¢	23.0¢	25.4¢	28.7¢	23.2¢	21.4¢	25.5¢	29.7¢	27.14¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	28.86	36.15	20.45	44.85	30.15	34.91	32.51	30.53	34.16

[1] WA excludes $163.05 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, May 1975.

Table 3-25. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200 and DC-9-30, Third Quarter 1974, Domestic

	B-727-200						DC-9-30			
	AA	BI	CO[1]	NW	TW	UA	AL	DL	EA	NC
Traffic & Service										
Fleet Size	42.0	31.4	29.3	24.0	37.5	28.0	40.0	67.5	70.2	19.0
Aircraft Operating Expenses (Dollars per total block hours)										
Flying Operations										
Crew salaries & exp.	210.31	185.31	200.18	180.86	218.18	258.53	160.92	163.83	188.32	145.24
Fuel, oil & taxes	297.06	269.55	324.73	350.47	363.83	296.07	209.87	240.23	213.77	189.87
Insurance	5.45	6.91	10.61	4.66	6.63	5.36	7.06	5.64	4.49	14.33
Other	.66	—	—	.23	.52	—	—	—	—	—
Total	513.48	461.77	535.52	536.22	589.16	559.95	377.85	409.70	406.58	349.44
Maintenance										
Airframe	35.58	28.56	57.27	34.46	46.59	43.26	45.80	52.74	32.45	42.43
Engine	45.36	16.26	27.86	42.98	30.51	47.70	52.56	27.88	37.55	47.47
Other	6.08	1.04	13.99	6.31	10.46	11.12	8.63	3.20	9.93	6.95
Total direct	87.02	45.86	99.12	83.75	87.56	102.08	106.99	83.82	79.93	96.85
Maint. burden	86.62	32.98	105.91	39.63	91.46	94.24	59.45	87.78	56.69	68.54
Total	173.64	78.84	205.03	123.38	179.02	196.32	166.44	171.60	136.62	165.39
Cash acft. & oper. exp.	687.12	540.61	740.55	659.60	768.18	756.28	544.29	581.30	543.20	514.83
Depr. & rentals	145.48	149.16	116.80	184.27	176.42	167.62	117.51	112.45	104.58	113.67
Total acft. oper. exp.	$832.60	$639.77	$857.35[1]	$843.87	$944.60	$923.90	$661.80	$693.75	$647.78	$628.50
Cost per rev. mile	$ 2.34	$ 1.88	$ 2.29	$ 2.62	$ 2.67	$ 2.78	$ 2.29	$ 2.37	$ 2.04	$ 2.31
Cost per sch. seat mile	1.95¢	1.58¢	1.86¢	2.10¢	2.24¢	2.24¢	2.29¢	2.64¢	2.25¢	2.43¢
Cost per gallon of fuel	21.8¢	20.3¢	24.1¢	27.1¢	26.2¢	23.7¢	22.2¢	25.4¢	23.6¢	21.1¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	35.68	42.13	37.88	41.53	38.52	32.05	31.71	34.63	33.00	30.21

[1] CO, excludes $12.85 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, June 1975.

Table 3-26. Jet Operating Expenses, Including Fuel and Oil Costs: B-747 and B-737, Third Quarter 1974

	B-747							B-737 Domestic		
	AA Combined	BI Dom.	DL Dom.	NW Combined	PA[1] Combined	TW Combined	UA Dom.	PI	UA	WA
Traffic & Service										
Fleet Size	12.3	1.0	4.8	15.0	28.5	19.0	18.0	17.8	65.0	27.2
Aircraft Operating Expenses (Dollars per total block hour)										
Flying Operations										
Crew salaries & exp.	326.86	257.96	361.87	298.18	358.10	354.63	375.06	144.86	287.08	216.70
Fuel, oil & taxes	807.05	672.68	789.71	1073.44	1313.15	1345.37	741.07	177.50	198.11	230.90
Insurance	11.14	14.53	27.42	21.44	36.86	26.30	23.43	17.85	4.21	3.48
Other	1.24	—	—	.93	3.24	.56	—	—	—	—
Total	1146.29	945.17	1179.00	1393.99	1711.35	1726.86	1139.56	340.21	489.40	451.08
Maintenance										
Airframe	124.38	157.48	163.99	169.77	55.39	91.20	96.31	46.27	48.81	54.49
Engine	145.67	282.75	158.30	174.06	85.55	296.90	185.93	46.74	42.75	42.81
Other	15.84	21.99	8.79	18.06	36.20	36.93	(1.72)	4.91	19.30	3.48
Total direct	285.89	462.22	331.08	361.89	177.14	425.03	280.52	97.92	110.86	100.78
Maint. burden	191.96	11.33	422.14	90.51	235.21	255.09	204.21	37.34	93.51	49.24
Total	477.85	473.55	753.22	452.40	412.35	680.12	484.73	135.26	204.37	150.02
Cash acft. oper. exp.	1624.14	1418.72	1932.22	1846.39	2123.70	2406.98	1624.29	475.47	693.77	601.10
Depr. & rentals	833.04	535.66	585.62	386.64	533.00	522.48	557.32	88.02	103.01	106.64
Total acft. oper. exp.	$2457.18	$1954.38	$2517.84	$2233.03	$2656.70[1]	$2929.45	$2181.61	$ 563.49	$ 796.78	$ 707.74
Cost per rev. mile	$ 5.45	$ 3.88	$ 6.85	$ 4.92	$ 5.73	$ 6.07	$ 4.74	$ 2.04	$ 2.88	$ 2.14
Cost per sch. seat mile	1.57¢	1.07¢	1.85¢	1.36¢	1.55¢	1.68¢	1.49¢	2.29¢	3.03¢	2.26¢
Cost per gallon of fuel	23.8¢	20.2¢	25.2¢	31.1¢	36.9¢	35.9¢	23.1¢	20.2¢	23.2¢	25.5¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	32.84	34.42	31.36	48.07	49.43	45.93	33.97	31.50	24.86	32.62

[1] PA excludes $45.95 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, June 1975.

Table 3-27. Jet Operating Expenses, Including Fuel and Oil Costs: B-747 and B-737, Third Quarter 1974, Domestic

	B-707					DC-8			DC-8 Cargo	
	AA 100B	AA 300B	NW 300B/C	TW 300B	WA 300C	DL -61	UA -20	UA -61	FT -63	UA 8F
Traffic & Service										
Fleet Size	49.4	7.3	5.8	10.5	4.5	10.2	28.0	30.0	9.3	15.0
Aircraft Operating Expenses (Dollars per total block hour)										
Flying Operations										
Crew salaries & exp.	228.17	261.62	210.55	232.15	282.48	288.67	281.22	291.57	273.59	292.08
Fuel, oil & taxes	350.31	363.71	486.30	484.84	446.86	481.08	479.74	434.68	634.85	420.76
Insurance	4.90	6.53	4.15	4.94	4.86	10.56	1.73	6.04	26.99	3.74
Other	.74	1.19	—	.58	—	—	—	—	—	—
Total	584.12	633.05	701.00	722.51	734.20	780.31	762.69	732.29	935.43	716.58
Maintenance										
Airframe	53.40	101.05	40.49	55.01	70.99	75.36	41.63	43.28	84.75	43.09
Engine	56.27	60.54	87.42	50.07	41.42	44.66	83.04	71.02	79.89	71.91
Other	8.71	13.06	9.14	13.17	5.49	2.42	22.26	22.00	38.55	21.94
Total direct	118.38	174.65	137.05	118.25	117.90	122.44	146.93	136.30	203.19	136.94
Maint. burden	131.00	214.72	66.86	132.49	57.68	141.03	109.14	109.58	137.52	110.58
Total	249.38	389.37	203.91	250.74	175.58	263.47	256.07	245.88	340.71	247.52
Cash acft. oper. exp.	833.50	102.42	904.91	973.25	909.78	1043.78	1018.76	978.17	1276.14	964.10
Depr. & rentals	114.97	257.60	213.04	143.05	165.86	254.57	84.82	247.02	298.39	224.30
Total acft. oper. exp.	$ 948.47	$1280.02	$1117.95	$1116.30	$1075.64	$1298.35	$1103.58	$1225.19	$1574.53	$1188.40
Cost per rev. mile	$ 2.38	$ 3.16	$ 3.18	$ 2.77	$ 2.32	$ 3.69	$ 2.75	$ 3.01	$ 3.64	$ 2.80
Cost per sch. seat mile	1.79¢	2.52¢	2.26¢	1.96¢	1.62¢	1.90¢	2.21¢	1.97¢	—	—
Cost per gallon of fuel	21.2¢	20.4¢	28.0¢	27.2¢	24.4¢	22.7¢	23.1¢	23.2¢	33.2¢	23.3¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	36.93	28.41	43.50	43.43	41.54	37.05	43.47	35.48	40.32	35.41

Source: "Jet Operating Data," *Air Transport World*, July 1975.

Table 3-28. Jet Operating Expenses, Including Fuel and Oil Costs: B-747 and B-737, Year 1974

	B-747							B-737		
	AA Combined	BI Dom.	DL[1] Dom.	NW Combined	PA[2] Combined	TW Combined	UA Dom.	PI	UA	WA
Traffic & Service										
Fleet Size	11.2	1.0	4.0	15.0	28.0	19.0	18.0	18.0	65.9	26.7
Aircraft Operating Expenses (Dollars per total block hours)										
Flying Operations										
Crew salaries & exp.	348.60	259.23	338.65	401.71	408.53	399.25	384.64	139.31	259.81	249.79
Fuel, oil & taxes	858.31	695.72	838.34	1083.65	1348.89	1221.86	756.79	201.92	201.49	224.55
Insurance	9.06	17.73	30.98	21.85	37.81	48.54	25.22	15.60	4.36	3.30
Other	2.17	—	—	1.10	.87	1.94	—	1.27	.03	—
Total	1218.14	972.68	1207.97	1508.31	1796.10	1671.59	1166.65	358.10	465.69	477.64
Maintenance										
Airframe	165.79	120.38	152.15	192.69	76.07	220.42	135.41	56.28	54.54	50.25
Engine	111.61	62.78	171.78	288.40	113.42	419.62	348.03	19.80	47.59	50.59
Other	17.58	17.73	26.99	20.82	42.18	60.59	1.36	8.54	18.46	4.04
Total direct	294.98	200.89	350.92	501.91	231.67	700.63	484.80	84.62	120.59	104.88
Maint. burden	236.46	19.20	337.42	115.88	349.90	413.74	274.25	31.94	94.54	58.04
Total	531.44	220.09	688.34	617.79	581.57	1114.37	759.05	116.56	215.13	162.92
Cash acft. oper. exp.	1749.58	1192.77	1896.31	2126.10	2377.67	2785.96	1925.70	474.66	680.82	640.56
Depr. & rentals	1171.77	491.88	746.63	429.44	673.75	750.04	617.30	126.37	107.85	113.75
Total acft. oper. exp.	$2921.35	$1684.65	$2642.94	$2555.54	$3051.42	$3536.00	$2543.00	$ 601.03	$ 788.67	$ 754.31
Cost per rev. mile	$ 6.65	$ 3.35	$ 6.31	$ 5.77	$ 6.74	$ 7.42	$ 5.61	$ 2.16	$ 2.85	$ 2.30
Cost per sch. seat mile	2.05¢	.97¢	1.70¢	1.59¢	1.85¢	2.05¢	1.76¢	2.42¢	3.0¢	2.43¢
Cost per gallon of fuel	26.0¢	20.8¢	23.1¢	32.2¢	38.5¢	32.9¢	23.5¢	23.3¢	23.5¢	24.6¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	29.38	41.30	31.72	42.40	44.21	34.55	29.76	33.60	25.55	29.77

[1] DL excludes $269.32 expense of interchange aircraft.
[2] PA excludes $17.81 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, September 1975.

Table 3-29. Jet Operating Expenses, Including Fuel and Oil Costs: DC-10 and L-1011, Year 1974

	DC-10						L-1011		
	AA	CO	DL	NW	UA	WA[1]	DL Dom.	EA Combined	TW Dom.
Traffic & Service									
Fleet Size	22.4	12.0	5.0	20.9	24.0	4.8	15.0	27.2	22.0
Aircraft Operating Expenses (Dollars per total block hour)									
Flying Operations									
Crew salaries & exp.	278.86	292.85	343.22	302.31	342.04	319.97	309.57	317.98	288.55
Fuel, oil & taxes	506.61	417.38	571.79	661.12	493.99	478.52	588.41	622.98	594.22
Insurance	5.48	22.73	36.21	18.67	21.09	16.16	33.15	13.69	58.81
Other	1.31	—	—	.70	—	—	—	—	2.68
Total	792.26	732.96	951.22	982.80	857.12	814.65	931.13	954.65	944.26
Maintenance									
Airframe	119.80	91.82	137.54	47.78	100.42	97.21	105.36	105.99	114.30
Engine	297.06	206.86	108.12	84.73	190.67	220.55	(4.08)	353.23	439.44
Other	9.85	22.98	3.52	15.23	(41.03)	8.86	7.41	53.45	59.87
Total direct	426.71	321.66	249.18	147.74	250.06	326.62	108.69	512.67	613.61
Maint. burden	185.18	149.42	173.75	42.11	147.23	180.69	193.55	197.59	166.39
Total	611.89	471.08	422.93	189.85	397.29	507.31	302.24	710.26	780.00
Cash acft. oper. exp.	1404.15	1204.04	1374.15	1172.65	1254.41	1321.96	1233.37	1664.91	1724.26
Depr. & rentals	450.64	314.33	1104.35	453.36	475.21	354.07	537.85	574.75	692.30
Total acft. oper. exp.	$1854.79	$1518.37	$2478.50	$1626.01	$1729.62	$1676.03	$1771.22	$2239.66	$2416.56
Cost per rev. mile	$ 4.65	$ 3.43	$ 6.36	$ 4.39	$ 4.23	$ 3.64	$ 5.02	$ 5.85	$ 5.68
Cost per sch. seat mile	1.95¢	1.69¢	2.55¢	1.86¢	1.78¢	1.57¢	2.02¢	2.37¢	2.58¢
Cost per gallon of fuel	22.6¢	19.1¢	24.7¢	28.4¢	23.6¢	21.8¢	25.1¢	26.2¢	24.6¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	27.31	27.49	23.07	40.66	28.56	28.55	33.22	27.82	24.59

[1] WA excludes $178.03 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, September 1975.

