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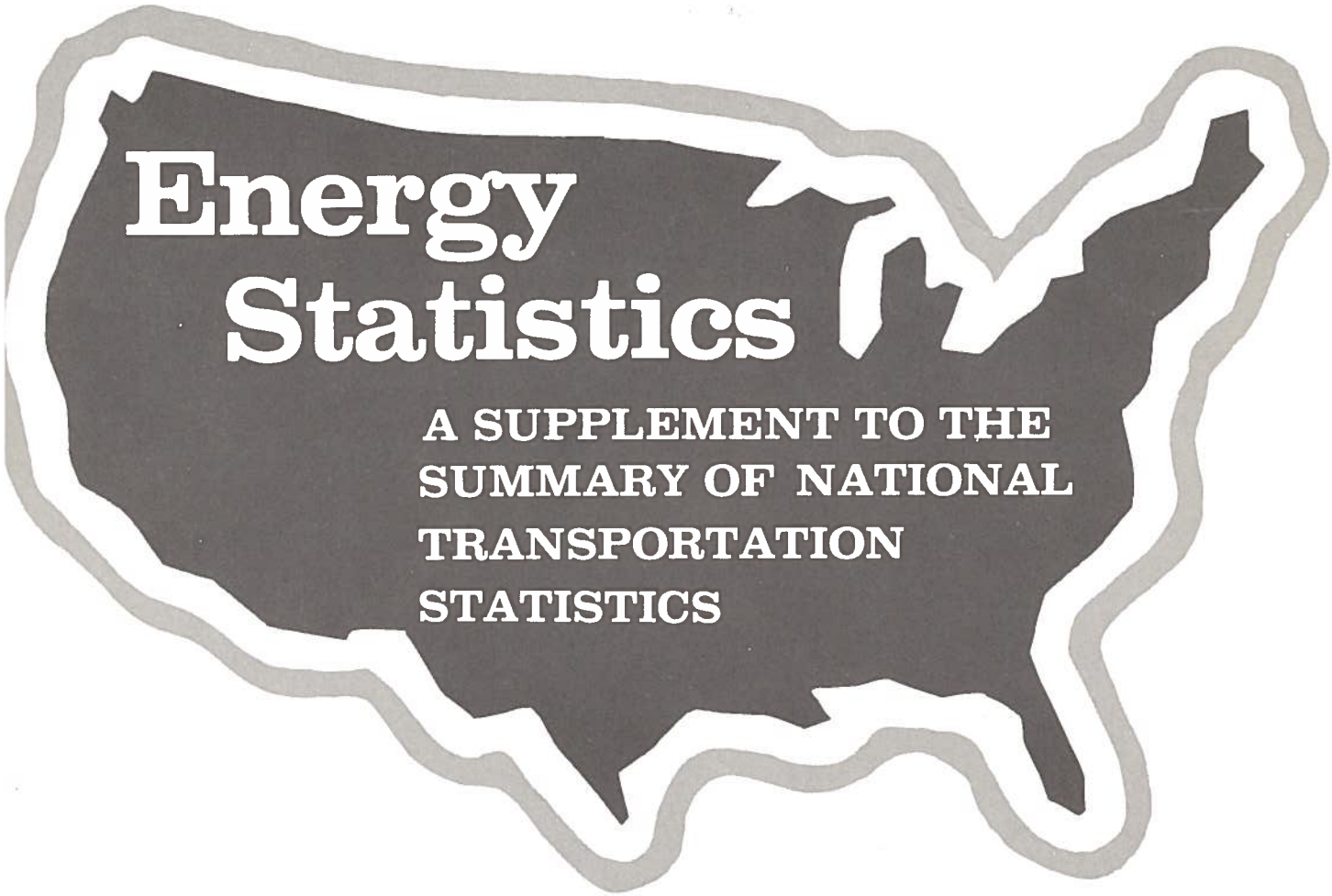

Energy Statistics

A SUPPLEMENT TO THE SUMMARY OF NATIONAL TRANSPORTATION STATISTICS

AUGUST 1975

FINAL REPORT

Statistical reference

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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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INTRODUCTION

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 meet 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 1975 edition, essentially an updated version of the 1974 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, as well as a wide variety of other government and private sources, including the Interstate Commerce Commission, the U.S. Department of the Interior, and the American Petroleum Institute. Divided into three parts, the report displays selected time-series data on (1) energy transport, (2) reserves, production, and refining, and (3) energy consumption. A few of the tables include time-series through the year 1969 only. The most recent data which are readily available have been included in all cases.

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, 1955-1973; Table 1-9 shows the annual growth of the world tank ship fleet, 1964-1974; Table 1-19 shows the amount of petroleum and coal transported in domestic and foreign waterborne commerce, 1973.

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 1974 was 45.93% of all crude oil inputs to U.S. refineries.

Part 3 contains U.S. energy consumption statistics. Included in Tables 3-1 through 3-29 are estimates of the fuel and oil costs for the various modes of transportation. The data in Tables 3-30 through 3-39 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, (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 3-35.) 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 3-41 through 3-46 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 3-40 through 3-46 deal with commercial and private transportation only. Tables 3-47 through 3-56 contain 1972 fuel and energy statistics (i.e., production, consumption and processing) for the nine regions of the U.S. shown in Figure 21.

Energy Intensiveness data, projected for 1974-1980 and given in Appendix A, was obtained from the joint DOT/NASA reference paper titled, Transportation Vehicle Energy Intensities.

PART 1. ENERGY TRANSPORT

Table 1-1. Revenues, Expenses, and Income of U.S. Oil Pipeline Companies,[1] 1955 - 1973

As of Dec. 31	Number of Companies	Operating Revenues ($000)	Operating Expenses ($000)	Operating Ratio (%)	Operating[2] Income ($000)	Net[2] Income ($000)
1973[3]	100	1,445,826	843,816	58.36	602,011	374,734
1972	99	1,337,861	780,162	58.31	557,699	331,700
1971	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 include figures for Black Mesa Pipeline, Inc. which is a coal slurry pipeline.

Source: Interstate Commerce Commission, Transport Statistics, Part 6, "Pipelines," December 31, 1972, p. 2; December 31, 1973, p. 2 and equivalent tables in earlier editions.

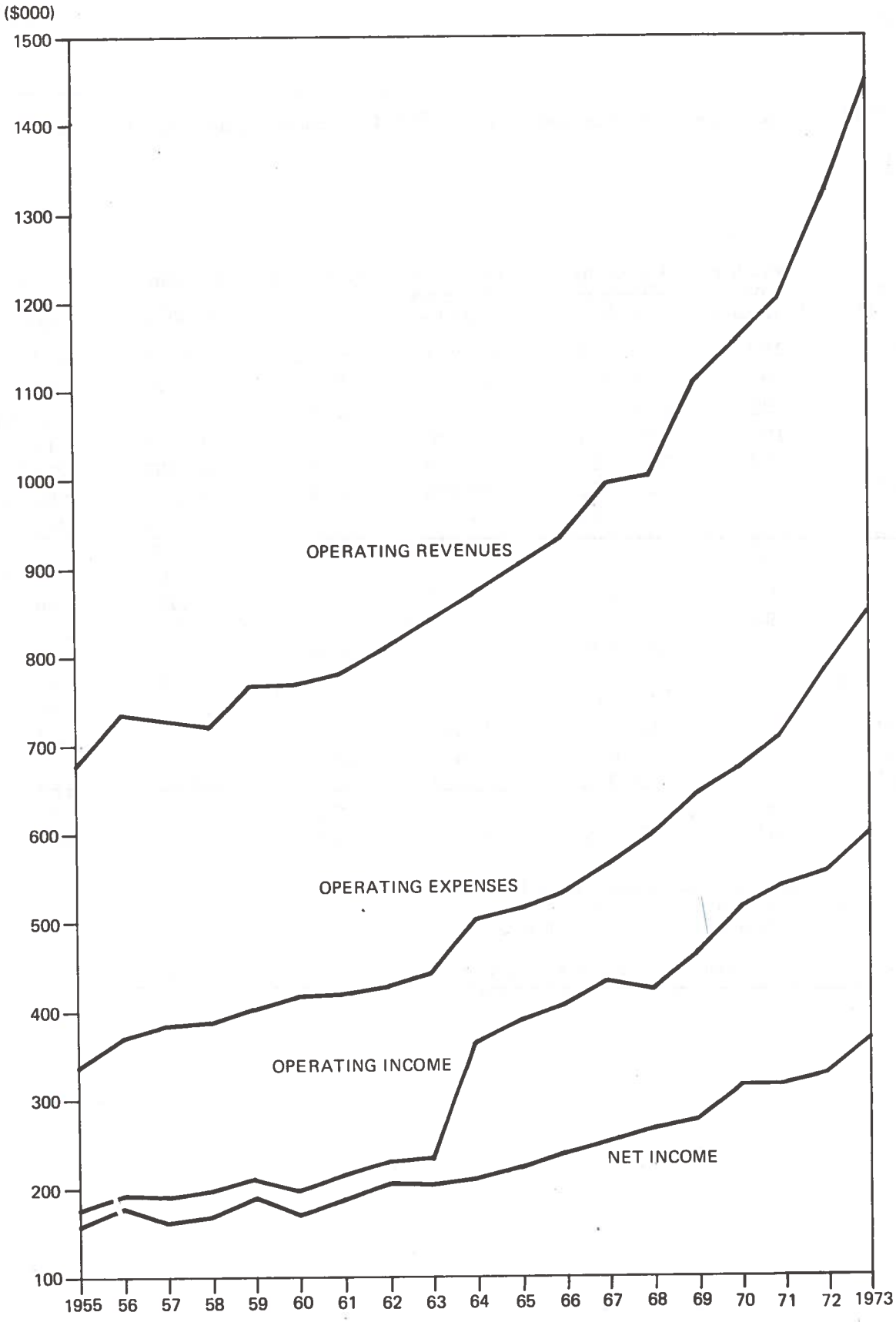


Figure 1. Revenue, Expenses, and Income of U.S. Oil Pipeline Companies, 1955 - 1973