Table 3-30. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200 and DC-9-30, Fourth Quarter 1974

	B-727-200						DC-9-30			
	AA	BI	CO[1]	NW	TW	UA	AL	DL	EA	NC
Traffic & Service										
Fleet Size	42.0	31.0	32.6	23.7	39.6	28.0	42.7	66.0	70.4	19.0
Aircraft Operating Expenses (Dollars per total block hour)										
Flying Operations										
Crew salaries & exp.	223.16	183.44	204.00	231.27	242.36	262.61	171.61	164.72	181.63	146.12
Fuel, oil & taxes	321.24	263.01	275.72	355.04	327.07	299.72	216.00	234.80	173.52	202.40
Insurance	2.35	7.97	10.25	5.02	9.40	5.47	7.04	5.08	(5.77)	14.36
Other	1.01	—	—	.24	2.14	—	—	—	—	.36
Total	547.76	454.42	489.97	591.57	580.97	567.80	394.65	404.60	349.38	363.24
Maintenance										
Airframe	36.66	17.47	51.15	43.53	38.74	44.08	42.80	62.46	46.76	46.27
Engine	48.69	15.55	37.04	39.16	36.87	51.92	48.69	29.78	38.37	51.17
Other	6.11	2.05	12.78	8.07	7.81	12.39	9.64	3.53	13.14	7.53
Total direct	91.46	35.07	100.97	90.76	83.42	108.39	101.13	95.77	98.27	104.97
Maint. burden	98.75	24.87	98.68	47.42	66.73	105.19	77.94	83.86	65.87	69.99
Total	190.21	59.94	199.65	138.18	150.15	213.58	179.07	179.63	164.14	174.96
Cash acft. oper. exp.	737.97	514.36	689.62	729.75	731.12	781.38	573.72	584.23	513.52	538.20
Depr. & rentals	153.08	139.36	123.94	191.21	179.18	171.92	123.15	113.34	103.81	115.56
Total acft. oper. exp.	$891.05	$653.62	$813.56	$920.96	$910.30	$953.30	$696.87	$697.57	$617.33	$653.76
Cost per rev. mile	$ 2.52	$ 1.95	$ 2.17	$ 2.88	$ 2.58	$ 2.86	$ 2.41	$ 2.36	$ 1.96	$ 2.40
Cost per sch. seat mile	2.10¢	1.53¢	1.76¢	2.30¢	2.16¢	2.31¢	2.41¢	2.63¢	2.17¢	2.58¢
Cost per gallon of fuel	23.6¢	20.0¢	20.7¢	27.2¢	25.0¢	23.4¢	23.1¢	24.7¢	19.5¢	22.8¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	36.05	40.24	33.89	38.55	35.93	31.44	31.00	33.66	28.11	30.96

[1] CO excludes $6.88 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, October 1975.

Table 3-31. Jet Operating Expenses, Including Fuel and Oil Costs: B-707 and DC-8, Fourth Quarter 1974

	B-707					DC-8			DC-8 Cargo	
	AA 100B	AA 300B	NW 300B/C	TW 300B	WA 300C	DL 61	UA 20	UA 61	FT 63	UA F
Traffic & Service										
Fleet Size	48.7	7.1	4.6	10.7	4.2	9.8	26.8	30.0	9.7	15.0
Aircraft Operating Expenses (Dollars per total block hour)										
Flying Operations										
Crew salaries & exp.	240.52	270.55	318.34	252.17	314.84	271.10	290.96	303.25	418.35	301.11
Fuel, oil & taxes	372.85	387.08	457.08	437.22	444.20	470.17	487.71	444.49	716.40	426.74
Insurance	1.01	1.57	6.97	6.31	5.92	10.85	1.72	6.01	21.32	4.09
Other	1.06	1.57	.32	2.38	—	—	—	.04	—	—
Total	615.44	660.77	782.71	698.08	764.96	752.12	780.39	753.79	1156.07	731.94
Maintenance										
Airframe	52.68	64.46	59.55	59.47	87.91	91.67	54.08	53.97	96.48	54.80
Engine	55.92	63.68	120.05	56.58	60.47	63.46	49.24	82.85	85.64	83.00
Other	8.94	15.53	10.77	13.03	8.73	2.82	21.97	21.10	57.97	21.75
Total direct	117.54	143.67	190.37	129.08	157.11	157.95	125.29	157.92	240.09	159.55
Maint. burden	143.43	185.23	94.71	138.08	87.28	162.83	111.97	123.54	139.62	125.42
Total	260.97	328.90	285.08	267.16	244.39	320.78	237.26	281.46	379.71	284.97
Cash acft. oper. exp.	876.41	989.67	1067.79	965.24	1009.35	1072.90	1017.65	1035.25	1535.78	1016.91
Depr. & rentals	113.65	253.92	235.67	156.19	232.23	256.45	17.26	244.36	264.27	257.08
Total acft. oper. exp.	$ 990.06	$1243.59	$1303.46	$1121.43	$1241.58	$1329.35	$1034.91	$1279.61	$1800.05	$1273.99
Cost per rev. mile	$ 2.51	$ 3.08	$ 3.65	$ 2.80	$ 2.75	$ 3.73	$ 2.46	$ 3.16	$ 4.30	$ 3.05
Cost per sch. seat mile	1.89¢	2.39¢	2.56¢	1.98¢	2.00¢	1.93¢	2.07¢	2.12¢	—	—
Cost per gallon of fuel	23.2¢	22.4¢	27.1¢	24.8¢	24.4¢	21.8¢	23.5¢	23.9¢	37.0¢	23.5¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	37.66	31.13	35.07	38.99	35.78	35.37	47.13	34.74	39.80	33.50

Source: "Jet Operating Data," *Air Transport World*, October 1975.

Table 3-32. Jet Operating Expenses, Including Fuel and Oil Costs: DC-10 and L-1011, First Quarter 1975

	DC-10							L-1011		
	AA Dom.	CO Dom.	DL Dom.	NA Dom.	NW Dom.	UA Dom.	WA[1] Dom.	DL Dom.	EA Combined	TW Dom.
Traffic & Service										
Fleet Size	21.5	12.7	5.0	9.0	22.0	24.0	4.1	18.0	29.0	21.0
Aircraft Operating Expenses (Dollars per total block hour)										
Flying Operations										
Crew salaries & exp.	295.36	306.20	328.49	258.08	282.26	390.04	348.93	361.65	341.50	312.99
Fuel, oil & taxes	519.99	524.86	658.41	412.36	699.89	545.92	551.86	667.17	711.09	699.23
Insurance	9.40	.64	15.81	19.22	21.87	21.11	22.27	22.10	22.40	45.81
Other	.06	—	—	—	.78	—	—	—	—	5.47
Total	824.81	831.70	1052.71	689.66	1004.80	957.07	923.06	1050.92	1074.99	1063.50
Maintenance										
Airframe	93.52	91.29	149.71	63.29	55.79	98.69	128.80	98.26	65.94	70.68
Engine	285.31	213.47	315.76	122.69	99.24	141.19	93.29	37.90	296.32	207.61
Other	11.24	33.68	3.95	10.08	12.34	30.03	5.64	6.87	34.87	37.61
Total direct	390.07	388.44	469.42	196.06	167.37	269.91	227.73	143.03	397.13	315.90
Maint. burden	187.80	136.38	192.41	101.28	48.42	136.83	141.49	168.06	193.36	171.37
Total	577.87	474.82	661.83	297.34	215.79	406.74	369.22	311.09	590.49	487.27
Cash acft. oper. exp.	1402.68	1306.52	1714.54	987.00	1220.59	1363.81	1292.28	1362.01	1665.48	1550.77
Depr. & rentals	403.33	324.24	1143.37	303.20	450.59	500.33	392.33	524.21	512.80	677.61
Total acft. oper. exp.	$1806.01	$1630.76	$2857.91	$1290.20	$1671.18	$1864.14	$1684.61[1]	$1886.22	$2178.28	$2228.38
Cost per rev. mile	$ 4.49	$ 3.68	$ 7.46	$ 3.15	$ 4.51	$ 4.55	$ 3.67	$ 5.22	$ 5.64	$ 5.24
Cost per sch. seat mile	1.87¢	1.71¢	2.99¢	1.27¢	1.91¢	1.93¢	1.61¢	2.10¢	2.20¢	2.37¢
Cost per gallon of fuel	22.6¢	24.0¢	29.0¢	18.2¢	30.0¢	26.3¢	23.9¢	29.0¢	30.3¢	28.9¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	28.79	32.18	23.04	31.96	41.88	29.29	32.76	35.37	32.64	31.38

[1] WA excludes $239.57 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, December 1975.

Table 3-33. Jet Operating Expenses, Including Fuel and Oil Costs: B-727, DC-9, and BAC-111, First Quarter 1975

	B-727-200						DC-9-30				BAC-111
	AA	BI	CO	NW	TW	UA	AL	DL	EA	NC	AL
Traffic & Service											
Fleet Size	42.0	32.0	33.0	23.0	39.0	28.0	42.5	65.0	72.0	19.0	30.6
Aircraft Operating Expenses (Dollars per total block hours)											
Flying Operations											
Crew salaries & exp.	231.95	196.83	221.51	216.59	253.45	277.77	191.82	188.80	195.72	166.53	193.73
Fuel, oil & taxes	347.05	296.62	349.35	386.65	389.68	330.38	246.94	272.63	228.73	279.26	224.60
Insurance	5.84	14.19	(.37)	5.40	7.33	6.52	7.24	2.86	3.50	14.53	3.20
Other	.03	—	—	.32	4.51	—	—	—	—	3.65	—
Total	584.87	507.64	570.49	608.96	654.97	614.67	446.00	464.29	427.95	463.97	421.53
Maintenance											
Airframe	40.25	20.49	51.88	45.06	36.38	40.82	53.22	53.27	53.78	41.61	72.29
Engine	48.03	20.70	44.95	50.02	26.71	43.87	52.86	26.73	32.89	50.67	51.39
Other	7.35	3.18	12.43	7.18	7.79	19.40	9.89	3.58	9.13	8.47	14.38
Total direct	95.63	44.37	109.26	102.26	70.88	104.09	115.97	83.58	95.80	100.75	138.06
Maint. burden	99.04	25.44	83.81	48.94	62.04	95.56	68.03	81.73	72.20	78.12	72.17
Total	194.67	69.81	193.07	151.20	132.92	199.65	184.00	165.31	168.00	178.87	210.23
Cash acft. oper. exp.	779.54	577.45	763.56	760.16	787.89	814.32	630.00	629.60	595.95	642.84	631.76
Depr. & rentals	159.33	150.12	125.16	196.76	171.68	172.59	126.47	114.55	100.29	116.30	70.05
Total acft. oper. exp.	$938.87	$727.57	$888.72	$956.92	$959.57	$986.91	$756.47	$744.15	$696.24	$759.14	$701.81
Cost per rev. mile	$ 2.64	$ 2.19	$ 2.39	$ 3.12	$ 2.69	$ 2.95	$ 2.66	$ 2.54	$ 2.20	$ 2.95	$ 2.75
Cost per sch. seat mile	2.20¢	1.71¢	1.93¢	2.44¢	2.26¢	2.38¢	2.66¢	2.81¢	2.44¢	2.98¢	3.72¢
Cost per gallon of fuel	25.4¢	22.3¢	26.2¢	30.4¢	29.5¢	26.3¢	26.7¢	28.9¢	26.1¢	31.7¢	28.8¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	36.96	40.77	39.31	40.41	40.61	33.48	32.64	36.64	32.85	36.79	32.00

Source: "Jet Operating Data," *Air Transport World*, January 1976.

Table 3-34. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, First Quarter 1975

	B-747							
	AA Combined	BI Dom.	DL[1] Dom.	NA Dom.	NW Combined	PA Combined	TW Combined	UA Dom.
Traffic & Service								
Fleet Size	9.9	1.0	3.8	2.0	15.0	27.5	18.5	18.0
Aircraft Operating Expenses (Dollars per total block hour)								
Flying Operations								
Crew salaries & exp.	363.45	301.22	393.87	364.49	360.80	451.77	422.10	424.57
Fuel, oil & taxes	917.78	743.06	951.08	459.64	1096.57	1333.40	1235.59	838.76
Insurance	15.00	33.85	19.99	45.88	22.37	50.20	59.02	20.03
Other	—	—	—	—	1.24	.96	2.79	—
Total	1296.23	1078.13	1364.94	870.01	1480.98	1836.33	1719.50	1283.36
Maintenance								
Airframe	166.32	171.01	308.38	193.71	74.40	94.00	216.63	108.79
Engine	243.96	290.80	142.49	237.89	280.82	130.74	297.49	372.86
Other	22.27	6.08	28.92	38.23	15.83	29.30	66.08	25.39
Total direct	432.55	467.89	479.79	469.83	371.05	254.04	580.20	507.04
Maint. burden	228.14	32.12	642.71	59.47	106.13	313.77	552.70	252.34
Total	660.69	500.01	1122.50	529.30	477.18	567.81	- 1132.90	759.38
Cash acft. oper exp.	1956.92	1578.14	2487.44	1399.31	1958.16	2404.14	2852.40	2042.74
Depr. & rentals	1286.43	578.99	1027.22	862.36	402.09	716.31	828.02	633.84
Total acft. oper. exp.	$3243.35	$2157.13	$3514.66[1]	$2261.67	$2360.25	$3120.45	$3680.42	$2676.58
Cost per rev. mile	$ 7.50	$ 4.40	$ 8.31	$ 5.71	$ 5.37	$ 6.91	$ 7.76	$ 5.90
Cost per sch. seat mile	2.44¢	1.28¢	2.24¢	1.58¢	1.48¢	1.86¢	2.15¢	1.79¢
Cost per gallon of fuel	27.5¢	22.4¢	26.4¢	14.0¢	32.2¢	38.1¢	34.5¢	26.3¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	28.30	34.45	27.06	20.32	46.46	42.73	33.57	31.34

[1] DL excludes $297.84 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, January 1976.