Table 1-2. U.S. Railroad Revenue[1] From Petroleum, By Product, 1931 - 1973 (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
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	314,610,000	14,309,000,000	2.20
1972	4,686,148[r]	3,901,433	8,587,581[r]	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
1944	—	—	109,883,724	270,008,625	56,138,138	24,819,397	—	—	168,935,080	5,619,608	635,404,572	6,956,939,440	9.13
1943	—	—	152,407,684	231,248,599	58,003,215	27,299,213	—	—	186,079,718	5,851,136	660,889,565	6,748,420,895	9.79
1942	—	—	119,900,560	208,128,006	44,089,523	30,501,539	—	—	129,077,981	4,092,404	535,790,013	5,857,060,708	9.15
1941	—	—	17,178,984	137,531,980	28,988,333	26,010,655	—	—	47,155,370	2,691,325	259,556,647	4,317,978,117	6.01
1940	—	—	8,859,239	137,169,180	21,220,884	20,317,104	—	—	42,499,250	1,994,182	232,059,839	3,430,486,460	6.76
1939	—	—	12,172,521	150,763,517	22,014,464	18,929,108	—	—	40,904,735	2,029,397	246,813,742	3,123,589,475	7.90
1938	—	—	9,095,159	162,993,074	19,223,888	17,803,094	—	—	37,468,268	1,535,207	248,118,690	2,737,635,419	9.08
1937	—	—	9,698,893	169,278,364	21,124,220	16,624,625	—	—	43,202,708	1,664,349	261,593,159	3,251,215,140	8.05
1936	—	—	8,606,962	171,922,566	20,504,148	15,202,609	—	—	43,492,944	1,563,875	261,293,104	3,171,233,547	8.24
1935	—	—	8,831,368	168,451,151	18,174,467	10,706,564	—	—	32,897,585	1,325,914	240,387,049	2,662,142,958	9.03
1934	—	—	9,406,266	172,517,432	17,003,160	9,681,216	—	—	33,393,764	1,154,367	243,156,205	2,506,068,320	9.70
1933	—	—	11,711,448	171,432,250	15,188,469	8,239,678	—	—	29,497,353	1,186,563	237,255,761	2,350,138,203	10.10
1932	—	—	8,589,599	192,065,349	15,647,882	9,616,285	—	—	27,600,442	978,871	254,498,428	2,280,897,221	11.16
1931	—	—	22,032,121	241,743,778	19,094,717	10,630,892	—	—	34,503,686	1,078,600	329,083,794	3,019,039,343	10.90

r = revised

[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, 1973, 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 - 1973

(As of December 31)

Year	Crude-Oil Trunk Lines		Refined-Oil Trunk Lines		Total Trunk Lines		Crude-Oil Gathering Lines		Total Petroleum Pipelines		Year
	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]	
1973	57,435	76,250[4]	64,919[3]	76,839[4]	122,354	153,089[4]	41,655	69,266[4]	170,691[1]	222,355[4]	1973
1972	59,757	n/a	64,701	n/a	124,458	n/a	42,893	n/a	173,532[1]	n/a	1972
1971	60,946	75,143	61,525	72,396	122,471	147,539	45,759	71,132	174,722[1]	218,671	1971
1970	63,030	n/a	59,335	n/a	122,365	n/a	46,587	n/a	175,735[1]	n/a	1970
1969	61,887	n/a	56,096	n/a	117,983	n/a	45,993	n/a	170,824[1]	n/a	1969
1968	61,807	70,825	53,431	64,529	115,238	135,354	46,886	74,124	169,307[1]	209,478	1968
1967	60,893	n/a	51,475	n/a	112,368	n/a	46,855	n/a	165,478[1]	n/a	1967
1966	63,210	n/a	52,493	n/a	115,803	n/a	47,352	n/a	163,155	n/a	1966
1965	63,981	72,383	50,791	61,443	114,772	133,826	46,640	77,041	161,412	210,867	1965
1964	63,220	n/a	49,477	n/a	112,697	n/a	46,886	n/a	159,583	n/a	1964
1963	58,648	n/a	45,358	n/a	104,006	n/a	46,563	n/a	156,812[1]	n/a	1963
1962	61,702	70,355	45,288	53,200	106,990	123,555	48,063	76,988	155,053	200,543	1962
1961	62,251	n/a	41,830	n/a	104,081	n/a	49,656	n/a	153,737	n/a	1961
1960	62,059	n/a	40,508	n/a	102,567	n/a	49,401	n/a	151,968	n/a	1960
1959	61,860	70,317	37,732	44,483	99,592	114,800	49,567	75,182	149,159	189,982	1959
1958	61,702	n/a	32,865	n/a	94,567	n/a	49,787	n/a	144,354	n/a	1958
1957	61,379	n/a	31,780	n/a	93,159	n/a	52,077	n/a	145,236	n/a	1957
1956	61,885	78,594	29,465	36,420	91,350	115,014	51,336	73,526	142,686	188,540	1956
1955	63,347	n/a	26,382	n/a	89,729	n/a	50,645	n/a	140,374	n/a	1955
1954	64,145	n/a	24,128	n/a	88,273	n/a	50,689	n/a	138,962	n/a	1954
1953	63,408	75,228	20,462	27,236	83,870	102,464	50,030	68,040	133,900	170,504	1953
1952	64,888	n/a	19,305	n/a	84,193	n/a	48,522	n/a	132,715	n/a	1952
1951	64,992	n/a	18,836	n/a	83,828	n/a	47,629	n/a	131,457	n/a	1951
1950	64,622	71,373	16,374	20,881	80,996	92,254	47,593	60,560	128,589	152,814	1950

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, "Pipelines"; Table 2, 1973, 1972, 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," Jan. 1, 1974, Table 1.