Table 3-35. Jet Operating Expenses, Including Fuel and Oil Costs: B-707, DC-8, and B-737, First Quarter 1975

	B-707				DC-8		DC-8 Cargo		B-737		
	AA 300B	NW 300B/C	TW 300B	WA 300C	DL 61	UA 61	FT 63F	UA F	PI	UA	WA
Traffic & Service											
Fleet Size	7.7	5.0	13.0	4.0	11.1	30.0	8.8	15.0	19.0	65.0	26.0
Aircraft Operating Expenses (Dollars per total block hours)											
Flying Operations											
Crew salaries & exp.	246.22	263.31	265.29	416.36	320.37	316.16	356.37	313.86	161.32	292.94	251.51
Fuel, oil & taxes	393.51	536.10	489.41	630.34	585.98	487.88	515.54	461.33	265.27	200.94	250.34
Insurance	6.09	7.51	5.84	9.61	5.91	7.39	29.01	8.06	12.49	5.26	3.52
Other	—	—	4.95	—	—	.04	—	—	1.26	—	—
Total	645.82	806.92	765.49	1056.31	912.26	811.47	900.92	783.25	440.34	519.14	505.37
Maintenance											
Airframe	50.09	40.51	49.40	99.37	83.79	53.47	62.94	54.67	54.99	50.84	64.04
Engine	69.59	77.75	35.34	60.62	51.48	59.04	79.90	59.72	47.13	53.12	52.69
Other	14.98	8.82	11.28	9.27	2.30	23.11	41.69	23.20	7.93	20.91	4.14
Total direct	134.66	127.08	96.02	169.26	137.57	135.62	184.53	137.59	110.05	124.87	120.87
Maint. burden	177.25	54.23	123.74	105.00	172.73	118.00	135.38	119.55	49.24	93.85	75.10
Total	311.91	181.31	219.76	274.26	310.30	253.61	319.91	257.14	159.29	218.72	195.97
Cash acft. oper. exp.	957.73	988.23	985.25	1330.57	1222.56	1065.09	1220.83	1040.39	599.63	737.86	701.34
Depr. & rentals	248.71	292.39	178.18	250.41	275.36	248.91	361.29	254.89	100.51	111.14	109.41
Total acft. oper. exp.	$1206.44	$1280.62	$1163.43	$1580.98	$1497.92	$1314.00	$1582.12	$1295.28	$ 700.14	$ 849.00	$ 810.75
Cost per rev. mile	$ 3.19	$ 3.39	$ 2.92	$ 3.51	$ 4.23	$ 3.25	$ 4.01	$ 3.12	$ 2.55	$ 3.08	$ 2.51
Cost per sch. seat mile	2.25¢	2.75¢	2.11¢	2.51¢	2.18¢	2.29¢	—	—	2.84¢	3.24¢	2.65¢
Cost per gallon of fuel	23.2¢	32.0¢	29.4¢	33.2¢	27.5¢	26.3¢	27.5¢	26.4¢	30.6¢	26.3¢	28.2¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	32.62	41.86	42.07	39.87	39.12	37.13	32.59	35.62	37.89	23.67	30.88

Source: "Jet Operating Data," *Air Transport World*, January 1976.

Table 3-36. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, B-707, and DC-8, Second Quarter 1975

	B-747					B-707		DC-8		
	AA Combined	NW Combined	PA[1] Combined	TW Combined	UA Dom.	AA 100B	TW 300B	DL 61	FT 63F	UA 8F
Traffic & Service										
Fleet Size	9.3	15.0	30.5	16.0	18.0	48.0	10.4	11.1	8.4	15.0
Aircraft Operating Expenses (Dollars per total block hours)										
Flying Operations										
Crew salaries & exp.	417.05	332.11	336.14	396.35	406.94	266.06	326.13	327.29	345.01	319.09
Fuel, oil & taxes	905.05	1125.45	1121.95	1305.97	858.86	409.69	558.80	559.51	525.25	475.09
Insurance	13.48	23.63	35.76	47.92	9.65	5.52	6.06	11.64	24.04	6.06
Other	—	1.38	1.25	.98	—	.25	2.16	—	—	—
Total	1335.58	1482.57	1495.10	1751.22	1275.45	681.52	893.15	898.44	894.30	800.24
Maintenance										
Airframe	217.05	82.58	82.00	122.44	94.42	64.83	48.27	76.03	82.78	74.47
Engine	316.15	248.28	93.95	231.30	362.21	66.55	70.24	70.54	59.38	72.85
Other	22.80	22.06	22.16	49.05	31.71	9.96	14.41	2.58	49.86	23.14
Total direct	556.00	352.92	198.11	402.79	488.34	141.34	132.92	149.15	192.02	170.46
Maint. burden	234.29	100.24	252.97	375.75	258.80	168.23	148.71	144.10	110.70	138.22
Total	790.29	453.16	451.08	778.54	747.14	309.57	281.63	293.25	302.72	308.68
Cash acft. oper. exp.	2125.87	1935.73	1946.18	2529.76	2022.59	991.09	1174.78	1191.69	1197.02	1108.92
Depr. & rentals	1151.64	384.76	580.33	656.24	629.34	126.25	172.96	288.77	306.28	239.47
Total acft. oper. exp.	$3277.51	$2320.49	$2526.51[1]	$3186.00	$2651.93	$1117.34	$1347.74	$1480.46	$1503.30	$1348.39
Cost per rev. mile	$ 7.36	$ 5.23	$ 5.43	$ 6.63	$ 5.74	$ 2.81	$ 3.32	$ 4.06	$ 3.72	$ 3.18
Cost per sch. seat mile	2.69¢	1.48¢	1.46¢	1.85¢	1.69¢	2.11¢	2.37¢	2.08¢	—	—
Cost per gallon of fuel	26.0¢	33.1¢	31.2¢	35.0¢	26.7¢	25.2¢	29.7¢	25.9¢	27.6¢	26.7¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	27.61	48.50	44.41	40.99	32.39	36.67	41.46	37.79	34.94	35.23

[1] PA excludes $22.16 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, March 1976.

Table 3-37. Jet Operating Expenses, Including Fuel and Oil Costs: DC-10 and L-1011, Second Quarter 1975

	DC-10						L-1011		
	AA	CO	NA	NW	UA	WA[1]	DL	EA	TW
Traffic & Service									
Fleet Size	22.5	15.4	9.1	22.0	26.8	4.4	18.0	26.5	24.0
Aircraft Operating Expenses (Dollars per total block hours)									
Flying Operations									
Crew salaries & exp.	315.57	289.99	284.61	259.64	378.20	345.60	369.26	343.28	304.79
Fuel, oil & taxes	553.50	556.25	451.12	724.68	561.68	615.48	631.11	731.80	707.28
Insurance	10.13	19.89	22.80	22.20	12.78	19.77	29.72	22.55	36.78
Other	—	—	—	.90	—	—	—	—	2.08
Total	879.20	866.13	758.53	1007.42	952.66	980.85	1030.09	1097.63	1050.93
Maintenance									
Airframe	105.03	84.34	102.82	45.24	114.32	73.41	90.86	63.25	72.34
Engine	207.06	160.15	15.86	103.58	155.76	204.46	57.19	231.23	182.03
Other	11.99	33.00	15.04	12.25	24.72	7.78	6.71	37.54	34.05
Total direct	324.08	277.49	133.72	161.07	294.80	285.65	154.76	332.02	288.42
Maint. burden	188.96	129.30	140.89	56.16	153.81	188.68	190.81	210.74	148.12
Total	513.04	406.79	274.61	217.23	448.61	474.33	345.57	542.76	436.54
Cash acft. oper. exp.	1392.24	1272.92	1033.14	1224.65	1401.27	1455.18	1375.66	1640.39	1487.47
Depr. & rentals	427.73	352.62	330.08	454.97	541.00	349.18	568.60	494.06	631.56
Total acft. oper. exp.	$1819.97	$1625.54	$1363.22	$1679.62	$1942.27	$1804.36[1]	$1944.26	$2134.45	$2119.03
Cost per rev. mile	$ 4.38	$ 3.66	$ 3.36	$ 4.43	$ 4.68	$ 3.92	$ 5.17	$ 5.34	$ 4.93
Cost per sch. seat mile	1.83¢	1.78¢	1.35¢	1.88¢	2.01¢	1.68¢	2.07¢	2.09¢	2.20¢
Cost per gallon of fuel	24.5¢	25.5¢	20.1¢	30.9¢	26.4¢	27.0¢	27.6¢	30.4¢	28.6¢
Fuel and Oil Cost as a % of Total Acft. Oper. Exp.	30.41	34.22	33.09	43.15	28.92	34.11	32.46	34.29	33.38

[1] WA excludes $201.51 expense of interchange aircraft.

Source: "Jet Operating Data," *Air Transport World*, May 1976.

Table 3-38. U.S. Gross Consumption of Energy Resources by Major Sources and Consuming Sectors, 1974 and 1975 (Trillion Btu)

Consuming Sectors	Anthracite	Bituminous Coal and Lignite	Coke[1]	Natural Gas, Dry[2]	Petroleum[3]	Hydro-power[4]	Nuclear Power[4]	Total Gross Energy Inputs[5]	Utility Electricity Distributed[6]	Total Net Energy Inputs[7]	Percentage Change From 1974
Household and commercial:											
1974	66	248	—	7,518	6,061	—	—	13,893	3,723	17,616	
1975 (estimated)	56	226	—	7,373	5,829	—	—	13,484	3,783	17,267	—2.0
Industrial:											
1974	35	4,312	59	10,018	5,907	37	—	20,368	2,665	23,033	
1975 (estimated)	32	4,237	18	8,991	5,635	36	—	18,949	2,708	21,657	—6.0
Transportation:[8]											
1974	n/a	2	—	685	17,720	—	—	18,407	19	18,426	
1975 (estimated)	n/a	1	—	635	17,857	—	—	18,493	19	18,512	+0.5
Electricity generation, utilities:[4]											
1974	38	8,482	—	3,512	3,480	3,253	1,202	19,967	6,407	n/a	
1975 (estimated)	39	8,785	—	3,174	3,312	3,122	1,652	20,084	6,510	n/a	+0.6
Miscellaneous and unaccounted for:											
1974	—	—	—	—	246	—	—	246	n/a	246	
1975 (estimated)	—	—	—	—	68	—	—	68	n/a	68	
Total energy inputs:[9]											
1974	138	13,044	59	21,733	33,414	3,290	1,202	72,880	n/a	59,320	(Gross)
1975 (estimated)	128	13,248	18	20,173	32,701	3,158	1,652	71,078	n/a	57,504	—2.5

n/a —Not applicable

[1] Net imports of coke (2,262,000 tons in 1974 and 700,000 tons in 1975). The remainder of domestic coke consumption is accounted for in utilizing the gross total Btu value of coal carbonized for coke.

[2] Excludes natural gas liquids.

[3] Petroleum products including still gas, liquefied refinery gas, and natural gas liquids.

[4] Outputs of hydropower (adjusted for net imports or net exports) are converted to theoretical energy inputs calculated from national average heat rates for fossil-fueled steam-electric plants provided by the Federal Power Commission using 10,389 Btu per net kilowatt-hour. Energy inputs for nuclear power are converted at an average heat rate of 10,660 Btu per kilowatt-hour based on information from the Energy Research and Development Administration. Excludes inputs for power generated by nonutility plants which are included within the other consuming sectors.

[5] Gross energy is that contained in all types of commercial energy at the time it is incorporated into the economy, whether energy is produced domestically or imported. Gross energy comprises inputs of primary fuels (or their derivatives) and outputs of hydropower and nuclear power converted to theoretical fuel inputs. Gross energy includes energy used for production, processing, and transportation of energy proper.

[6] Utility electricity, generated and imported, distributed to the other consuming sectors as energy resource inputs. Distribution to sectors is based on sales reported in the Edison Electric Institute *Statistical Yearbook of the Electric Utility Industry for 1974*. Conversion of electricity to energy equivalent by sectors was made at the value of contained energy corresponding to 100 percent efficiency using a theoretical rate of 3,412 Btu per kilowatt-hour.

[7] Energy inputs into the final consuming sectors consisting of direct fuels and electricity distributed. Conversion losses in the electric sector constitute the difference between net and gross energy totals.

[8] Includes bunkers and military uses.

[9] Data may not add to totals shown because of independent rounding.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Interfuels Studies, News Release, April 5, 1976, Table 2.

Table 3-39. U.S. Gross Consumption of Net Energy[1] By Consuming Sector, 1947-1974 (Trillion Btu)

Year	Household and Commercial	% of Total	Industrial	% of Total	Transportation	% of Total	Total Net Energy Inputs	Gross[2] Energy Input	Conversion[3] Efficiency Percentage
1947	7,148	24.5%	13,254	45.3%	8,820	30.2%	29,222	33,035	88.5%
1948	7,480	25.7	12,822	44.0	8,808	30.3	29,110	33,880	85.9
1949	7,372	27.0	11,854	43.4	8,100	29.6	27,326	31,488	86.8
1950	8,139	27.5	12,884	43.4	8,640	29.1	29,663	33,992	87.3
1951	8,471	26.4	14,354	44.8	9,229	28.8	32,054	36,775	87.2
1952	8,645	27.3	13,780	43.6	9,190	29.1	31,615	36,458	86.7
1953	8,490	26.4	14,517	45.0	9,225	28.6	32,232	37,586	85.6
1954	8,765	28.1	13,317	42.7	9,131	29.2	31,213	36,263	86.1
1955	9,449	27.6	14,999	43.7	9,845	28.7	34,293	39,703	86.4
1956	9,898	27.7	15,701	43.9	10,149	28.4	35,748	41,700	85.7
1957	9,704	27.3	15,636	43.9	10,244	28.8	35,584	41,706	85.3
1958	10,562	29.8	14,609	41.2	10,291	29.0	35,462	41,696	85.0
1959	10,914	29.8	15,255	41.7	10,404	28.5	36,573	43,140	84.8
1960	11,436	29.9	15,948	41.7	10,836	28.4	38,220	44,569	85.8
1961	11,758	30.4	15,937	41.2	11,005	28.4	38,700	45,319	85.4
1962	12,438	30.7	16,651	41.1	11,443	28.2	40,532	47,422	85.6
1963	12,661	30.1	17,372	41.4	11,981	28.5	42,014	49,308	85.2
1964	12,935	30.8	18,242	42.0	12,281	28.2	43,458	51,240	84.8
1965	13,778	30.4	18,810	41.5	12,732	28.1	45,320	53,343	85.0
1966	14,489	30.4	19,816	41.6	13,361	28.0	47,666	56,412	84.5
1967	15,271	30.9	20,098	40.7	14,032	28.4	49,401	58,265	84.8
1968	15,576	29.9	21,407	41.0	15,174	29.1	52,157	61,763	84.4
1969	16,358	30.1	22,262	40.9	15,801	29.0	54,421	64,979	83.8
1970	16,988	30.4	22,434	40.1	16,361	29.5	55,911	67,143	83.3
1971	17,421	30.7	22,260	39.2	17,075	30.1	56,756	68,698	82.6
1972	18,066	30.5	22,985	38.9	18,075	30.6	59,123	71,946	82.2
1973	18,012	29.6	24,040	39.4	18,925	31.0	60,977	74,741	81.6
1974[p]	17,484	29.3	23,828	40.0	18,426	30.7	59,320	72,880	81.5

[p] preliminary

[1] Net energy is the sector inputs (household and commercial, industrial and transportation), and consists of direct fuels and purchased electricity.

[2] Gross energy is the total of inputs into the economy of primary fuels (petroleum, natural gas, and coal, including imports) or their derivations, plus the generation of hydro and nuclear power converted to equivalent energy inputs.

[3] The conversion efficiency factor is the percent of total gross energy going into the sectors.

Sources: American Petroleum Institute, *Basic Petroleum Data Book*, Section 1, Table 3.
U.S. Department of the Interior. 1947-1969: W.G. Dupree Jr. and J.A.West, *United States Energy Through The Year 2000*, December 1972
1970-1971: U.S. Bureau of Mines, *Minerals Yearbook 1972*.
1972: U.S. Bureau of Mines, "U.S. Energy Use Up Nearly 5 Percent in 1973," March 13, 1974 (Press Release, revised)
1973-1974: U.S. Bureau of Mines, "U.S. Energy Use Down in 1974 After Two Decades of Increases," April 3, 1975 (Press Release)

Table 3-40. Energy Consumption: Transportation Sector, 1947-1975

Year	Coal[1]		Petroleum[2]		Natural gas[3]		Total Fossil Fuels	Utility Electricity Purchased		Total Net Energy Inputs	
	Thousand short tons	Trillion Btu	Million barrels	Trillion Btu	Million cubic feet	Trillion Btu	Trillion Btu	Billion Kilowatt-hours	Trillion Btu	Trillion Btu	% of Total U.S. Energy Consumption
1947	113,324	3,030	1,050.3	5,761	Neg	—	8,791	8	29	8,820	26.7
1948	98,295	2,624	1,126.6	6,157	Neg	—	8,781	8	27	8,808	26.0
1949	70,915	1,892	1,137.8	6,183	Neg	—	8,075	7	25	8,100	25.7
1950	63,783	1,701	1,248.8	6,785	125,546	130	8,616	7	24	8,640	25.4
1951	56,903	1,525	1,377.5	7,482	192,496	199	9,206	7	23	9,229	25.1
1952	40,428	1,086	1,451.3	7,868	207,207	214	9,168	6	22	9,190	25.2
1953	30,074	809	1,511.5	8,158	230,314	238	9,205	6	20	9,225	24.5
1954	19,060	516	1,551.4	8,358	230,615	239	9,113	6	18	9,131	25.2
1955	17,429	464	1,691.4	9,109	245,246	253	9,826	6	19	9,845	24.8
1956	14,187	378	1,756.2	9,448	295,972	306	10,132	5	17	10,149	24.3
1957	10,126	270	1,832.0	9,649	299,235	310	10,229	4	15	10,244	24.6
1958	5,015	133	1,825.1	9,819	312,221	323	10,275	5	16	10.291	24.7
1959	3,861	102	1,849.4	9,923	349,348	362	10,387	5	17	10,404	24.1
1960	3,294	87	1,934.1	10,372	347,075	359	10,818	5	18	10,836	24.3
1961	770	21	1,971.9	10,575	377,607	390	10,986	6	19	11,005	24.3
1962	687	18	2,051.3	11,001	382,496	396	11,415	5	18	11,433	24.1
1963	670	18	2,146.7	11,506	423,783	438	11,962	6	19	11,981	24.3
1964	711	19	2,198.9	11,791	435,570	451	12,261	6	20	12,281	24.0
1965	655	18	2,271.9	12,179	500,524	517	12,714	5	18	12,732	23.9
1966	609	16	2,382.6	12,777	535,353	552	13,345	5	16	13 361	23.7
1967	467	13	2,497.1	13,408	575,752	594	14,015	5	17	14,032	24.1
1968	417	11	2,703.8	14,535	590,965	610	15,156	5	18	15,174	24.6
1969	313	8	2,815.8	15,125	630,962	651	15,784	5	17	15,801	24.3
1970	298	8	2,902.8	15,592	722,166	745	16,345	5	16	16,361	24.3
1971	207	6	3,032.0	16,286	742,592	766	17,058	5	17	17,075	24.8
1972	163	4	3,213.0	17,264	766,156	790	18,058	5	17	18,075	25.0
1973	116	3	3,348.8	18,164	728,177	743	18,910	4	15	18,925	25.3
1974[r]	80	2	3,267.9	17,720	668,834	685	18,407	6	19	18,426	25.3
1975[e]	25	1	3,297.2	17,857	620,000	635	18,493	6	19	18,512	26.0

[e] estimated

[r] revised

[1] Includes anthracite, bituminous, and lignite coals.
[2] Includes bunkers and military transportation.
[3] Consumption of natural gas by pipelines.

Source: U.S. Department of the Interior, *U.S. Energy to the Year 2000*, Dec., 1972 and News Release, April 5, 1976, Tables 2, 3, 4, 5, and 9, and equivalent tables in earlier editions.

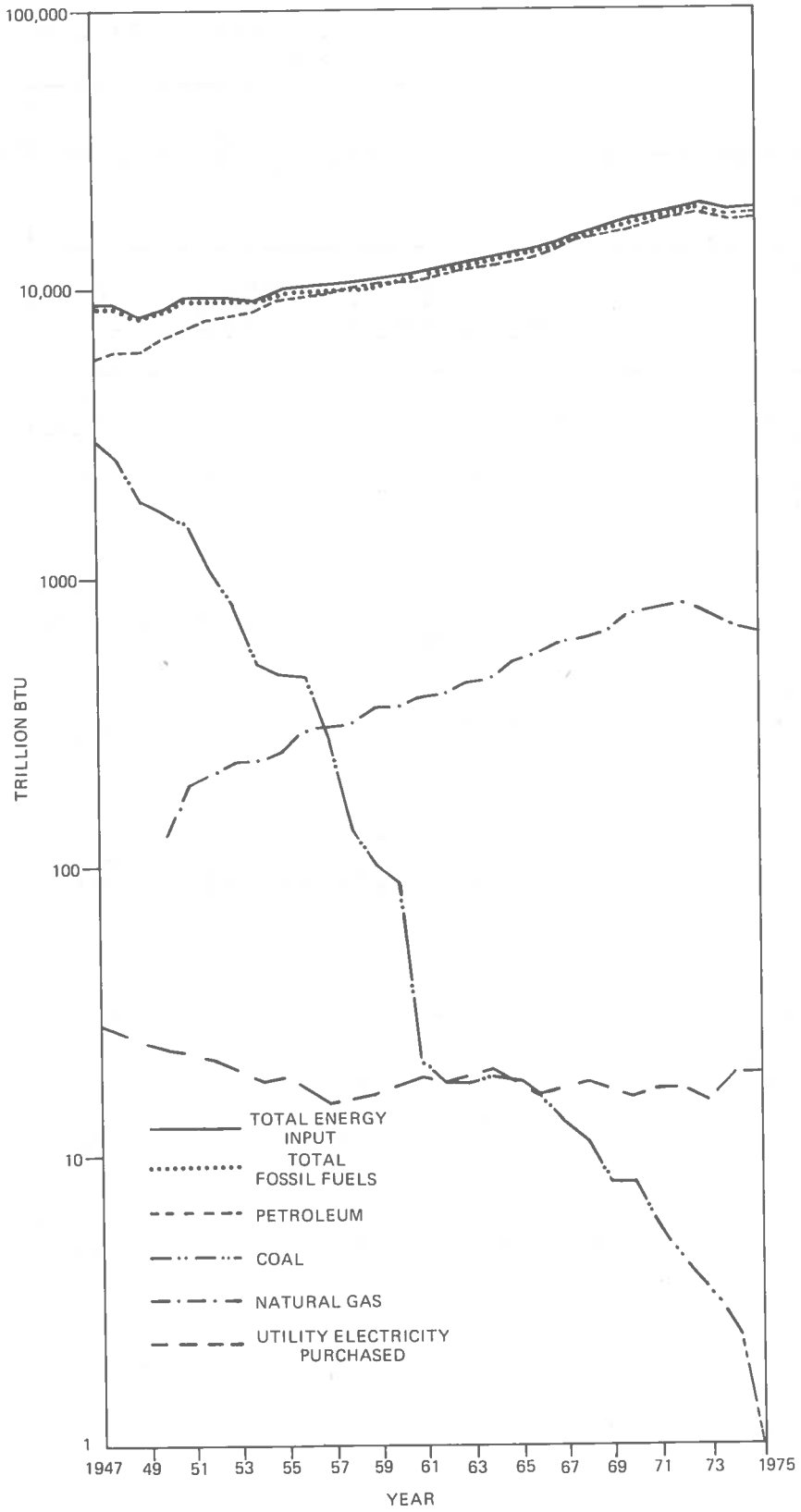


Figure 13. Energy Consumption: Transportation Sector, 1947 - 1975

Table 3-41. Domestic Supply and Consumption of Coal, 1970 - 1973
(Thousands of short tons)

	1970	1971	1972[r]	1973[p]
ANTHRACITE				
Domestic Supply				
Production	9,729	8,727	7,106	6,830
Exports	-1,481	-1,389	-1,191	-1,159
Imports	—	—	—	—
Stock change:				
withdrawals (+), additions (-)	n/a	n/a	n/a	n/a
Losses, gains, unaccounted for	—	—	—	—
Total Domestic Supply	8,248	7,338	5,915	5,671
Domestic Consumption				
Household and commercial	4,042	3,850	2,960	2,917
Industrial	2,309	1,842	1,371	1,312
Transportation	n/a	n/a	n/a	n/a
Electricity generation, utilities	1,897	1,646	1,584	1,442
Total Domestic Consumption	8,248	7,338	5,915	5,671
BITUMINOUS COAL AND LIGNITE				
Domestic Supply				
Production	602,932	552,192	595,386	591,000
Exports	-70,944	-56,633	-55,960	-52,870
Imports	36	111	47	127
Stock changes:				
withdrawals (+), additions (-)	-11,777	2,553	-25,121	16,437
Losses, gains unaccounted for	-4,628	-3,361	2,424	1,328
Total Domestic Supply	515,619	494,862	516,776	556,022
Domestic Consumption				
Fuel and power				
Household and commercial	12,072	11,351	8,748	8,200
Industrial	178,718	152,747	154,658	156,448
Transportation	298	207	163	116
Electricity generation, utilities	318,921	326,280	348,612	386,879
Raw material, Industrial	5,610	4,277	4,595	4,379
Total Domestic Consumption	515,619	494,862	516,776	556,022

[p]preliminary
[r]revised
n/a - not available

Source: U.S. Dept. of the Interior, Bureau of Mines, *Minerals Yearbook 1973*, Vol. 1, p.40, Table 19, and similar data in earlier editions.

Table 3-42. Petroleum Consumption by Sector, 1947-1975
(Trillion Btu)

Year	Household and Commercial			Industrial							
	Fuel use	Non-fuel use	Total	Fuel use	Non-fuel use	Total	Transportation[2]	Transportation as % of Total	Electrical Generation	Other Not Specified	Total Input
1947	1,925	326	2,251	2,085	432	2,517	5,761	50.7	468	371	11,368
1948	2,154	385	2,539	2,102	428	2,530	6,157	49.0	444	889	12,559
1949	2,093	379	2,472	2,064	402	2,466	6,183	51.0	577	422	12,120
1950	2,603	435	3,038	2,213	453	2,666	6,785	50.3	662	337	13,488
1951	2,722	480	3,202	2,509	535	3,044	7,482	50.4	499	621	14,848
1952	2,833	517	3,350	2,514	520	3,034	7,868	51.3	492	590	15,334
1953	2,869	522	3,391	2,584	560	3,144	8,158	50.7	577	829	16,099
1954	3,094	556	3,650	2,542	576	3,118	8,358	51.8	480	531	16,137
1955	3,386	615	4,001	2,754	652	3,406	9,109	52.0	512	496	17,524
1956	3,523	660	4,183	2,975	713	3,688	9,448	50.7	497	809	18,625
1957	3,432	637	4,069	2,715	763	3,478	9,649	52.0	512	862	18,570
1958	3,889	679	4,568	2,519	773	3,292	9,819	51.0	515	1,020	19,214
1959	3,997	721	4,718	2,674	915	3,589	9,923	50.3	546	971	19,747
1960	4,189	734	4,923	2,674	1,008	3,682	10,372	51.7	564	526	20,067
1961	4,275	753	5,028	2,634	1,048	3,682	10,575	51.6	577	625	20,487
1962	4,423	804	5,227	2,750	1,130	3,880	11,001	51.7	579	580	21,267
1963	4,434	824	5,258	2,739	1,255	3,994	11,506	52.4	600	592	21,950
1964	4,350	841	5,191	2,922	1,262	4,184	11,791	52.7	636	585	22,387
1965	4,744	891	5,635	2,826	1,313	4,139	12,179	52.4	744	545	23,242
1966	4,830	936	5,766	2,883	1,470	4,353	12,777	52.4	905	594	24,395
1967	5,289	917	6,206	2,820	1,612	4,432	13,408	52.9	1,013	276	25,335
1968	5,145	984	6,129	3,186	1,780	4,966	14,535	53.7	1,180	242	27,052
1969	5,260	1,009	6,269	3,220	1,951	5,171	15,125	53.2	1,628	229	28,422
1970	5,371	1,082	6,453	3,252	2,015	5,267	15,592	52.7	2,087	215	29,614
1971	5,331	1,108	6,439	3,196	1,898	5,094	16,286	53.3	2,543	207	30,570
1972	5,531	1,137	6,668	3,553	2,135	5,668	17,264	52.4	3,114	233	32,966
1973	5,425	1,264	6,689	3,819	2,240	6,059	18,164	52.1	3,656	283	34,851
1974[r]	4,896	1,165	6,061	3,690	2,217	5,907	17,720	53.0	3,480	246	33,414
1975[p]	4,688	1,141	5,829	3,521	2,114	5,635	17,857	54.6	3,312	70	32,701

[p] preliminary

[r] revised

[1] Petroleum products refined and processed from crude oil, including still gas, liquefied refinery gas, and natural gas liquids.
[2] Includes bunkers and military transportation.

Source: U.S. Department of the Interior, *U.S. Energy through the Year 2000*, Dec. 1972; and News Release, April 5, 1976, Tables 6a, 6b, and equivalent tables in earlier editions.