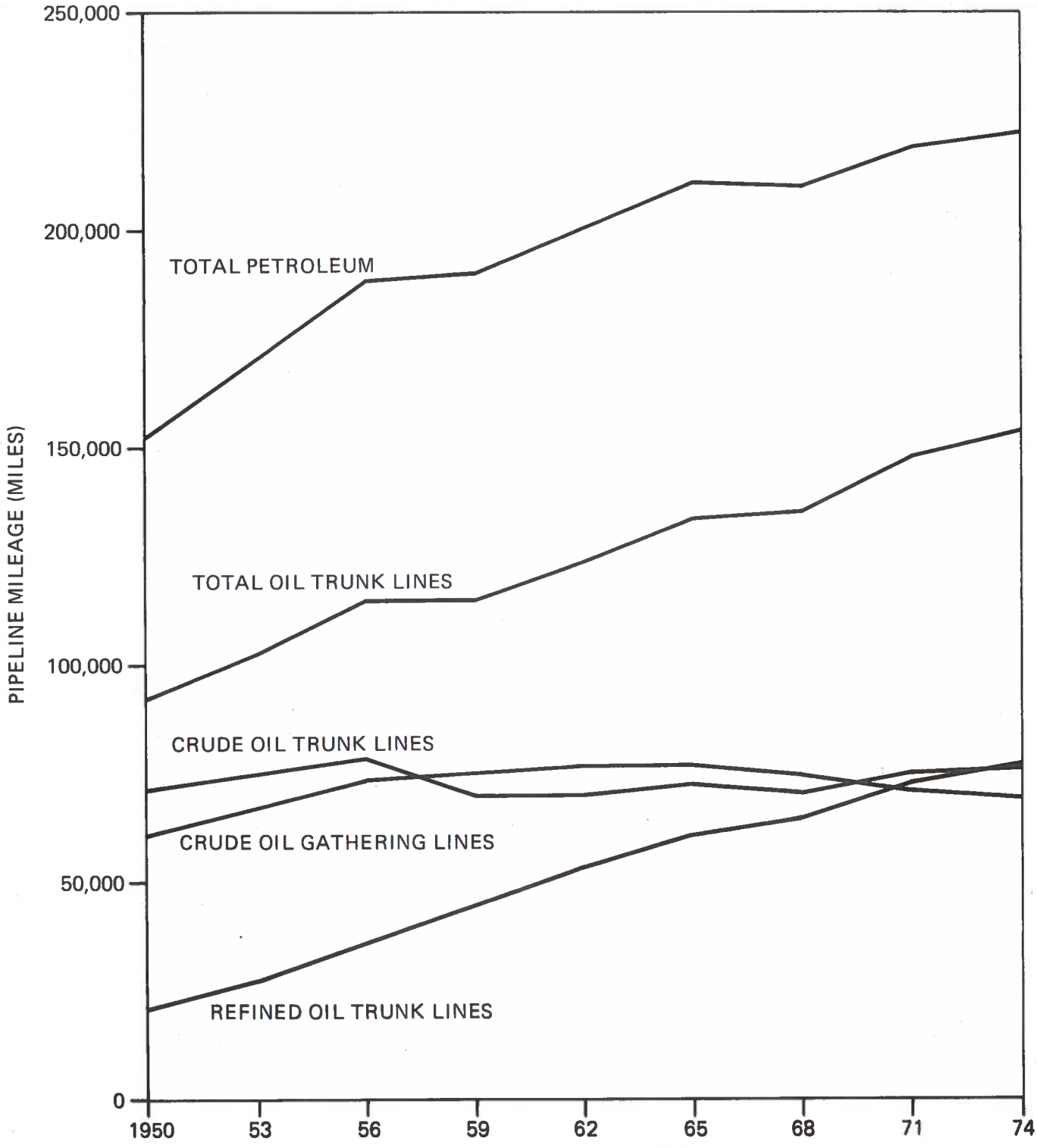
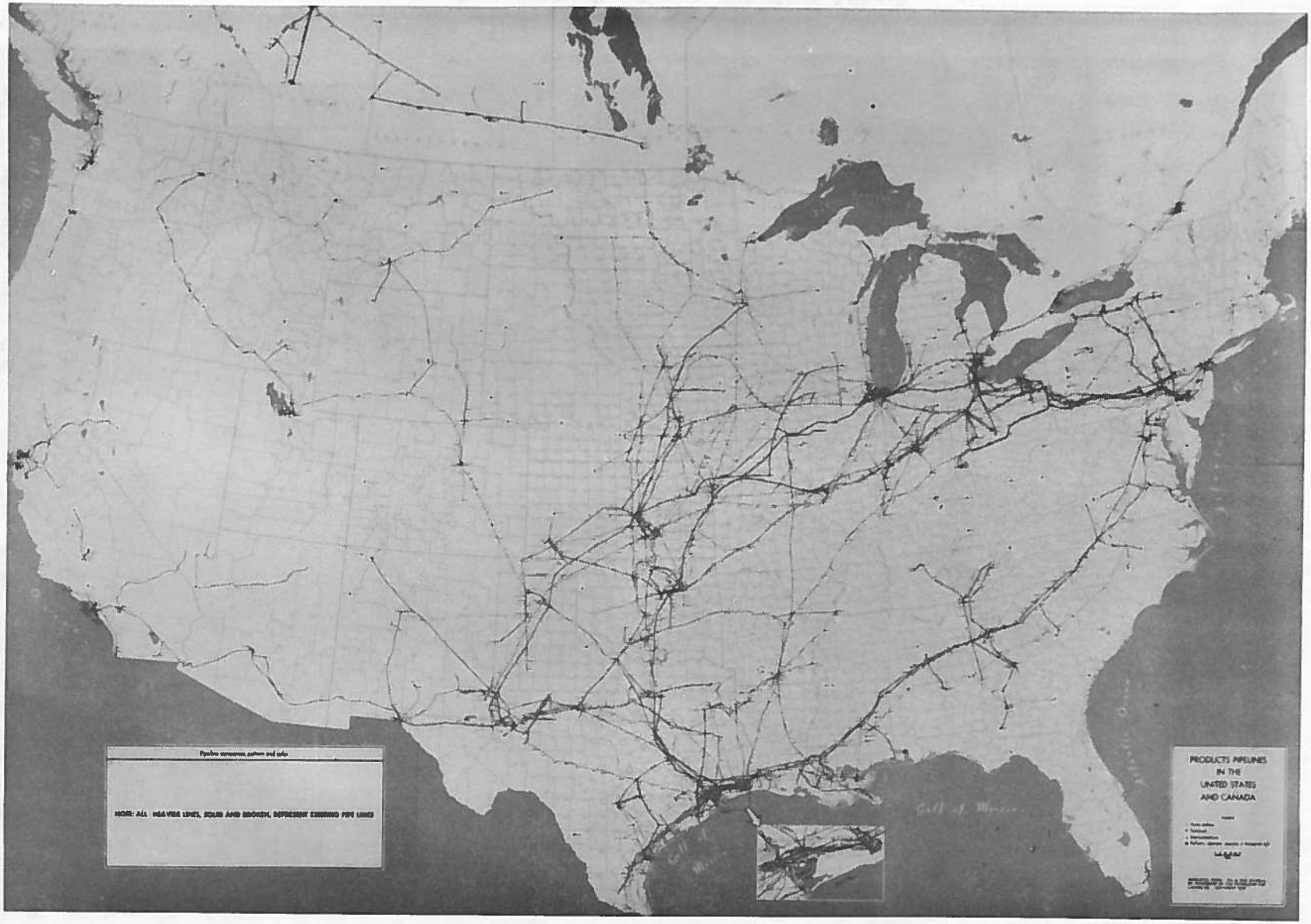
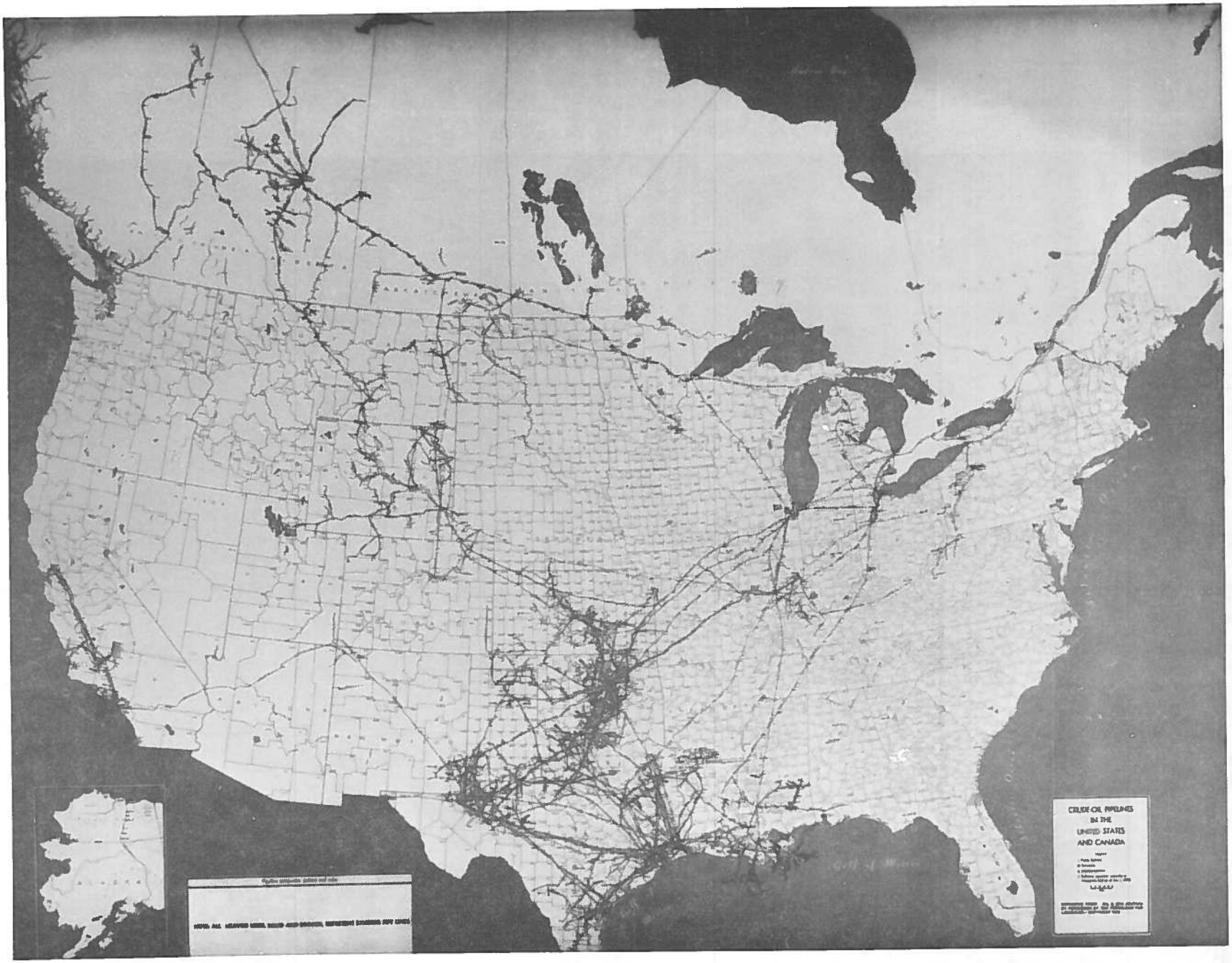


Figure 2. U.S. Petroleum Pipeline Mileage, 1950 - 1974



Source: *Oil & Gas Journal*

Figure 3. The Product Oil Pipeline System of the United States



Source: *Oil & Gas Journal*

Figure 4. The Crude Oil Pipeline System of the United States

Table 1-5. Total Mileage[1] of Natural-Gas Pipelines and Utility Main, by States, 1950 - 1973

Division and State	1950	1955	1960	1965	1970	1971	1972	1973
United States	387,470	496,740	630,950	767,520	914,830	933,675	951,908[r]	967,667
New England	15,030	17,000	19,140	22,090	25,686	26,008	26,233	27,547
Connecticut	3,130	3,720	4,300	4,960	5,728	5,812	5,820	5,952
Maine	450	430	390	390	705	465	465	462
Massachusetts	9,400	10,570	11,910	13,740	15,609	15,824	16,117	17,278
New Hampshire	480	540	630	800	1,041	1,249	1,132	1,143
Rhode Island	1,370	1,520	1,720	1,990	2,299	2,342	2,373	2,377
Vermont	200	220	190	210	304	316	326	335
Middle Atlantic	69,690	80,710	92,600	102,580	111,644	112,633	113,213	113,552
New Jersey	10,190	12,420	15,140	18,320	21,052	21,402	21,776	21,934
New York	23,840	28,440	33,020	36,580	39,995	40,193	40,239	40,386
Pennsylvania	35,660	39,850	44,440	47,680	50,637	51,038	51,198	51,232
East North Central	75,370	90,210	113,420	147,640	178,268	182,028	184,098	186,248
Illinois	17,120	21,250	27,770	38,750	46,683	48,249	49,169	49,389
Indiana	9,480	11,840	14,800	20,240	25,264	25,519	25,594	26,016
Michigan	14,000	16,810	21,860	30,370	37,699	37,940	38,493	39,084
Ohio	29,450	34,180	40,150	44,690	49,393	50,565	50,886	51,197
Wisconsin	5,320	6,130	8,840	13,590	19,229	19,757	19,956	20,562
West North Central	42,010	55,200	67,640	82,250	101,099	103,243	105,368[r]	108,325
Iowa	5,650	7,840	9,970	13,630	16,654	16,531	16,891	16,921
Kansas	18,600	22,910	25,860	28,780	34,365	34,855	35,299[r]	36,673
Minnesota	4,010	5,360	8,090	10,680	14,162	14,859	15,335	15,502
Missouri	7,450	9,770	11,950	15,150	18,654	19,310	19,749[r]	20,188
Nebraska	4,940	7,320	8,910	10,300	12,627	13,057	13,204	14,177
North Dakota	580	930	1,100	1,560	2,332	2,297	2,506	2,472
South Dakota	780	1,070	1,760	2,150	2,305	2,334	2,381	2,392
South Atlantic	33,460	43,260	59,100	74,180	92,738	95,320	97,222[r]	97,843
Delaware	490	560	830	1,160	1,270	1,289	1,284	1,288
District of Columbia	1,080	1,140	1,160	1,150	1,164	1,175	1,173	1,169
Florida	2,770	3,220	6,400	8,330	11,435	11,673	11,782	11,795
Georgia	3,110	6,430	10,580	14,600	19,549	20,347	20,897	21,616
Maryland	3,320	4,430	5,400	6,710	7,986	8,193	8,375	8,466
North Carolina	1,420	2,290	4,830	7,080	10,605	10,893	11,200	11,437
South Carolina	730	1,350	3,320	6,090	8,514	9,082	9,360[r]	9,619
Virginia	3,410	4,750	6,490	8,190	10,451	10,682	11,141	10,868
West Virginia	17,130	19,090	20,090	20,870	21,764	21,986	21,920	21,585
East South Central	21,050	33,390	44,930	54,390	65,441	64,964	67,441[r]	69,108
Alabama	3,910	8,220	11,380	13,860	16,607	15,605	17,120	17,406
Kentucky	7,360	9,790	13,130	15,470	18,295	18,879	19,366	19,627
Mississippi	6,060	9,020	11,420	13,460	16,403	16,148	16,402	16,781
Tennessee	3,720	6,360	9,000	11,600	14,136	14,333	14,553	15,294
West South Central	72,170	99,330	127,120	150,260	182,752	188,084	191,254[r]	194,121
Arkansas	6,780	8,700	10,380	13,060	16,429	16,500	17,018	17,016
Louisiana	11,160	17,820	24,970	30,310	36,921	38,093	38,994	39,315
Oklahoma	13,200	16,080	19,590	23,850	28,532	30,972	31,474	32,609
Texas	41,030	56,730	72,180	83,040	100,870	102,519	103,768[r]	105,181
Mountain	19,260	29,630	44,940	59,000	71,848	74,441	77,242	80,276
Arizona	4,240	6,770	9,630	11,120	13,379	13,794	14,358	14,830
Colorado	3,280	5,530	8,080	12,240	15,870	16,746	17,453	18,446
Idaho	20	20	1,490	2,770	3,226	3,310	3,482	3,594
Montana	3,530	4,120	5,120	5,970	6,324	6,442	6,813	6,998
Nevada	100	300	660	1,940	2,470	2,577	2,664	2,766
New Mexico	4,340	8,320	13,160	15,410	19,050	19,686	20,057	20,761
Utah	1,580	2,160	3,400	4,940	5,609	5,749	5,897	6,165
Wyoming	2,170	2,410	3,400	4,610	5,920	6,137	6,518	6,716
Pacific	39,430	48,010	62,060	75,130	85,354	86,954	89,837	90,647
Alaska	a	a	n/a	250	667	484	635	690
California	34,630	43,070	52,280	60,650	66,328	67,329	69,748	70,133
Hawaii	a	a	440	490	530	537	546	558
Oregon	2,660	2,720	3,940	6,360	8,014	8,335	8,409	8,659
Washington	2,140	2,220	5,400	7,380	9,815	10,269	10,499	10,607

[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*, 1973, p. 54.

Table 1-6. U.S. Tank Ship Fleet (Actual and T2-SE-A1 Equivalents), 1941 - 1973

(Ocean-going Vessels of 2,000 Gross Tons and Over)

Actual Fleet				T2-SE-A1 Equivalents			
Number	Gross Tons	Deadweight Tons	Average Speed (Knots)	Number	Per Cent of World Total		Year[1]
312	5,507,000	9,525,200	16.3	640.3	3.8		1973
328	5,411,300	9,253,330	16.4	621.0	4.3		1972
347	5,453,100	9,218,250	16.3	616.4	4.9		1971
350	5,305,800	8,911,002	16.2	593.4	5.5		1970
365	5,319,400	8,797,900	16.1	584.9	6.2		1969
380	5,337,300	8,655,700	16.1	574.6	7.0		1968
382	5,322,800	8,550,700	16.1	566.4	7.8		1967
337	5,343,700	8,549,900	16.1	566.3	8.5		1966
410	5,479,800	8,733,500	16.0	575.8	9.6		1965
422	5,553,400	8,816,300	16.0	579.3	10.6		1964
440	5,631,000	8,912,600	15.9	583.5	12.1		1963
456	5,726,900	9,045,300	15.9	589.8	13.0		1962
469	5,751,400	9,085,300	15.8	590.1	13.7		1961
478	5,664,000	8,894,600	15.7	575.0	14.1		1960
485	5,593,600	8,766,300	15.6	563.0	14.7		1959
474	5,316,100	8,309,200	15.5	529.5	15.6		1958
470	5,097,400	7,959,900	15.4	503.1	16.8		1957
477	5,040,700	7,892,700	15.2	493.4	18.9		1956
490	5,094,900	7,989,500	15.1	497.4	20.8		1955
525	5,376,500	8,446,200	15.0	521.7	23.3		1954
550	5,475,800	8,639,800	14.8	525.3	26.2		1953
550	5,284,400	8,446,400	14.6	508.3	29.4	October 1,	1952
560	5,363,699	8,520,800	14.6	510.0	33.0	April 1,	1951
559	5,322,698	8,460,700	14.5	505.1	34.4	September 1,	1950
578	5,439,009	8,639,800	14.4	513.2	38.0	September 1,	1949
593	5,656,497	9,016,200	14.1	524.2	41.1	January 1,	1949
621	5,878,786	9,395,500	14.0	541.9	42.9	April 1,	1948
744	6,995,223	11,171,400	14.07	646.4	50.8	October 1,	1947
951	8,784,894	14,035,000	13.86	800.5	62.3	January 1,	1947
907	8,379,542	13,379,143	13.74	756.2	59.8	September 1,	1945
780	7,084,022	11,283,652	13.59	630.9	55.9		1945
556	4,784,954	7,608,833	13.12	410.6	45.2		1944
366	2,901,748	4,640,027	12.23	233.5	31.2		1943
389	2,931,193	4,680,863	11.31	217.8	27.4		1942
379	2,824,128	4,498,684	11.13	205.9	25.8		1941

[1] As of December 31, unless otherwise indicated.

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 1-7. World Tank Ship Fleet (Actual and T2-SE-A1 Equivalents), 1941 - 1973

(Ocean-going Vessels of 2,000 Gross Tons and Over)

Year[1]	Actual Fleet				T2-SE-A1 Equivalents	Year[1]
	Number	Gross Tons	Deadweight Tons	Average Speed (Knots)		
1973	4,563	142,355,300	256,715,900	15.8	16,650.1	1973
1972	4,342[r]	124,250,300	221,204,000[r]	15.8	14,341.0[r]	1972
1971	4,207	110,447,100	193,891,000	15.8	12,577.0	1971
1970	4,002	96,921,800	167,940,000	15.8	10,925.0	1970
1969	3,893	86,821,100	146,029,100	15.8	9,461.5	1969
1968	3,748	77,148,500	126,454,200	15.8	8,202.3	1968
1967	3,613	69,965,500	112,366,200	15.7	7,274.6	1967
1966	3,524	64,787,600	102,908,800	15.7	6,641.4	1966
1965	3,436	59,158,200	93,171,900	15.7	5,984.4	1965
1964	3,359	54,468,900	85,125,700	15.6	5,455.3	1964
1963	3,279	49,168,600	76,179,500	15.4	4,841.3	1963
1962	3,259	46,630,100	71,995,700	15.3	4,542.9	1962
1961	3,250	44,701,000	68,859,400	15.2	4,304.8	1961
1960	3,264	42,801,300	65,780,400	15.1	4,076.0	1960
1959	3,276	40,831,500	62,657,800	14.8	3,826.1	1959
1958	3,146	37,020,100	56,640,700	14.6	3,403.3	1958
1957	2,954	33,046,800	50,424,800	14.4	2,988.2	1957
1956	2,778	29,455,500	44,887,600	14.2	2,614.2	1956
1955	2,681	27,338,600	41,623,100	14.0	2,398.1	1955
1954	2,602	25,733,900	39,137,300	13.9	2,244.0	1954
1953	2,502	23,473,900	35,732,300	13.6	2,003.5	1953
October 1, 1952	2,292	20,417,100	31,318,300	13.4	1,726.8	October 1, 1952
April 1, 1951	2,131	18,453,538	28,255,100	13.3	1,544.1	April 1, 1951
September 1, 1950	2,056	17,567,202	26,957,200	13.3	1,469.7	September 1, 1950
September 1, 1949	1,955	16,249,603	24,932,400	13.2	1,352.3	September 1, 1949
January 1, 1949	1,872	15,459,372	23,815,800	12.1	1,274.4	January 1, 1949
April 1, 1948	1,863	15,364,543	23,692,400	12.9	1,264.3	April 1, 1948
October 1, 1947	1,868	15,286,141	23,585,800	13.0	1,271.4	October 1, 1947
January 1, 1947	1,925	15,692,962	24,278,900	12.87	1,285.1	January 1, 1947
September 1, 1945	1,911	15,506,005	23,916,319	12.85	1,264.5	September 1, 1945
1945	1,768	14,102,405	21,667,642	12.67	1,129.2	1945
1944	1,556	11,889,560	18,101,816	12.20	908.8	1944
1943	1,388	10,252,380	15,498,123	11.75	749.1	1943
1942	1,550	11,242,773	16,963,861	11.40	795.8	1942
1941	1,589	11,410,748	17,194,000	11.28	798.1	1941

[1] As of December 31, unless otherwise indicated.
r = revised

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 Tanker Fleet at End of 1974 (excluding 41.2 million D.W.T. combined carriers) (10,000 D.W. Tons and over)