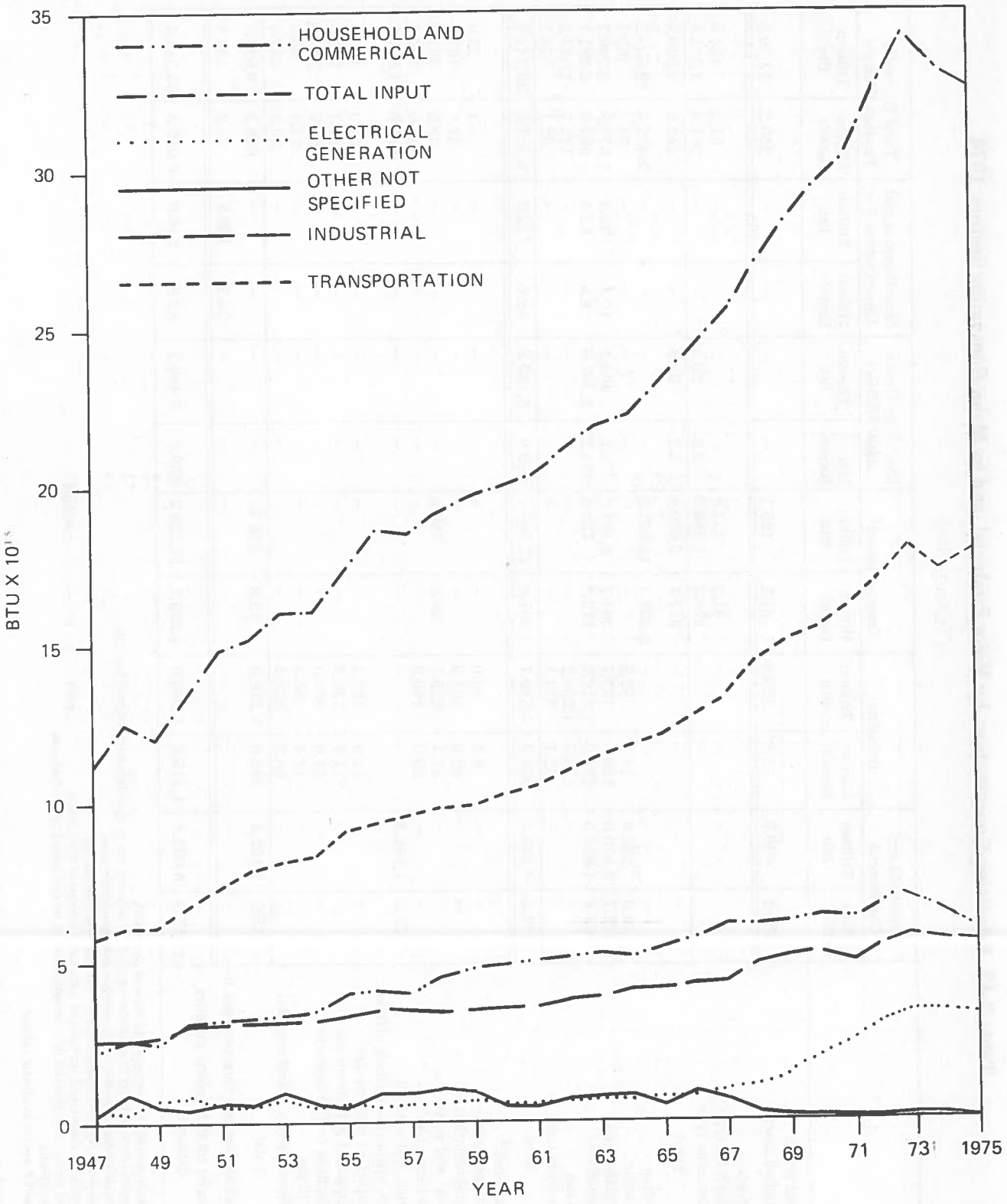


Figure 14. Petroleum Consumption by Sector, 1947-1975

Table 3-43. Petroleum Consumption, by Major Products[1] and by Major Consuming Sectors, 1974

	Household and Commercial		Industrial		Transportation[2]		Electricity Generation, Utilities		Miscellaneous and Unaccounted For		Total Domestic Product Demand	
	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu
Fuel and power:												
Liquefied gases	172.2	690.7	55.8[3]	223.8	31.2	125.1	—	—	—	—	259.2	1,039.6
Jet fuels:												
Naphtha type	—	—	—	—	81.2	434.8	—	—	—	—	81.2	434.8
Kerosene type	—	—	—	—	276.2	1,566.0	5.2	29.5	—	—	281.4	1,595.5
Total	—	—	—	—	357.4	2,000.8	5.2	29.5	—	—	362.6	2,030.3
Gasoline	—	—	—	—	2,402.4	12,607.8	—	—	—	—	2,402.4	12,607.8
Kerosene	49.9	282.9	14.5	82.2	—	—	—	—	—	—	64.4	365.1
Distillate fuel	492.7	2,870.0	126.3	735.7	364.2	2,121.5	79.5	463.1	10.1	58.8	1,072.8	6,249.1
Residual fuel	167.4	1,052.5	194.0	1,219.7	112.7	708.5	475.2	2,987.6	8.5	53.4	957.8	6,021.7
Still gas	—	—	175.7	1,054.2	—	—	—	—	—	—	175.7	1,054.2
Petroleum coke	—	—	62.1	374.1	—	—	—	—	—	—	62.1	374.1
Total	882.2	4,896.1	628.4	3,689.7	3,267.9	17,563.7	559.9	3,480.2	18.6	112.2	5,357.0	29,741.9
Raw material:[4]												
Plant condensate	—	—	6.1	33.0	—	—	—	—	—	—	6.1	33.0
Special naphthas	—	—	32.0	167.9	—	—	—	—	—	—	32.0	167.9
Lubes[5] and waxes	—	—	37.7	225.1	25.8	156.5	—	—	—	—	63.5	381.6
Petroleum coke[6]	—	—	25.0	150.6	—	—	—	—	—	—	25.0	150.6
Asphalt and road oil	175.6	1,165.3	—	—	—	—	—	—	—	—	175.6	1,165.3
Petrochemical feedstock offtake:												
Liquefied refinery gas[7]	—	—	41.9	162.1	—	—	—	—	—	—	41.9	162.1
Liquefied petroleum gas[7,8]	—	—	211.7	739.5	—	—	—	—	—	—	211.7	739.5
Naphtha (—400 degrees)	—	—	61.9	324.9	—	—	—	—	—	—	61.9	324.9
Still gas	—	—	14.4	86.4	—	—	—	—	—	—	14.4	86.4
Miscellaneous (+400 degrees)	—	—	56.2	327.4	—	—	—	—	—	—	56.2	327.4
Total	175.6	1,165.3	486.9	2,216.9	25.8	156.5	—	—	—	—	688.3	3,538.7
Miscellaneous and Unaccounted for	—	—	—	—	—	—	—	—	24.2	133.8	24.2	133.8
Grand total domestic product demand	1,057.8	6,061.4	1,115.3	5,906.6	3,293.7	17,720.2	559.9	3,480.2	42.8	246.0	6,069.5	33,414.4

[1] Includes liquefied refinery gas and natural gas liquids.
[2] Includes bunkers, military transportation, and all military use of distillate and residual fuel oils.
[3] Includes secondary recovery of petroleum and agriculture uses.
[4] Includes some fuel and power used by raw materials industries.
[5] Lubricants are distributed on basis of data from Bureau of the Census.
[6] Includes portions of petroleum coke estimated to be consumed in nonfuel uses.
[7] Includes ethane.
[8] Includes LP-gas for synthetic rubber.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Interfuels and Special Studies, News Release, April 5, 1976, Table 6A.

Table 3-44. Petroleum Consumption by Major Products[1] and by Major Consuming Sectors, 1975 (Estimated)

	Household and Commercial		Industrial		Transportation[2]		Electricity Generation, Utilities		Miscellaneous and Unaccounted For		Total Domestic Product Demand	
	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu	Million Barrels	Trillion Btu
Fuel and power:												
Liquefied gases	171.0	685.9	53.6[3]	215.0	31.0	124.3	—	—	—	—	255.6	1,025.2
Jet fuels:												
Naphtha type	—	—	—	—	82.0	439.1	—	—	—	—	82.0	439.1
Kerosene type	—	—	—	—	279.1	1,582.5	5.0	28.4	—	—	284.1	1,610.9
Total	—	—	—	—	361.1	2,021.6	5.0	28.4	—	—	366.1	2,050.0
Gasoline	—	—	—	—	2,452.1	12,868.6	—	—	—	—	2,452.1	12,868.6
Kerosene	43.0	243.8	12.1	68.6	—	—	—	—	—	—	55.1	312.4
Distillate fuel	480.0	2,796.0	122.5	713.6	353.0	2,056.2	77.0	448.5	7.0	40.8	1,039.5	6,055.1
Residual fuel	153.0	961.9	175.0	1,100.2	100.0	628.7	451.0	2,835.4	4.3	27.1	883.3	5,553.3
Still gas	—	—	176.0	1,056.0	—	—	—	—	—	—	176.0	1,056.0
Petroleum coke	—	—	61.0	367.5	—	—	—	—	—	—	61.0	367.5
Total	847.0	4,687.6	600.2	3,520.9	3,297.2	17,699.4	533.0	3,312.3	11.3	67.9	5,288.7	29,288.1
Raw material:[4]												
Plant condensate	—	—	5.0	27.1	—	—	—	—	—	—	5.0	27.1
Special naphthas	—	—	29.0	152.2	—	—	—	—	—	—	29.0	152.2
Lubes[5] and waxes	—	—	36.0	215.0	26.0	157.7	—	—	—	—	62.0	372.7
Petroleum coke[6]	—	—	24.0	144.5	—	—	—	—	—	—	24.0	144.5
Asphalt and road oil	172.0	1,141.4	—	—	—	—	—	—	—	—	172.0	1,141.4
Petrochemical feedstock offtake:												
Liquefied refinery gas[7]	—	—	41.3	159.8	—	—	—	—	—	—	41.3	159.8
Liquefied petroleum gas[7,8]	—	—	209.0	730.1	—	—	—	—	—	—	209.0	730.1
Naphtha (—400 degrees)	—	—	58.0	304.4	—	—	—	—	—	—	58.0	304.4
Still gas	—	—	12.0	72.0	—	—	—	—	—	—	12.0	72.0
Miscellaneous (+400 degrees)	—	—	53.0	308.7	—	—	—	—	—	—	53.0	308.7
Total	172.0	1,141.4	467.3	2,113.8	26.0	157.7	—	—	—	—	665.3	3,412.9
Miscellaneous and Unaccounted for	—	—	—	—	—	—	—	—	—	—	—	—
Total domestic product demand	1,019.0	5,829.0	1,067.5	5,634.7	3,323.2	17,857.1	533.0	3,312.3	11.3	67.9	5,954.0	32,701.0

[1] Includes liquefied refinery gas and natural gas liquids.
[2] Includes bunkers, military transportation, and all military use of distillate and residual fuel oils.
[3] Includes secondary recovery of petroleum and agriculture uses.
[4] Includes some fuel and power used by raw materials industries.
[5] Lubricants are distributed on basis of data from Bureau of the Census.
[6] Includes portions of petroleum coke estimated to be consumed in nonfuel uses.
[7] Includes ethane.
[8] Includes LP-gas for synthetic rubber.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Interfuels and Special Studies, News Release, April 5, 1976, Table 6B.

Table 3-45. Domestic Supply and Demand for Petroleum[1], 1974 and 1975

	1974		1975 (estimated)		Percentage Change from 1974
	Million bbl	Trillion Btu	Million bbl	Trillion Btu	
Supply, crude oil:					
Production (including lease condensate)	3,199.3	18,556.0	3,056.1	17,725.4	-4.5
Exports	-1.1	-6.4	-2.1	-12.2	
Imports	1,269.2	7,361.4	1,461.1	8,474.4	+15.1
Stock change: withdrawals (+), addition, (-)	-22.5	-130.5	+11.0	+63.8	
Losses, transfers for use as fuel, and unaccounted for	-16.2	-94.0	-8.5	-49.3	
Total	4,428.7	25,686.5	4,517.6	26,202.1	+2.0
Refinery input:					
Crude oil	4,428.7	25,686.5	4,517.6	26,202.1	+2.0
Transfers in, natural gas liquids[2]	272.4	1,245.3	278.0	1,270.0	-2.1
Other hydrocarbons	13.1	45.9	13.1	46.4	—
Total	4,714.2	26,977.7	4,808.7	27,518.5	+2.0
Supply, refined products:					
Refinery output	4,714.2	26,977.7	4,808.7	27,518.5	+2.0
Unfinished oil reruns, net	37.4	217.9	15.0	42.4	-59.9
Processing gain, net	175.2	—	159.5	—	
Total	4,926.8	27,195.6	4,983.2	27,560.9	+1.1
Exports[3]	-79.4	-460.8	-75.0	-435.0	-5.5
Imports[3]	952.4	5,690.8	715.0	4,272.0	-24.9
Stock change, including natural gas liquids	-42.8	-231.6	-34.0	-170.0	
Transfers in, natural gas liquids[2],[4]	343.7	1,233.9	316.2	1,121.1	-8.0
Losses, gains, and unaccounted for	-31.2	-13.5	48.6	352.0	
Total	6,069.5	33,414.4	5,954.0	32,701.0	-1.9
Demand by major consuming sectors:					
Fuel and power:					
Household and commercial	882.2	4,896.1	847.0	4,687.6	-4.0
Industrial	628.4	3,689.7	600.2	3,520.9	-4.5
Transportation[5]	3,267.9	17,563.7	3,297.2	17,699.4	+ .9
Electricity generation, utilities	559.9	3,480.2	533.0	3,312,3	-4.8
Other, not specified	18.6	112.2	11.3	67.9	-39.2
Total	5,357.0	29,741.9	5,288.7	29,288.1	-1.3
Raw material[6]:					
Petrochemical feedstock offtake	386.1	1,640.3	373.3	1,575.0	-3.3
Other nonfuel use	302.2	1,898.4	292.0	1,837.9	-3.4
Total	688.3	3,538.7	665.3	3,412.9	-3.3
Miscellaneous and unaccounted for	24.2	133.8	—	—	
Total domestic product demand	6,069.5	33,414.4	5,954.0	32,701.0	-1.9

[1] Supply and demand for crude oil and petroleum products. Petroleum products include products refined and processed from crude oil, including still gas and liquefied refinery gas; also natural gas liquids transferred from natural gas.
[2] Btu values for natural gas liquids for each year shown are implicitly derived from weighted averages of major natural gas liquids, with natural gasoline and other products at 110,000 Btu per gallon, liquefied petroleum gases at 95,500 Btu per gallon, ethane at 73,390 Btu per gallon, and plant condensate at 129,000 Btu per gallon.
[3] Btu values for imported and exported refined products for 1974 are totals of the Btu values of the respective products imported and exported. The 1974 average Btu value is applied to 1975 estimates.
[4] Includes natural gas liquids other than those channeled into refinery input as follows: Petrochemical feedstocks, direct uses for fuel and power, and other uses.
[5] Includes bunkers and military fuel uses.
[6] Includes some fuel and power use by raw materials industries.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Interfuels and Special Studies, News Release, April 5, 1976, Table 5.