By Flag and Ownership

Flag	Ownership						Change 1974 over 1973	Share of Total 1974
	Oil Company	Private	Government	Other	Total 1974	Total[r] 1973		
	Million Long Tons Deadweight							
Liberia	19.8	53.8	—	0.3	73.9	59.2	+14.7	29%
Norway	0.5	23.4	—	—	23.9	21.2	+2.7	9%
U.K.	21.0	11.0	0.2	—	32.2	27.8	+4.4	13%
Japan	3.8	25.4	—	—	29.2	26.1	+3.1	11%
U.S.A.	4.3	4.6	1.5	—	10.4	9.5	+0.9	4%
Panama	4.0	4.4	—	—	8.4	7.6	+0.8	3%
France	8.4	3.3	0.1	—	11.8	9.6	+2.2	5%
Greece	—	13.9	—	—	13.9	12.6	+1.3	6%
Other Western Europe	13.0	18.6	0.1	0.1	31.8	26.0	+5.8	12%
Other Western Hemisphere	5.7	0.2	0.2	—	6.1	5.2	+0.9	2%
U.S.S.R., E. Europe & China	—	—	6.6	—	6.6	5.4	+1.2	3%
Other Eastern Hemisphere	2.9	4.6	0.1	—	7.6	5.4	+2.2	3%
TOTAL	83.4	163.2	8.8	0.4	255.8	215.6	+40.2	100%
Fleet as at end 1973	66.7	141.1	7.6	0.2	215.6			
Net increase 1974	16.7	22.1	1.2	0.2	40.2			

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 1974*
	Up to end 1945	1946-1950	1951-1955	1956-1960	1961-1965	1966-1970	1971-1974	Total	Motor	Other	
10— 25	2.9	0.6	5.6	6.8	1.9	2.4	1.7	21.9	15.4	6.5	1.1
25— 45	1.0	0.9	4.0	14.6	4.0	1.4	4.6	30.5	11.7	18.8	7.1
45— 65	—	—	0.9	5.1	14.4	1.8	0.4	22.6	7.5	15.1	1.8
65—125	—	—	—	2.2	14.0	21.9	8.3	46.4	30.1	16.3	17.6
125—205	—	—	—	—	0.1	10.2	7.7	18.0	10.2	7.8	21.4
205—285	—	—	—	—	—	26.2	79.3	105.5	7.3	98.2	57.9
285 and over	—	—	—	—	—	1.9	9.0	10.9	—	10.9	57.5
TOTAL	3.9	1.5	10.5	28.7	34.4	65.8	111.0	255.8	82.2	173.6	164.4
MOTOR	0.3	0.5	5.0	8.4	16.6	24.5	26.9	82.2			
OTHER	3.6	1.0	5.5	20.3	17.8	41.3	84.1	173.6			

*Excludes 7.3 million D.W.T. combined carriers.

Employment of Tankers 1974 (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%	3.5%	4.5%	0.5%	3.5%	15.0%
Canada	—	0.5%	2.0%	—	—	2.5%
Other Western Hemisphere	—	—	5.5%	0.5%	1.5%	7.5%
Western Europe, N.&W. Africa	—	1.0%	45.5%	2.0%	4.0%	52.5%
E.&S. Africa, S. Asia	—	—	1.5%	—	—	1.5%
Japan	—	—	12.5%	0.5%	2.5%	15.5%
Other Eastern Hemisphere	—	—	4.0%	—	—	4.0%
U.S.S.R., E. Europe & China	—	—	1.5%	—	—	1.5%
TOTAL	3.0%	5.0%	77.0%	3.5%	11.5%	100.0%

r = revised

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1974, p. 14.

Table 1-9. World Tanker Fleet by Flag, 1964-1974

Flag	1964[r]	1965[r]	1966[r]	1967[r]	1968[r]	1969[r]	1970[r]	1971[r]	1972[r]	1973[r]	1974
	Million tons d.w.										
U.S.A.	8.5	8.6	8.5	8.5	8.6	8.9	9.3	9.5	9.5	9.5	10.4
U.K.	11.5	11.6	12.3	13.0	15.2	18.6	21.7	25.0	25.1	27.8	32.2
Norway	12.0	13.1	14.7	16.4	16.2	15.5	17.0	18.9	19.7	21.2	23.9
Other Western Europe	17.6	18.0	20.5	21.8	25.3	29.5	34.0	38.9	42.0	48.2	57.5
"Convenience"*	18.7	23.1	25.0	27.6	31.3	35.8	43.2	48.6	57.6	66.8	82.3
Japan	4.2	5.7	7.6	9.0	10.6	12.9	14.8	18.0	21.8	26.1	29.2
Rest of World	4.7	5.6	6.4	7.2	7.9	9.6	11.3	12.0	13.8	16.0	20.3
Total	77.2	85.7	95.0	103.5	115.1	130.8	151.3	170.9	189.5	215.6	255.8

*Panama, Liberia, etc.

r = revised

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry, 1974*, p. 22.

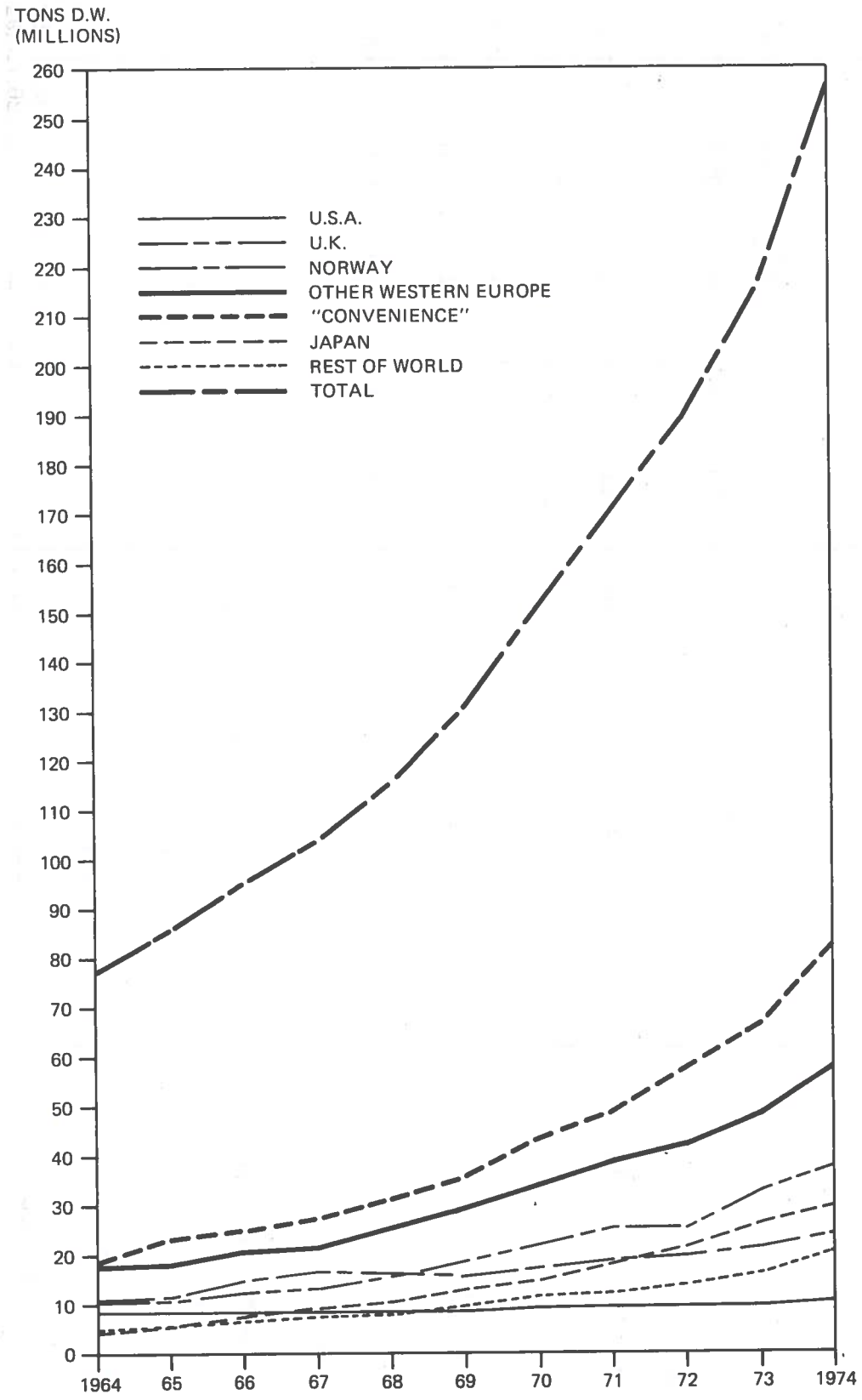


Figure 5. World Tanker Fleet by Flag 1964 - 1974

Table 1-10. Number and Mileage of Privately Owned U.S. Railroad Tank Cars, 1947 - 1973
(As of December 31)

Year	Number			Mileage		
	Petroleum Tank Cars	Other Tank Cars	Total	Petroleum Tank Cars	Other Tank Cars	Total
1973	75,878	73,548	149,426	985,623,840	748,616,769	1,734,240,609
1972	75,387[r]	72,619[r]	148,006[r]	905,119,533[r]	662,865,785[r]	1,567,985,318[r]
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."

[r] revised

Source: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 9, "Private Car Lines," December 31, 1973, p. 2, and equivalent tables in earlier editions.

Table 1-11. Total Crude Petroleum and Petroleum Products Transported in the U.S. by Method of Transportation, 1938 - 1973

Year	Pipelines		Water Carriers		Trucks[1]		Railroads		Total
	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried
1973	912,209,858	46.57	421,205,848	21.50	595,767,175	30.41	29,736,210	1.51	1,958,919,091
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
1944	244,001,439	45.21	117,688,301	21.81	99,048,800	18.35	78,975,455	14.63	539,713,995
1943	196,391,443	41.46	115,995,425	24.49	76,471,500	16.14	84,875,255	17.91	473,733,623
1942	175,486,660	41.11	120,076,511	28.13	49,524,400	11.60	81,818,135	19.16	426,905,706
1941	170,684,472	40.53	152,430,794	36.20	28,695,020	6.81	69,323,685	16.46	421,133,971
1940	153,502,082	39.79	149,594,453	38.78	21,849,000	5.67	60,797,161	15.76	385,742,696
1939	147,534,686	39.11	148,054,469	39.25	21,557,680	5.72	60,057,437	15.92	377,204,272
1938	139,220,962	39.28	137,728,491	38.86	20,538,060	5.80	56,933,147	16.06	354,420,660

[1] Estimated

Source: Association of Oil Pipe Lines, "*Shifts in Petroleum Transportation,*" June 1975, Table 1.

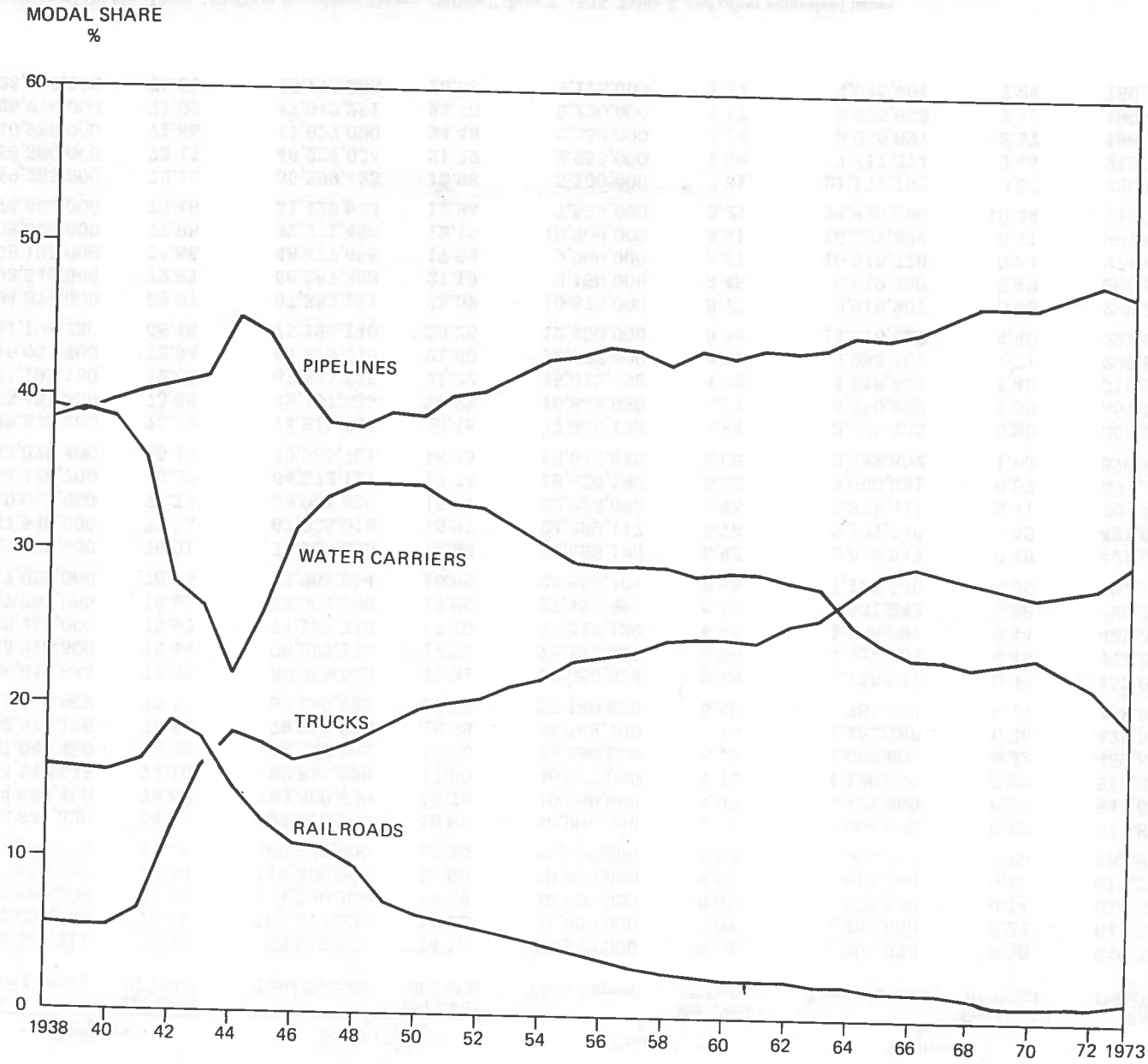


Figure 6. Modal Shares for Total Crude Petroleum and Petroleum Products Transported in the U.S., 1938 - 1973

Table 1-12. Total Crude Oil Transported in the U.S., by Method of Transportation, 1938 - 1973

Year	Pipelines		Water Carriers		Trucks[1]		Railroads		Total
	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried
1973	492,382,317	76.89	90,518,547	14.13	55,540,000	8.68	1,900,923	0.30	640,391,787
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
1944	208,560,000	77.98	32,371,496	12.10	10,200,000	3.81	16,337,338	6.11	267,468,834
1943	176,835,000	73.46	31,129,833	12.93	7,875,000	3.27	24,890,590	10.34	240,730,423
1942	159,255,000	72.12	35,299,423	15.98	5,100,000	2.31	21,179,792	9.59	220,834,215
1941	156,300,000	73.45	46,224,034	21.72	2,955,000	1.39	7,317,674	3.44	212,796,708
1940	140,985,000	71.86	47,927,090	24.43	2,250,000	1.14	5,035,027	2.57	196,197,117
1939	135,270,000	71.02	47,045,281	24.70	2,220,000	1.17	5,928,983	3.11	190,464,264
1938	128,175,000	71.01	46,173,283	25.58	2,115,000	1.17	4,045,664	2.24	180,508,947

[1] Estimated

Source: Association of Oil Pipe Lines, *"Shifts in Petroleum Transportation,"* June 2, 1975, Table 2, and other equivalent issues.

Table 1-13. Total Refined Petroleum Products Transported in the U.S., by Method of Transportation, 1938 - 1973

Year	Pipelines[1]		Water Carriers		Trucks[2]		Railroads		Total
	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried	Per Cent of Total	Tons Carried
1973	419,827,541	31.84	330,687,301	25.08	540,177,175	40.97	27,835,287	2.11	1,318,527,304
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
1944	35,441,439	13.02	85,316,805	31.34	88,848,800	32.63	62,638,117	23.01	272,245,161
1943	19,556,443	8.39	84,865,592	36.42	68,596,500	29.44	59,984,665	25.75	233,003,200
1942	16,231,660	7.88	84,777,088	41.14	44,424,400	21.56	60,638,343	29.42	206,071,491
1941	14,384,472	6.90	106,206,760	50.98	25,740,020	12.36	62,006,011	29.76	208,337,263
1940	12,517,082	6.60	101,667,363	53.64	19,599,000	10.34	55,762,134	29.42	189,545,579
1939	12,264,686	6.57	101,009,188	54.09	19,337,680	10.36	54,128,454	28.98	186,740,008
1938	11,045,962	6.35	91,555,208	52.65	18,423,060	10.59	52,887,483	30.41	173,911,713

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

Source: Association of Oil Pipe Lines, "*Shifts in Petroleum Transportation,*" June 2, 1975, Table 3, and other equivalent issues.

Table 1-14. Transportation of Petroleum Products by Pipeline (thousands of barrels)

	December 1974	November 1974	December 1973	January-December (Incl.) 1974	January-December (Incl.) 1973
Turned into lines:					
Gasoline, total	150,171	148,448	144,695	1,773,951	1,759,322
Motor	149,840	148,111	144,421	1,769,418	1,755,306
Aviation	331	337	274	4,533	4,016
Jet fuel, total	21,115	22,710	17,852	248,315	249,621
Naphtha-type	2,768	3,146	1,014	33,229	15,112
Kerosene-type	18,347	19,564	16,838	215,086	234,509
Kerosene	3,601	3,500	4,875	35,941	46,883
Distillate fuel oil	69,398	61,999	70,561	701,798	727,019
Natural gas liquids	44,727	41,995	38,202	467,280	438,000
Delivered from lines:					
Gasoline, total	150,751	148,346	145,442	1,774,498	1,760,580
Motor	150,436	148,066	145,167	1,770,174	1,756,721
Aviation	315	280	275	4,324	3,859
Jet fuel, total	21,227	22,657	18,250	244,719	247,035
Naphtha-type	2,777	3,163	1,033	33,044	15,337
Kerosene-type	18,450	19,494	17,217	211,675	231,698
Kerosene	3,616	3,569	4,663	35,822	45,086
Distillate fuel oil	69,361	60,764	71,616	701,650	720,997
Natural gas liquids	45,403	42,107	37,551	468,567	431,228
Shortage (or overage):					
Gasoline, total	361	160	187	(865)	(2,425)
Motor	357	165	162	(1,010)	(2,586)
Aviation	4	(5)	25	145	161
Jet fuel, total	382	197	309	3,205	2,569
Naphtha-type	(8)	15	2	(135)	(100)
Kerosene-type	390	182	307	3,340	2,669
Kerosene	119	80	92	884	1,608
Distillate fuel oil	(25)	397	(439)	(553)	(847)
Natural gas liquids	(183)	(253)	629	(299)	1,402
Stocks in lines and working tanks at end of month:					
Gasoline, total	45,474	46,415	45,156	45,474	45,156
Motor	45,221	46,174	44,967	45,221	44,967
Aviation	253	241	189	253	189
Jet fuel, total	6,214	6,708	5,823	6,214	5,823
Naphtha-type	896	897	576	896	576
Kerosene-type	5,318	5,811	5,247	5,318	5,247
Kerosene	1,872	2,006	2,637	1,872	2,637
Distillate fuel oil	33,115	33,053	32,414	33,115	32,414
Natural gas liquids	20,577	21,070	21,565	20,577	21,565

Source: Department of Interior, Bureau of Mines; *Mineral Industry Surveys: Crude Petroleum, Petroleum Products, and Natural-Gas-Liquids*, Dec., 1974, Table 11, p. 12.