Table 3-46. U.S. Gasoline Domestic Demand
(Thousands of barrels per day)

Year	Total Demand	% Change	Motor [1]	% Change	Aviation	% Change
1947	2,178	—	2,119	—	59	—
1948	2,380	+ 9.3	2,280	+ 7.6	100	+69.5
1949	2,503	+ 5.2	2,410	+ 5.7	93	- 7.0
1950	2,724	+ 8.8	2,616	+ 8.5	108	+16.1
1951	2,985	+ 9.6	2,840	+ 8.6	145	+34.3
1952	3,123	+ 4.6	2,954	+ 4.0	169	+16.6
1953	3,303	+ 5.8	3,109	+ 5.2	194	+14.8
1954	3,369	+ 2.0	3,191	+ 2.6	178	- 8.3
1955	3,643	+ 8.1	3,451	+ 8.1	192	+ 7.9
1956	3,752	+ 3.0	3,548	+ 2.8	204	+ 6.3
1957	3,816	+ 1.7	3,615	+ 1.9	201	- 1.5
1958	3,934	+ 3.1	3,711	+ 2.7	223	+10.9
1959 [2]	4,069	+ 3.4	3,857	+ 3.9	212	- 4.9
1960	4,130	+ 1.5	3,969	+ 2.9	161	-24.1
1961	4,200	+ 1.7	4,043	+ 1.9	157	- 2.5
1962	4,342	+ 3.4	4,199	+ 3.9	143	- 8.9
1963	4,471	+ 3.0	4,334	+ 3.2	137	- 4.2
1964 [3]	4,530	+ 1.3	4,403	+ 1.6	127	- 7.3
1965	4,713	+ 4.0	4,593	+ 4.3	120	- 5.5
1966	4,913	+ 4.2	4,808	+ 4.7	105	-12.5
1967	5,048	+ 2.7	4,958	+ 3.1	90	-14.3
1968	5,344	+ 5.9	5,260	+ 6.1	84	- 6.7
1969	5,596	+ 4.7	5,526	+ 5.0	70	-16.7
1970	5,839	+ 4.3	5,785	+ 4.7	54	-22.9
1971	6,063	+ 3.8	6,014	+ 4.0	49	- 9.3
1972	6,423	+ 5.9	6,377	+ 6.0	46	- 6.1
1973	6,719	+ 4.6	6,674	+ 4.7	45	- 2.2
1974	6,582	- 2.0	6,538	- 2.0	44	- 2.2

[1] Includes highway and nonhighway uses.

[2] These figures and those for subsequent years are on a 50 state basis.

[3] Motor gasoline demand data were not shown separately by the U.S. Bureau of Mines until 1964; prior years were adjusted to attain separate figures.

Source: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 4; U. S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, 1947-1972; *Petroleum Statement Annual*, 1973, 1974, Table 1.

Table 3-47. U.S. Domestic Demand for Naphtha and Kerosene-Type Jet Fuel (Thousand barrels)

Year	Naphtha Type Total	Barrels Per Day	Kerosene Type Total	Barrels Per Day	Naphtha and Kerosene	Barrels Per Day	Annual Percentage Change
1964[1]	99,052	271	121,536	332	220,588	603	—
1965	97,813	268	121,819	334	219,632	602	−0.2%
1966	101,635	278	142,751	391	244,386	670	+11.3
1967	111,546	306	189,224	518	300,770	824	+23.0
1968	126,601	346	222,777	609	349,378	955	+15.9
1969	108,518	297	253,213	694	361,731	991	+3.8
1970	90,927	249	262,051	718	352,978	967	−2.4
1971	94,732	260	273,991	751	368,723	1,010	+4.4
1972	88,495	242	293,995	803	382,490	1,045	+3.5
1973	79,220	217	307,407	842	386,627	1,059	+1.3
1974	81,171	222	281,429	771	362,600	993	−6.2

[1] Data prior to 1964 are not on a comparable basis.

Source: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 7.
Department of the Interior, U.S. Bureau of Mines, *Petroleum Statement Annual*, 1974, Table 1 and preceding issues.

Table 3-48. Domestic Supply and Demand for Natural Gas, 1974 and 1975

	1974		1975 (estimated)		Percentage Change from 1974
	Million Cubic Feet	Trillion Btu	Million Cubic Feet	Trillion Btu	
Supply:					
Marketed production[1]	21,600,522	23,689.3	20,100,000	22,186.0	−6.9
Transfers out, extraction loss[2]	−887,490	−2,479.3	−769,000	−2,391.1	−13.4
Domestic production[3]	20,713,032	21,210.1	19,331,000	19,794.9	−6.7
Exports	−76,789	−78.6	−75,000	−76.8	−2.3
Imports	959,284	982.3	950,000	972.8	−1.0
Stock change: Withdrawals (+), additions (−)	−83,663	−85.7	−221,000	−226.3	
Transmission loss and unaccounted for[4]	−288,731	−295.6	−285,000	−291.8	
Total	21,223,133	21,732.5	19,700,000	20,172.8	−7.2
Demand by major consuming sectors:					
Fuel and power:					
Household and commercial[5]	7,341,745	7,517.9	7,200,000	7,372.8	−1.9
Industrial	9,073,193	9,291.0	8,098,000	8,292.3	−10.7
Transportation	668,834	684.9	620,000	634.9	−7.3
Electricity generation, utilities	3,429,231	3,511.5	3,100,000	3,174.4	−9.6
Total	20,513,003	21,005.3	19,018,000	19,474.4	−7.3
Raw Materials: Industrial[6]					
Carbon black	40,130	41.1	32,000	32.8	−20.3
Other chemicals[7]	670,000	686.1	650,000	665.6	−3.0
Total	710,130	727.2	682,000	698.4	−4.0
Grand total	21,223,133	21,732.5	19,700,000	20,172.8	−7.2

[1] Marketed production represents gross withdrawals less the quantities used for repressuring and the amount rented or flared. British thermal unit value of production is for wet gas prior to extraction of natural gas liquids. Higher Btu values assigned to extraction loss represent the Btu values assigned to extraction loss represent the Btu value of natural gas liquids production for each year.

[2] Extraction loss from cycling plants represents offtake of natural gas for natural gas liquids as reported to the Bureau of Mines. Energy equivalent of extraction loss is based on annual outputs of natural gasoline and associated products at 110,000 Btu per gallon, annual outputs of LPG at 95,500 Btu per gallon, and annual outputs of ethane, since 1967, at 73,390 Btu per gallon; beginning with 1973, energy equivalent for plant condensate is computed at 129,000 Btu per gallon.

[3] Domestic production is the marketed production less the shrinkage resulting from the extraction of natural gas liquids.

[4] Transmission loss and unaccounted for was formerly included in the industrial sector.

[5] Includes deliveries to municipalities and public authorities for institutional heating, street lighting, etc., formerly included in the industrial consuming sector.

[6] Includes some fuel and power used by raw material industries.

[7] Estimated from partial data.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Interfuels Studies, New Release, April 5, 1976, Table 4.

Table 3-49. Domestic Supply and Demand for Coal, 1974 and 1975

	1974		1975 (estimated)		Percentage Change From 1974
ANTHRACITE	Thousand Short Tons	Trillion Btu	Thousand Short Tons	Trillion Btu	
Supply:					
Production[1]	6,617	168.1	6,200	157.4	—6.3
Exports[2]	—1,169	—29.7	—1,175	—29.8	+0.5
Imports	—	—	—	—	—
Stock change: withdrawals (+), additions (—)	n/a	n/a	n/a	n/a	
Losses, gains, and unaccounted for	—	—	—	—	
Total	5,448	138.4	5,025	127.6	—7.8
Demand by major consuming sectors:[3]					
Household and commercial[4]	2,577	65.5	2,210	56.1	—14.2
Industrial[5]	1,373	34.9	1,265	32.1	—7.9
Electricity generation, utilities	1,498	38.0	1,550	39.4	+3.5
Total	5,448	138.4	5,025	127.6	—7.8
BITUMINOUS COAL AND LIGNITE					
Supply:					
Production[1]	603,406	14,481.7	640,000	15,360.0	+6.1
Exports	—59,926	—1,621.6	—66,000	—1,786.0	+10.1
Imports	2,080	49.1	1,150	27.1	—44.7
Stock change: withdrawals (+), addition (—)	+7,265	+136.9	—9,421	—260.5	
Losses, gains, and unaccounted for	—116	—2.2	—3,729	—92.2	
Total	552,709	13,043.9	562,000	13,248.4	+1.7
Demand by major consuming sectors:					
Fuel and power:					
Household and commercial[4]	8,840	248.0	8,000	226.0	—9.5
Industrial[5]	149,619	4,197.0	146,010	4,125.1	—2.4
(Coal carbonized for coke)[6]	(89,747)	(2,517.5)	(85,000)	(2,401.4)	(—5.3)
Transportation[7]	80	2.2	25	0.7	—68.8
Electricity generation, utilities	390,068	8,481.6	404,000	8,784.6	+3.6
Total	548,607	12,928.8	558,035	13,136.4	+1.7
Raw material: Industrial[8]					
Crude light oil	1,087	30.5	1,000	28.2	—8.0
Crude coal tar	3,015	84.6	2,965	83.8	—1.7
Total raw material	4,102	115.1	3,965	112.0	—3.3
Grand total	552,709	13,043.9	562,000	13,248.4	+1.7

n/a — not available

[1] Includes use by producers for power and heat.

[2] Includes shipments to U.S. Armed Forces in West Germany.

[3] Except for small quantities used as raw material for coal chemicals, all anthracite is used for fuel and power.

[4] Data represent "retail deliveries to other consumers." These are mainly household and commercial users, with some unknown portion of use by small industries.

[5] Includes consumption by coke plants, steel and rolling mills, and other industrial uses. Adjusted to exclude coal equivalent of raw material use.

[6] Figures in parentheses are not added into totals.

[7] Includes bunkers and military transportation.

[8] Coal equivalent based on British thermal unit value of raw material consumption of coal chemicals listed.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Interfuels and Special Studies, News Release, April 5, 1976, table 3.

Table 3-50. Fuel Consumption by Mode of Transport, 1964-1974

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Class I Railroads											
Locomotives											
Diesel Oil, gals X 10^6	3,624	3,736	3,920	3,883	3,917	3,919	3,804	3,819	3,999	4,141	4,112
Fuel Oil, gals X 10^6	85	77	65	47	42	33	—	—	—	—	—
Electricity, KWH X 10^6	931	933	922	832	750	610	578	534	608[r]	346	467
Coal, tons	6,831	3,695	3,235	2,310	1,669	1,137	1,238	1,191	1,400	1,202	1,160
Motor Cars											
Diesel Oil, gals X 10^6	7	6	6	6	5	5	8	4	3	3	4
Electricity, KWH X 10^6	583	576	576	580	567	538	753	756	715	901	847
Gasoline, gals	4,585	—	—	—	—	—	—	—	—	—	—
Air											
Certificated Carriers											
Aviation Gasoline, gals X 10^6	589	519	398	268	128	33	15	12	12	11	n/a—
Jet Fuel, gals X 10^6	3,830	4,650	5,670	7,523	8,891	10,113	10,085	10,140	10,302	10,671	9,554[5]
General Aviation											
Aviation Gasoline, gals X 10^6	262	292	375	396	495	522	551	508	584	n/a	n/a
Jet Fuel, gals X 10^6	41	81	106	138	n/a	168	208	226	245	n/a	n/a
Highway											
Gasoline, gals X 10^6											
Pass. Cars + Taxis	47,567[4]	50,206	53,220	55,007	58,413	62,325	65,649	69,213	73,121	77,619	73,797
Motorcycles	—	69	92	103	111	123	135	301	342	392	447
Diesel + Gasoline, gals X 10^6											
Commercial Buses[3]	622	645	637	646	655	657	644	631	561	520	525
School Buses	242	249	259	264	277	290	300	316	320	327	333
Single-unit Trucks[1]	13,199	13,504	13,636	14,470	15,674	16,528	17,237	18,221	22,118	22,755	21,116
Combination Trucks	6,271	6,431	6,779	7,203	7,808	8,199	8,363	8,865	8,600	8,860	10,083
Water											
Vessels											
Residual Fuel Oil, gals X 10^6	3,487	3,093	3,093	3,389	3,678	3,506	3,774	3,307	3,273	3,881[r]	3,827
Distillate Fuel Oil, gals X 10^6	672	652	699	734	766	793	819	880	1,013	1,125	1,019
Gasoline, gals X 10^6	n/a	n/a	485	501	533	569	598	645	687	717	697
Transit											
Electricity, KWH X 10^6											
Rapid Transit	2,171	2,185	2,075	2,194	2,250	2,291	2,261	2,262	2,149	2,098	n/a
Surface Rail	222	218	226	180	179	173	157	153	146	140	n/a
Trolley	204	181	166	157	157	154	143	141	133	93	n/a
Gallons of Motor Fuel, gals X 10^6											
Gasoline	96	92	76	58	46	40	37	29	20[r]	12[r]	7
Diesel Oil	242	248	256	270	274	274	271	257	253[r]	283[r]	316
Propane	33	33	34	33	32	32	31	27	24	15	3
Pipelines (Gas & Oil)											
Natural Gas, Cu. Ft. X 10^6	433,204	500,024	535,353	575,752	590,965	630,962	722,166	742,592	766,156	728,177	668,792

n/a = not available

[r]revised

[1] Includes non-freight truck movements.
[2] Vessel bunkering (including tankers). Includes purchases of fuel by all commercial vessels in U.S. ports.
[3] Includes Intercity and Urban Buses.
[4] Includes motorcycles.
[5] Includes Aviation Gasoline.

Sources: Association of American Railroads, Civil Aeronautics Board, Federal Highway Administration, American Petroleum Institute, American Public Transit Association, American Gas Association, Federal Aviation Administration.