Table 1-14. Transportation of Petroleum Products by Pipeline - Continued (thousands of barrels)

	February 1975	January 1975	February 1974	January-February (Incl.) 1975	January-February (Incl.) 1974
Turned into lines:					
Gasoline, total	135,751	146,402	119,952	282,153	252,949
Motor	135,561	146,026	119,674	281,587	252,403
Aviation	190	376	278	566	546
Jet fuel, total	19,552	22,295	17,797	41,847	38,753
Naphtha-type	2,529	2,272	1,412	4,801	2,638
Kerosene-type	17,023	20,023	16,385	37,046	36,115
Kerosene	3,810	4,163	4,559	7,973	9,695
Distillate fuel oil	59,372	71,187	57,759	130,559	132,560
Natural gas liquids	36,688	44,125	34,279	80,813	72,503
Delivered from lines:					
Gasoline, total	134,099	144,617	117,785	278,716	250,671
Motor	133,816	144,286	117,535	278,102	250,167
Aviation	283	331	250	614	504
Jet fuel, total	18,638	22,739	17,516	41,377	37,608
Naphtha-type	2,502	2,487	1,357	4,989	2,686
Kerosene-type	16,136	20,252	16,159	36,388	34,922
Kerosene	3,912	4,142	4,788	8,054	9,923
Distillate fuel oil	62,549	72,689	63,754	135,238	138,221
Natural gas liquids	37,424	44,021	34,778	81,445	73,866
Shortage (or overage):					
Gasoline, total	819	168	(456)	987	(561)
Motor	823	133	(454)	956	(553)
Aviation	(4)	35	(2)	31	(8)
Jet fuel, total	307	150	304	457	501
Naphtha-type	78	(23)	15	55	16
Kerosene-type	229	173	289	402	485
Kerosene	145	162	87	307	214
Distillate fuel oil	1,028	(206)	(304)	822	(407)
Natural gas liquids	23	71	272	94	254
Stocks in lines and working tanks at end of month:					
Gasoline, total	47,924	47,091	47,995	47,924	47,995
Motor	47,750	46,828	47,756	47,750	47,756
Aviation	174	263	239	174	239
Jet fuel, total	6,227	5,620	6,467	6,227	6,467
Naphtha-type	653	704	512	653	512
Kerosene-type	5,574	4,916	5,955	5,574	5,955
Kerosene	1,484	1,731	2,195	1,484	2,195
Distillate fuel oil	27,614	31,819	27,160	27,614	27,160
Natural gas liquids	19,851	20,610	19,948	19,851	19,948

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

Table 1-15. Movement of Petroleum Products by Pipeline Between P.A.D. Districts (thousands of barrels)

Item	December 1974	November 1974	December 1973	January-December (Incl.) 1974	1973
From District 1 to District 2:					
Gasoline, total	3,818	3,958	3,709	46,032	45,438
Motor	3,811	3,958	3,709	45,986	45,385
Aviation	7	—	—	46	53
Jet fuel, total	148	158	212	1,786	2,612
Naphtha-type	—	—	35	302	595
Kerosene-type	148	158	177	1,484	2,017
Kerosene	37	30	50	270	403
Distillate fuel oil	1,134	1,101	991	11,605	11,662
From District 2 to District 1:					
Gasoline, total	975	912	871	12,440	10,066
Motor	975	912	871	12,440	10,066
Jet fuel, total	—	—	—	—	57
Naphtha-type	—	—	—	—	57
Kerosene	21	4	—	45	49
Distillate fuel oil	147	151	69	1,167	980
Natural gas liquids	1,403	770	1,117	10,351	11,910
From District 2 to District 3:					
Gasoline, total	1,659	1,556	1,555	19,582	18,591
Motor	1,659	1,556	1,555	19,582	18,591
Jet fuel, total	1	30	1	520	47
Naphtha-type	—	30	—	513	41
Kerosene-type	1	—	1	7	6
Distillate fuel oil	484	44	452	5,466	4,743
Natural gas liquids	364	307	350	3,886	3,267
From District 2 to District 4:					
Gasoline, total	242	257	360	2,415	674
Motor	242	257	360	2,415	674
Distillate fuel oil	41	42	27	585	92
From District 3 to District 1:					
Gasoline, total	28,998	26,973	27,035	321,271	329,835
Motor	28,983	26,973	27,027	321,065	329,616
Aviation	15	—	8	206	219
Jet fuel, total	4,815	5,066	4,952	51,375	55,504
Naphtha-type	142	133	116	1,423	747
Kerosene-type	4,673	4,933	4,836	49 952	54,757
Kerosene	1,007	838	1,022	8,147	11,134
Distillate fuel oil	14,932	14,110	17,591	173,417	180,331
Natural gas liquids	2,447	1,383	1,875	15,846	18,112
From District 3 to District 2:					
Gasoline, total	4,062	6,333	5,957	66,521	64,857
Motor	3,948	6,217	5,852	65,254	63,660
Aviation	114	116	105	1,267	1,197
Jet fuel, total	147	454	503	3,178	4,614
Naphtha-type	—	2	—	69	3
Kerosene-type	147	452	503	3,109	4,611
Kerosene	25	202	355	2,043	2,505
Distillate fuel oil	1,925	2,972	3,097	25,088	30,938
Natural gas liquids	9,141	7,765	7,706	75,576	71,698
From District 3 to District 4:					
Gasoline, total	347	460	312	5,305	4,759
Motor	336	452	297	5,146	4,499
Aviation	11	8	15	159	260
Jet fuel, total	340	309	345	3,824	4,175
Kerosene-type	340	309	345	3 824	4,175
Kerosene	—	—	—	1	4
Distillate fuel oil	61	46	68	562	688
Natural gas liquids	153	106	155	963	1,259
From District 3 to District 5:					
Gasoline, total	1,031	1,028	1,164	12,190	11,873
Motor	1,031	1,028	1,164	12,190	11,873
Jet fuel, total	241	199	122	2,146	1,708
Naphtha-type	122	90	37	894	652
Kerosene-type	119	109	85	1,252	1,056
Distillate fuel oil	419	446	322	4,481	4,532
From District 4 to District 2:					
Gasoline, total	462	361	430	5,020	4,552
Motor	462	361	430	5,020	4,552
Jet fuel, total	44	67	16	450	310
Naphtha-type	44	60	16	389	310
Kerosene-type	—	7	—	61	—
Kerosene	9	—	2	19	59
Distillate fuel oil	349	321	320	3,720	3,304
Natural gas liquids	—	—	—	14	
From District 4 to District 3:					
Natural gas liquids	288	252	285	3,751	3,699
From District 4 to District 5:					
Gasoline, total	862	715	595	10,540	7,805
Motor	862	715	595	10,540	7,805
Jet fuel, total	131	112	79	1,566	828
Naphtha-type	72	59	69	862	351
Kerosene-type	59	53	10	704	477
Distillate fuel oil	714	340	440	4,851	3,672

Source: Department of the Interior, Bureau of Mines, *Mineral Industry Surveys: Crude Petroleum, Petroleum Products, and Natural Gas Liquids*, Dec. 1974, Table 12, p. 13.

Table 1-15. 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.

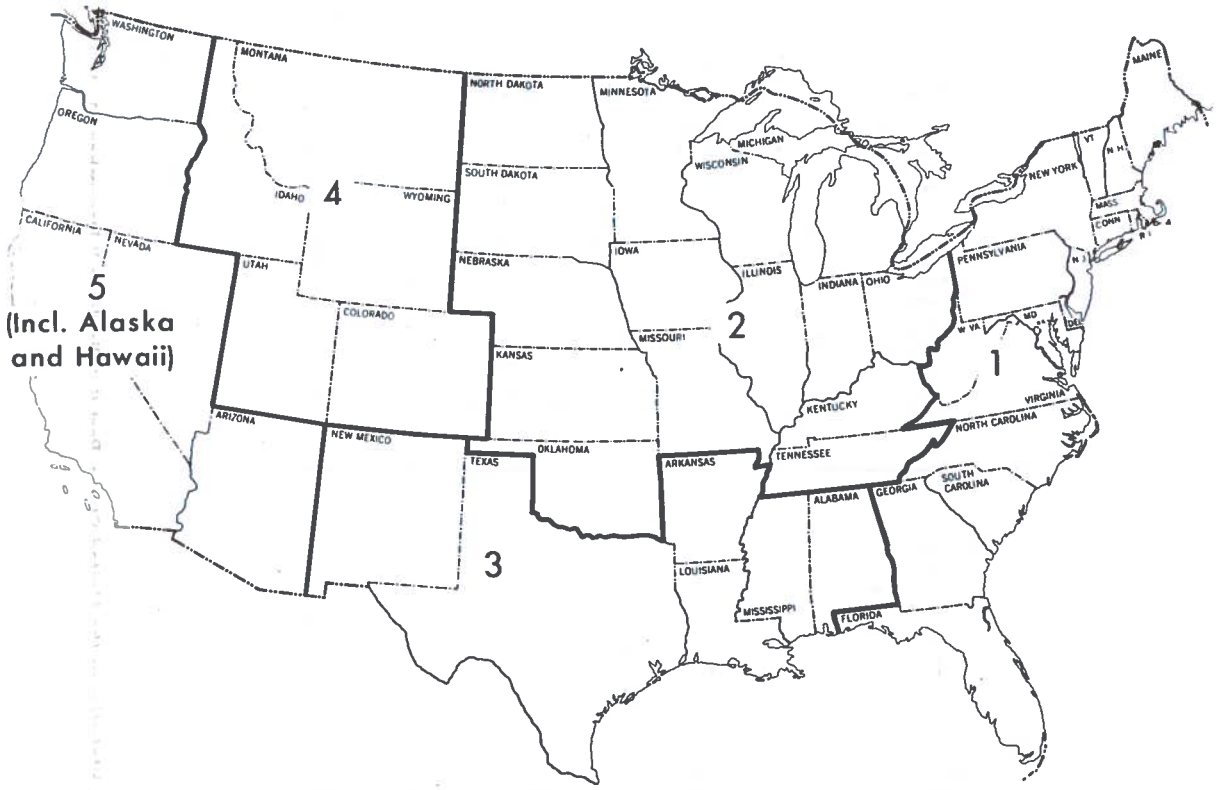


Figure 7. Petroleum Administration for Defense (PAD) Districts

Table 1-16. Average Length of Movement on Crude Oil and Petroleum Product Pipelines[1], 1950 - 1973

Year	Crude Oil Trunk Pipelines			Petroleum Products Pipelines			Year
	Barrels	Barrel-Miles (Thousands)	Average Miles	Barrels	Barrel-Miles (Thousands)	Average Miles	
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, 1973, p. 3, and equivalent tables in earlier editions.