Table 3-51.[1] Total and Average Consumption of Motor Fuel by U.S. Motor Vehicles, 1947 - 1974

Year	Passenger Cars[1]			Motor Trucks			Buses[2]			Total Motor Vehicles		
	Number[3] Registered (thousands)	Motor Fuel Consumption (million gallons)	Average Consumption Per Vehicle (gallons)	Number[3] Registered (thousands)	Motor Fuel Consumption (million gallons)	Average Consumption Per Vehicle (gallons)	Number[3] Registered (thousands)	Motor Fuel Consumption (million gallons)	Average Consumption Per Vehicle (gallons)	Number[3] Registered (thousands)	Motor Fuel Consumption (million gallons)	Average Consumption Per Vehicle (gallons)
1947	30,872	20,086	651	6,650	7,243	1,089	176	778	4,420	37,698	28,107	746
1948	33,394	21,369	640	7,379	8,189	1,110	184	780	4,239	40,957	30,338	741
1949[4]	36,453	22,957	630	8,028	8,666	1,079	209	711	3,402	44,690	32,334	724
1950[4]	40,334	25,238	626	8,604	9,526	1,107	224	782	3,491	49,162	35,546	723
1951[4]	42,682	26,990	632	9,001	10,188	1,132	230	836	3,635	51,913	38,014	732
1952[4]	43,818	28,729	656	9,207	10,844	1,178	240	890	3,708	53,265	40,463	760
1953[4]	46,460	30,249	651	9,576	11,418	1,192	244	937	3,840	56,280	42,604	757
1954	48,413	30,915	639	9,726	12,541	1,289	233	755	3,240	58,372	44,211	757
1955	52,092	33,548	644	10,413	13,308	1,278	255	771	3,024	62,760	47,627	759
1956	54,249	35,326	651	10,737	13,978	1,302	255	802	3,145	65,241	50,106	768
1957	56,375	36,769	652	10,961	14,271	1,302	264	825	3,125	67,600	51,865	767
1958	57,392	38,095	644	11,159	14,514	1,301	270	809	2,996	68,821	53,418	776
1959[5]	60,132	40,056	666	11,671	15,453	1,324	265	823	3,106	72,068	56,332	782
1960	62,258	41,169	661	11,945	15,882	1,330	272	827	3,040	74,475	57,878	777
1961	63,870	42,033	658	12,291	16,443	1,338	281	830	2,954	76,442	59,306	776
1962	66,638	43,771	657	12,809	17,089	1,334	288	837	2,906	79,735	61,697	774
1963	69,842	45,246	648	13,360	18,432	1,380	298	838	2,812	83,500	64,516	773
1964	72,969	47,567	652	14,013	19,470	1,389	305	864	2,833	87,287	67,901	778
1965	76,634	50,275	656	14,795	19,935	1,347	314	894	2,847	91,743	71,104	775
1966	80,106	53,312	666	15,517	20,415	1,316	324	896	2,765	95,947	74,623	778
1967	82,367	55,110	669	16,193	21,673	1,338	338	910	2,692	98,898	77,693	786
1968	85,793	58,524	682	16,995	23,482	1,382	352	932	2,648	103,140	82,938	804
1969	89,156	62,448	700	17,871	24,727	1,384	364	947	2,602	107,391	88,122	821
1970	92,095	65,784	714	18,748	25,600	1,365	379	944	2,491	111,222	92,328	830
1971	96,144	69,514	723	19,802	27,086	1,368	397	947	2,385	116,343	97,547	838
1972	100,658	73,463	730	21,239	30,718	1,446	407	881	2,165	122,304	105,062	859
1973	106,119	78,011	735	23,233	31,615	1,361	426	847	1,988	129,778	110,473	851
1974	109,824	74,244	676	24,589	31,199	1,269	447	858	1,920	134,860	106,301	788

[1] Travel by motorcycles included in with passenger cars.
[2] Includes commercial, school and nonrevenue buses.
[3] Due to rounding, numbers may vary slightly.
[4] Total and average consumption calculated by the American Petroleum Institute for the years 1949-1953, Bureau of Public Roads data not available.
[5] Includes Alaska and Hawaii beginning in 1959.

Sources: American Petroleum Institute: *Basic Petroleum Data Book*, Section XII, Table 7;
Bureau of Public Roads, *Estimated Motor-Vehicle Travel in the United States and Related Data* (Federal Highway Administration after 1969).

Table 3-52. Highway Use of Motor Fuel, 1974[1]

Item	Passenger Vehicles							Cargo Vehicles			
	Personal Passenger Vehicles			Buses							
	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Commercial	School	All Buses	All Passenger Vehicles	Single-Unit Trucks	Combi-nations	All Trucks	All Motor Vehicles
Number of vehicles registered (thousands)	104,857.4	4,966.4	109,823.8	90.1	356.8	446.9	110,270.7	23,524.4	1,064.6	24,589.0	134,859.7
Average miles traveled per vehicle	9,494	4,500	9,268	28.968	6,867	11,322	9,277	8,985	51,968	10,846	9,563
Fuel consumed (million gallons)	73,797	447	74,244	525	333	858	75,102	21,116	10,083	31,199	106,301
Average fuel consumption per vehicle (gallons)	704	90	676	5,827	933	1,920	681	898	9,471	1,269	788
Average miles traveled per gallon of fuel consumed	13.49	50.00	13.71	4.97	7.32	5.90	13.62	10.01	5.49	8.55	12.13

[1] For the 50 States and District of Columbia.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, 1974, Table VM-1.

Table 3-53. Electrical Energy and Motor Fuel Consumed by the U.S. Transit Industry At 5-Year Intervals 1945 - 1955 and Annually 1955 - 1974

Calendar Year	Kilowatt Hours Consumed (In Millions)				Gallons of Motor Fuel Used (In Thousands)		
	Heavy Rail	Light Rail	Trolley Coach	Total	Gasoline	Diesel Oil	Propane
1945	1,966	4,547	520	7,033	510,000	11,800	0
1950	2,000	2,410	841	5,251	430,000 [1]	98,600	([1])
1955	1,900	910	720	3,530	246,000	172,600	30,300
1956	1,960	700	680	3,340	219,400	183,500	30,300
1957	1,980	560	600	3,140	198,400	190,000	34,200
1958	2,073	485	535	3,093	181,700	192,700	35,100
1959	2,067	431	464	2,962	167,800	196,600	36,600
1960	2,098	393	417	2,908	153,600	208,100	38,300
1961	2,108	362	381	2,851	125,900	217,500	35,700
1962	2,115	325	346	2,786	108,400	229,000	36,100
1963	2,125	255	262	2,642	102,500	235,300	35,900
1964	2,171	222	204	2,597	95,900	242,200	33,400
1965	2,185	218	181	2,584	91,500	248,400	32,700
1966	2,075	226	166	2,467	76,000	256,000	33,600
1967	2,194	180	157	2,531	57,800	270,300	33,000
1968	2,250	179	157	2,586	45,700	274,200	32,200
1969	2,291	173	154	2,618	40,000	273,800	31,600
1970	2,261	157	143	2,561	37,200	270,600	31,000
1971	2,262	153	141	2,556	29,400	256,800	26,500
1972	2,149	146	133	2,428	19,647[r]	253,250[r]	24,400
1973	2,098	140	93	2,331	12,333[r]	282,620[r]	15,152
1974	n/a	n/a	n/a	2,630[r]	7,457[r]	316,360[r]	3,142
1975[p]	n/a	n/a	n/a	2,646	5,017	365,060	2,559

n/a = not available.

[p]preliminary

[r]revised

[1] Propane included with gasoline

Source: American Public Transit Association, *Transit Fact Book*, 1975-76, Table 16.

Table 3-54. Consumption of Aviation Gasoline and Jet Fuel by the Certificated Carriers, Scheduled Plus Nonscheduled Service, 1960-1974
(Thousands of gallons)

Year	Total Certificated Route Air Carriers	Domestic Operations										International and Territorial Operations		
		Total Domestic Operations	Passenger/Cargo Carriers								All-Cargo Carriers	Total	Passenger/ Cargo Carriers	All-Cargo Carriers
			Total	Domestic Trunk			Local Service	Other[1]	Intra-Alaska	Intra-Hawaii				
				Total	Big Four	Other Trunks								
1960	2,519,757	1,954,236	1,910,482	1,806,202	1,228,522	577,680	88,032	2,269	5,320	8,499	43,754	565,520	547,040	18,480
1961	3,023,259	2,312,794	2,255,933	2,137,938	1,533,251	604,686	103,036	2,469	5,666	6,572	56,861	710,465	684,489	25,976
1962	3,546,333	2,713,384	2,630,320	2,494,627	1,793,831	700,796	119,937	2,218	6,483	6,752	83,064	832,949	804,700	28,249
1963	3,941,663	2,957,177	2,896,278	2,744,556	1,977,828	766,728	133,836	2,239	7,310	8,235	60,899	984,486	957,479	27,008
1964	4,419,007	3,297,318	3,229,231	3,056,941	2,158,020	898,921	151,206	2,812	7,959	10,313	68,087	1,121,689	1,089,709	31,090
1965	5,169,023	3,888,834	3,815,937	3,617,172	2,524,868	1,092,304	176,252	3,403	7,761	11,348	72,878	1,280,189	1,235,878	44,311
1966	6,067,042	4,422,212	4,325,073	4,065,435	2,752,725	1,312,710	231,923	4,158	7,957	15,600	97,138	1,644,831	1,560,971	83,860
1967	7,790,373	5,654,507	5,548,149	5,196,158	3,533,792	1,662,366	318,688	4,746	8,540	20,016	106,357	2,135,866	2,001,193	134,673
1968	9,108,451	6,676,948	6,568,037	6,081,503	4,096,630	1,984,873	449,501	4,383	8,331	24,319	108,912	2,431,502	2,275,996	155,506
1969	10,145,250	7,564,696	7,467,871	6,861,803	4,527,319	2,334,484	561,336	3,239	10,694	30,799	96,825	2,580,554	2,355,636	224,918
1969[3]	10,145,250	8,009,247	7,912,423	7,277,715	4,692,284	2,585,431	561,336	31,879	10,694	30,799	96,825	2,136,003	1,911,084	224,918
1970	10,099,172	7,856,593	7,796,375	7,106,903	4,740,548	2,366,355	618,126	30,617	10,839	29,890	60,218	2,242,579	2,013,883	228,696
1971	10,152,195	7,798,954	7,740,388	7,050,556	4,452,358	2,598,198	619,151	29,295	12,364	29,022	58,566	2,353,241	2,113,200	240,041
1972	10,180,102[r]	7,753,262[r]	7,685,374[r]	7,172,159	4,533,082	2,639,077	649,397[r]	1,090[r]	38,899[r]	33,187[r]	67,888[r]	2,426,839[r]	2,178,294[r]	248,545[r]
1973	10,699,779	8,354,484	8,263,964	7,450,949	4,576,063[2]	2,874,886	727,633	1,480[4]	44,661[4]	37,297	90,520	2,345,294	2,143,420	201,875
1974	9,553,792	7,508,899	7,423,640	6,612,145	4,142,724[2]	2,469,421	720,372	1,492[4]	50,205[4]	37,307	85,260	2,044,893	1,864,685	180,208

Note. Individual figures may not add up because of rounding.

[r]revised

[1] Includes helicopter carriers.

[2] Includes American, Eastern, TWA, United Airlines only.

[3] Compiled on a 50-state basis, 1969 and after.

[4] Alaska Airline data transferred from Other to Intra-Alaska.

Source: *C.A.B. Handbook of Airline Statistics* 1973, Table 57, and advance information based on CAB Form 41, Schedule T-2(b), *Quarterly Reports.*

APPENDIX A
Definitions of Natural Gas and Crude Oil; Natural Gas and Crude Oil Reserves; Natural Gas and Crude Oil Production

NATURAL GAS

Natural gas is a mixture of hydrocarbons and varying quantities of nonhydrocarbons that exists either in the gaseous phase or in solution with crude oil in natural underground reservoirs. Natural gas may be subclassified as follows:

Associated Gas — Natural gas, commonly known as gas-cap gas, which overlies and is in contact with crude oil in the reservoir.*

Dissolved Gas — Natural gas which is in solution with crude oil in the reservoir.

Nonassociated Gas — Natural gas which is in reservoirs that do not contain significant quantities of crude oil.

Dissolved gas and associated gas may be produced concurrently from the same well bore. In such situations, it is not feasible to measure the production of dissolved gas and associated gas separately; therefore, production is reported under the heading of associated-dissolved or casinghead gas. Reserves and productive capacity estimates for associated and dissolved gas are also reported as totals for associated-dissolved gas combined.

For statistical purposes, all natural gas volumes are reported in cubic feet on a pressure base of 14.73 psia, at 60° F.

NATURAL GAS - PROVED RESERVES

Proved reserves of natural gas as of December 31 of any given year are the estimated quantities of natural gas which geological and engineering data demonstrate with reasonable certainty to be recoverable in the future from known natural oil and gas reservoirs under existing economic and operating conditions.

Reservoirs are considered proved if economic producibility is supported by either actual production or conclusive formation tests. The area of a reservoir considered proved includes: (1) that portion delineated by drilling and defined by gas-oil, gas-water, or oil-water contacts; and (2) the adjoining portions not yet drilled but which can be reasonably judged as economically productive on the basis of available geological and engineering data. In the absence of information on fluid contacts, the lowest known structural occurrence of hydrocarbons controls the lower proved limit of the reservoir.

Reserve estimates are prepared for total recoverable natural gas, nonassociated gas, and associated-dissolved gas. Estimates do not include (1) gaseous equivalents of natural gas liquids expected to be recovered from reservoir natural gas as it is produced; (2) natural gas being held in underground storage; or (3) nonhydrocarbon gases.

Classifications of reservoirs by regulatory agencies are used as the basis for dividing total reserves between nonassociated and associated-dissolved reserves. In the absence of classification by a regulatory agency, allocations are based on the natural occurrence of the gaseous hydrocarbons in reservoirs as determined by the operator.

*Where reservoir conditions are such that the production of associated gas does not substantially affect the recovery of crude oil in the reservoir, such gas may be reclassified as nonassociated gas by a regulatory agency. In this event, reserves and production are reported in accordance with the classification used by the regulatory agency.

NATURAL GAS - PRODUCTION

Statistics pertaining to natural gas production represent volumes of gas produced from natural oil and gas reservoirs during given periods of time with adjustments (where applicable) to reflect (1) the volume of gas returned to natural reservoirs, and (2) the reduction of volume resulting from the removal of natural gas liquids and nonhydrocarbon gases. The volume of natural gas withdrawn from underground storage facilities is not included in natural gas production statistics.

CRUDE OIL

Crude oil is technically defined as a mixture of hydrocarbons that existed in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. For statistical purposes, volumes reported as crude oil include:

1. Liquids technically defined as crude oil;

2. Small amounts of hydrocarbons that existed in the gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators; and

3. Small amounts of nonhydrocarbons produced with the oil.

Statistical data pertaining to crude oil production, reserves, and productive capacity are reported as liquid equivalents at the surface (excluding basic sediment and water) measured in terms of barrels of 42 U.S. gallons at atmospheric pressure, and corrected to 60° F.

CRUDE OIL - INDICATED ADDITIONAL RESERVES

With the present state of industry technology, certain quantities of crude oil (other than those defined and reported as proved reserves) may be economically recoverable from the following potential sources:

> Known productive reservoirs in existing fields expected to respond to improved recovery techniques such as fluid injection where (a) an improved recovery technique has been installed but its effect cannot yet be fully evaluated; or (b) an improved technique has not been installed but knowledge of reservoir characteristics and the results of a known technique installed in a similar situation are available for use in estimating procedure.

Crude oil potentially available from these sources is reported as "indicated additional reserves." The economic recoverability of these reserves is not considered to be established with sufficient conclusiveness to allow them to be included in proved reserves; however, if and when improved recovery techniques are successfully applied to known reservoirs, the corresponding indicated additional reserves will be reclassified and added to the inventory of "proved" reserves.

CRUDE OIL - PROVED RESERVES

Proved reserves of crude oil as of December 31 of any given year are the estimated quantities of all liquids statistically reported as crude oil, which geological and engineering data demonstrate with reasonable certainty to be recoverable in the future from known reservoirs under existing economic and operating conditions.

Reservoirs are considered proved if economic producibility is supported by either actual production or conclusive formation tests. The area of an oil reservoir considered proved includes: (1) that portion delineated by drilling and defined by gas-oil or oil-water contacts, if any; and (2) the immediately adjoining portions not yet drilled but which can be reasonably judged as economically productive on the basis of available geological and engineering data. In the absence of infor-

mation on fluid contacts, the lowest known structural occurrence of hydrocarbons controls the lower proved limit of the reservoir.

Reserves of crude oil which can be produced economically through application of improved recovery techniques such as fluid injection are included in the "proved" classification if successful testing by a pilot project, or the operation of an installed program in the reservoir, provide support for the engineering analysis on which the project or program was based.

Estimates of proved crude oil reserves do not include the following: (1) oil that may become available from known reservoirs but is reported separately as "indicated additional reserves"; (2) natural gas liquids; (3) oil the recovery of which is subject to reasonable doubt because of uncertainty as to geology, reservoir characteristics, or economic factors; (4) oil that may occur in untested prospects; and (5) oil that may be recovered from oil shales, coal, gilsonite, etc.

CRUDE OIL - PRODUCTION

Crude oil production is the volume of liquids statistically reported as crude oil, which is produced from oil reservoirs during given periods of time. The amount of such production for a given period is generally established by measurement of volumes delivered from lease storage tanks (i.e., the point of custody transfer) to pipelines, trucks, or other media for transport to refineries or terminals with adjustments for (1) net differences between opening and closing lease inventories, and (2) basic sediment and water (BS&W).

Source: American Petroleum Institute, *Standard Definitions for Petroleum Statistics,* July 1, 1969

APPENDIX B

New Definitions of Refinery Operable Capacity as Announced by the American Petroleum Institute, July 12, 1973

Under the old definitions, developed more than 25 years ago and used by both the Bureau of Mines and API, refinery capacity was determined by the amount of crude oil which could be processed in crude distillation units. The new definitions state that in addition to crude oil, other liquid hydrocarbons which are processed in crude distillation units must also be counted as input when figuring the utilization of refinery capacity.

A key provision of the new definitions reads as follows:

"For statistical reporting related to the utilization of operable refinery capacity, input to crude oil processing units includes all crude oil run through crude oil distillation units, and crude oil charged to other processing units. In addition to crude oil, such input includes lease condensate, natural gas plant liquids, unfinished oils, and other liquid hydrocarbons (such as shale oil, tar sands oils, gilsonite, etc.) that are processed through crude oil distillation units."

The definition continues:

"Any oils not specifically identified above, and components blended by mechanical means to finished products, are not classified as input to crude oil processing units."

Another key provision deals with environmental constraints:

"Operable capacity is limited by the environmental constraints expected to be applicable to refinery operations." Thus, if a refinery has a potential capacity of 100,000 barrels a day, but in order to be in compliance with local environmental regulations can process no more than 95,000 bpd, its operable capacity would be rated as 95,000 bpd.

The new definition of operable capacity includes (a) capacity that is in operation; (b) capacity not in operation or not under active repairs but capable of being placed in operation within approximately 30 days; and (c) capacity not in operation but under active repairs which can be completed within approximately 90 days.

Source: American Petroleum Institute, News Release, July 12, 1973

APPENDIX C

Automobile Operating Costs - Bases for Estimates in Tables

1967 Automobile Operating Costs — Bases for Estimates in Table 3-1

Item	Estimate Basis
Automobile Description	The vehicle used as an example was a 1967 model 4-door sedan that costs $2,806 excluding accessories and taxes.
Repairs and Maintenance	These include minor routine maintenance such as lubrications, brake adjustments, and washing; replacement of minor parts such as spark plugs, wiper blades, fan belts, radiator hose, points and condenser, etc.; intermediate repairs such as starter and alternator overhaul, brake relining, universal joint replacement, etc.; and major repairs such as automatic transmission overhaul and engine rebuilding. Also included is fender and body work that averages $13.50 per year.
Replacement Tires	Purchase of 11 new tires and 2 tubes during the life of the car was assumed.
Accessories	Accessories provided include a radio, a set of seat covers, and floor mats.
Gasoline	Gasoline consumption was set at 14.3 miles per gallon.
Oil	Oil consumption is associated with gasoline consumption at a rate of 72 to 1.
Insurance	Coverage includes $50,000 combined public liability, property damage, and comprehensive for the full 10 years. Uninsured motorist coverage, and $50 deductible collision insurance was assumed for the first 5 years.
Garaging, Parking, and Tolls	Monthly charges of $10.00 for garage rental or indirect cost of owner's garage; parking fee average of $54.00 per year assigned proportionate to annual travel; and tolls averaging $6.50 per year were included.
Taxes	Taxes included are the Federal gasoline tax at 4 cents per gallon, and the weighted average of State gasoline taxes (since gasoline would be bought in different States); Maryland registration fee of $15.00 per year, that includes a $5.00 property tax component; Maryland titling tax at 3 percent of retail price; Federal excise taxes on motor vehicles, tires, tubes, and oil.
Benefit Period	The cost of certain major items are spread over a period of benefit rather than being charged entirely to the year in which the expenditure was actually made.

Source: Federal Highway Administration, *Cost of Operating an Automobile*, January 1968.

1972 — Automobile Operating Costs — Bases for Estimates in Tables 3-2, 3-3, and 3-4

Item	Standard Size Automobile	Compact Size Automobile	Subcompact Size Automobile
Automobile Description	1972 model 4-door sedan Equipped with: V-8 engine, automatic transmission, power steering and brakes, air conditioning, tinted glass, radio, clock, whitewall tires, and body protective molding. Purchase price $4,379.	1972 model 2-door sedan Equipped with: 6-cylinder engine, automatic transmission, power steering, radio, and body protective molding. Purchase price $2,696.	1972 model 2-door sedan Equipped with: standard equipment plus radio and body protective molding. Purchase price $2,064.
Repairs and Maintenance	Includes routine maintenance such as lubrications, repacking wheel bearings, flushing cooling system, and aiming headlamps, replacement of minor parts such as spark plugs, fan belts, radiator hoses, distributor cap, fuel filter, and pollution control filters; minor repairs such as brake jobs, water pump, carburetor overhaul and universal joints; and major repairs such as a complete "valve job".		
Replacement Tires	Purchase of 7 new regular tires and 4 new snow tires during the lives of the cars was assumed.		
Accessories	Purchase of floor mats the first year, seat covers the sixth year, and miscellaneous items totaling $2.00 per year was assumed.		
Gasoline	Consumption rate of 13.60 miles per gallon was used.	Consumption rate of 15.97 miles per gallon was used.	Consumption rate of 21.43 miles per gallon was used.
Oil	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 186 gallons of gasoline.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 166 gallons of gasoline.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 135 gallons of gasoline.
Insurance	Coverage includes $50,000 combined public liability ($15,000/$30,000 bodily injury, and $5,000 property damage), $1,000 medical payments, uninsured motorist coverage, and full comprehensive coverage for the 10-year period. Deductible collision insurance was assumed for the first 5 years ($100 deductible).		
Garaging, Parking, and Tolls	Includes monthly charges of $10.00 for garage rental or indirect cost of the owners garaging facility; plus parking fee average of $54.00 per year, and toll average of $6.94 per year, both of which were assigned in proportion to annual travel.		
Taxes	Includes Federal excise taxes on tires (10 cents per pound), lubricating oil (6 cents per gallon), and gasoline (4 cents per gallon); plus the Maryland tax on gasoline (7 cents per gallon), titling tax (4 percent of retail price), and registration fee ($20.00 for 3,700 pounds or less shipping weight, or $30.00 for vehicles over 3,700 pounds).		

Source: Federal Highway Administration, *Cost of Operating an Automobile*, April 1972.

1974 Automobile Operating Costs — Bases for Estimates in Tables 3-5, 3-6, and 3-7

Item	Standard Size Automobile	Compact Size Automobile	Subcompact Size Automobile
Automobile Description	1974 model 4-door sedan. Equipped with: V-8 engine, automatic transmission, power steering and brakes, air conditioning, tinted glass, radio, clock, white-wall tires, wheel covers, and body protective molding. Purchase price — $4,251.	1974 model 2-door sedan. Equipped with: 6 cylinder engine, automatic transmission, power steering, radio, vinyl top, wheel covers, and body protective molding. Purchase price — $2,910.	1974 model 2-door sedan. Equipped with: Standard equipment plus radio, wheel covers, and body protective molding. Purchase price — $2,410.
Repairs and Maintenance	Includes routine maintenance such as lubrications, repacking wheel bearings, flushing cooling system, and aiming headlamps; replacement of minor parts such as spark plugs, fan belts, radiator hoses, distributor cap, fuel filter, and pollution control equipment; minor repairs such as brake jobs, water pump, carburetor overhaul, and universal joints; and major repairs such as a complete "valve job." Costs were calculated using 1974 parts prices and a $12 per hour labor rate.		
Replacement Tires	Purchase of 7 new regular tires and 4 new snow tires during the lives of the cars was assumed.		
Accessories	Purchase of floor mats the first year, seat covers the sixth year, and miscellaneous items totaling $2.20 per year was assumed.		
Gasoline	Consumption rate of 12.92 miles per gallon and a gasoline price of 52.1 cents per gallon including taxes were used.	Consumption rate of 15.97 miles per gallon and a gasoline price of 52.1 cents per gallon including taxes were used.	Consumption rate of 21.43 miles per gallon and a gasoline price of 52.1 cents per gallon including taxes were used.
Oil	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 159 gallons of gasoline. A price of $1.00 per quart was used.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 150 gallons of gasoline. A price of $1.00 per quart was used.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 135 gallons of gasoline. A price of $1.00 per quart was used.
Insurance	Coverage includes $50,000 combined public liability ($15,000/$30,000 bodily injury, and $5,000 property damage), $2,500 personal injury protection, uninsured motorist coverage, and full comprehensive coverage for the 10-year period. Deductible collision insurance was assumed for the first 5 years ($100 deductible).		
Garaging, Parking, and Tolls	Includes monthly charges of $11.00 for garage rental or indirect cost of the owner's garaging facility; plus parking fee average of $57.00 per year, and toll average of $7.00 per year, both of which were assigned in proportion to annual travel.		
Taxes	Includes Federal excise taxes on tires (10 cents per pound), lubricating oil (6 cents per gallon), and gasoline (4 cents per gallon); plus the Maryland tax on gasoline (9 cents per gallon), titling tax (4 percent of retail price), and registration fee ($20.00 for 3,700 pounds or less shipping weight, or $30.00 for vehicles over 3,700 pounds).		

Source: Federal Highway Administration, *Cost of Operating an Automobile*, April 1974.

1976 Automobile Operating Costs — Bases for Estimates in Tables 3-8, 3-9, and 3-10

Item	Standard Size Automobile	Compact Size Automobile	Subcompact Size Automobile
Automobile Description	1976 model 4-door sedan Equipped with: V-8 engine, automatic transmission, power steering and brakes, air conditioning, tinted glass, radio, clock, white stripe radial tires, wheel covers, remote control left-hand mirror, and body protective moulding. Purchase price — $4,899.	1976 model 2-door sedan Equipped with: 6 cylinder engine, automatic transmission, power steering and brakes, radio, vinyl top, wheel covers, tinted glass, remote control left-hand mirror and body protective moulding. Purchase price — $3,865.	1976 model 2-door sedan Equipped with: standard equipment plus radio, wheel covers, and body protective moulding. Purchase price — $3,224.
Repairs and Maintenance	Includes routine maintenance such as lubrications, repacking wheel bearings, flushing cooling system, and aiming headlamps; replacement of minor parts such as spark plugs, fan belts, radiator hoses, distributor cap, fuel filter, and pollution control equipment; minor repairs such as brake jobs, water pump, carburetor overhaul, and universal joints; and major repairs such as a complete "valve job." Costs were calculated using 1976 parts prices and a $13.50 per hour labor rate.		
Replacement Tires	It was assumed that 3 new regular tires and 4 new snow tires would be purchased during the lives of the standard and subcompact size cars, and 7 new regular tires and 4 new snow tires would be purchased during the life of the compact car.		
Accessories	It was assumed that extra wheels and floor mats would be purchased the first year, seat covers the sixth year, and miscellaneous items totalling $2.65 each year.		
Gasoline	Consumption rate of 15 miles per gallon and a gasoline price of 60.9 cents per gallon including taxes were used.	Consumption rate of 21 miles per gallon and a gasoline price of 60.9 cents per gallon including taxes were used.	Consumption rate of 29 miles per gallon and a gasoline price of 60.9 cents per gallon including taxes were used.
Oil	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 167 gallons of gasoline. A price of $1.06 per quart was used.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 119 gallons of gasoline. A price of $1.06 per quart was used.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 95 gallons of gasoline. A price of $1.06 per quart was used.
Insurance	Coverage includes $50,000 combined public liability ($15,000/$30,000 bodily injury, and $5,000 property damage), $2,500 personal injury protection, uninsured motorist coverage, and full comprehensive coverage for the 10-year period. Deductible collision insurance was assumed for the first 5 years ($100 deductible).		
Garaging, Parking, and Tolls	Includes monthly charges of $12.00 for garage rental or indirect cost of the owner's garaging facility, and a toll average of $6.88 per year; plus parking fee averages of $70.00 per year for standard size cars, and $60.00 per year for compact and subcompact size cars. Parking fee and toll fee averages were assigned in proportion to annual travel.		
Taxes	Includes Federal excise taxes on tires (10 cents per pound), lubricating oil (6 cents per gallon), and gasoline (4 cents per gallon); plus the Maryland Tax on gasoline (9 cents per gallon), titling tax (4 percent of retail price), sales tax (4 percent of retail items), and registration fee ($20.00 for 3,700 pounds or less shipping weight, or $30.00 for vehicles over 3,700 pounds).		

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