Table 1-17. U.S. Petroleum Freight Originated by Class I Railroads, by District and Commodity, 1959 - 1973
(thousands of tons)

District and Commodity	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959
Eastern District:															
Crude petroleum[1]	635	521	100	69	5	1	4	10	19	13	3	16	126	79	24
Gasoline	277	214	267	270	299	346	416	443	618	855	758	822	1,043	1,059	1,146
Residual and distillate fuel oils	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	1,386	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	1,881	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)	984	830	803	772	763	620	891	936	1,001	1,095	665	694	693	730	790
Total Eastern District	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]	314	327	268	229	231	247	298	274	256	247	189	185	185	188	183
Gasoline	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	642	653	558	651	669	664	634	681	705	712	797	804	765	923	971
Lubricating oils and greases	293	228	214	219	236	246	261	27	246	265	252	272	236	225	218
Other refined products	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)	196	301	196	237	258	304	335	311	393	520	332	308	237	214	266
Total Southern District	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]	1,167	623	508	612	727	819	823	836	786	993	589	1,555	1,716	1,621	1,324
Gasoline	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	4,246	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	1,658	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	6,741	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)	1,868	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	16,543	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]	2,116	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	1,340	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	8,337	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	3,337	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	10,341	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)	3,048	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	28,519	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, 1973, and equivalent tables in earlier editions.

Table 1-18. Movement of Petroleum in U.S. Waterborne Trade, 1948 - 1973

(Thousands of Tons)

Year	Foreign Trade										
	Imports				Exports				Total Imports and Exports		
	Crude Oil and Products				Crude Oil and Products						
	Atlantic,[1] Gulf, and Pacific Coasts	Great Lakes	Total Crude Oil and Products	All Other Imports	Atlantic,[1] Gulf, and Pacific Coasts	Great Lakes	Total Crude Oil and Products	All Other Exports	Crude Oil and Products	All Other Trade	Total Foreign Trade
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 1-18. Movement of Petroleum in U.S. Waterborne Trade, 1948 - 1973 - Continued

(Thousands of Tons)

	Domestic Trade									All Waterborne Trade, Foreign and Domestic			
	Coastwise[2]		Local, Intraport,[3] and Intraterritory		Lakewise and Internal		Total Domestic						
Year	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 as a Per Cent of Total Trade
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.

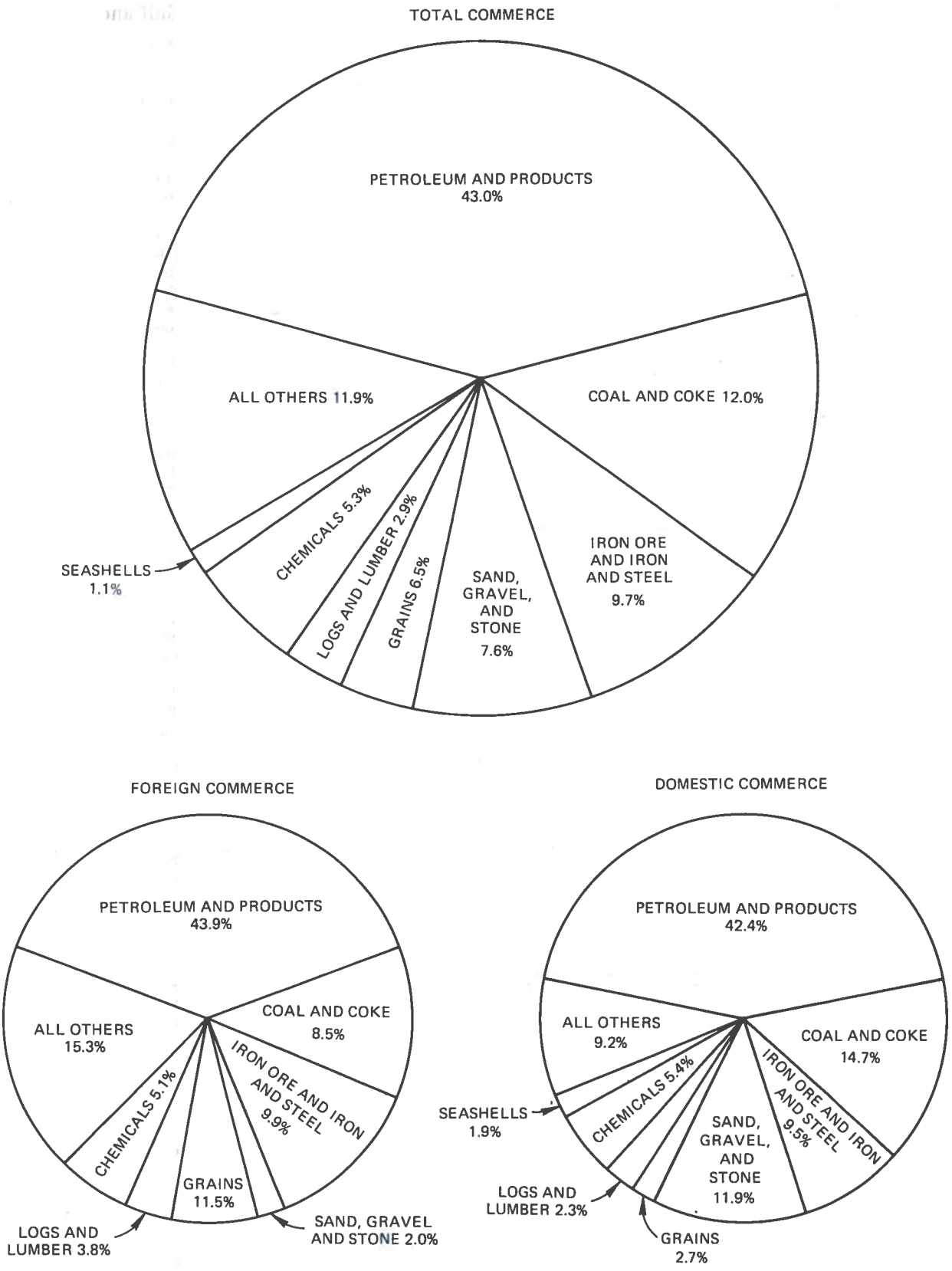
Source: Department of the Army, Corps of Engineers, *Waterborne Commerce of the United States Part 5*, 1973 and earlier editions for prior years.

Table 1-19. Summary of Foreign and Domestic Waterborne Commerce, by Type of Traffic and Commodity, Calendar Year 1973 (net traffic in tons of 2,000 pounds)

Commodity	Total	Foreign		Domestic					
		Imports	Exports	Total	Coastwise	Lakewise	Internal	Local	Intra-territory
Total, all commodities[1]	1,761,552,010	490,088,015	277,305,888	994,158,107	236,794,660	156,620,831	503,236,890	93,222,623	4,283,103
Coal and lignite	197,655,148	122,527	53,011,082	144,521,539	3,561,855	23,795,389	114,070,954	3,093,341	----------
Crude Petroleum	287,980,286	197,041,672	420,067	90,518,547	34,859,651	9,252	52,514,158	3,135,486	----------
Gasoline, including natural gasoline	97,207,786	2,800,040	338,557	94,069,189	50,067,484	2,352,757	34,299,910	7,279,778	69,260
Jet fuel	12,715,469	----------	----------	12,715,469	6,043,900	188,102	4,218,357	2,205,867	59,243
Kerosene	15,848,798	10,319,238	101,789	5,427,771	2,842,612	24,708	1,739,838	802,541	18,072
Distillate fuel oil	115,602,817	30,362,162	604,736	84,635,919	44,051,464	1,985,690	23,393,486	14,864,679	340,600
Residual fuel oil	198,704,340	87,900,820	1,910,596	108,892,924	36,009,037	1,419,004	40,740,994	30,194,897	528,992
Lubricating oils and greases	8,667,614	20,184	1,568,157	7,079,273	3,983,914	4,167	1,987,545	157,609	946,038
Naphtha, mineral spirits, solvents, nec	4,452,808	----------	----------	4,452,808	1,767,117	7,775	1,355,608	383,654	938,654
Asphalt, tar, and pitches	9,206,199	----------	----------	9,206,199	4,331,048	203,770	4,270,149	397,095	4,137
Coke, including petroleum coke	1,847,468	----------	----------	1,847,468	28,578	112,688	1,651,486	54,716	----------
Liquefied petroleum gases, coal gases natural gas, and natural gas liquids	4,552,987	2,036,819	965,548	1,550,620	212,369	133	1,268,371	69,148	599
Asphalt building materials	75,682	14,322	40,907	20,453	18,639	1,631	----------	----------	183
Petroleum and coal products, nec	2,972,806	203,055	133,075	2,636,676	540,492	34,404	745,671	1,315,972	137

Source: Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, 1973, pp. 7 and 8.

[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, 1973.

Figure 8. Principal Commodities Carried by Water, Calendar Year 1973

Table 1-20. 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 1974	November 1974	December 1973	January - December (Incl.) 1974	January - December (Incl.) 1973
Gulf Coast to East Coast, total					
Crude oil	2,330	2,914	4,155	52,337	56,614
Unfinished oils	1,089	918	1,291	18,128	14,797
Gasoline, total	16,899	17,571	17,463	179,888	207,474
Motor	16,633	17,312	17,188	176,908	204,258
Aviation	266	259	275	2,980	3,216
Special naphthas	681	692	629	7,646	7,192
Kerosene	1,224	1,076	1,328	10,879	15,078
Distillate fuel oil	13,195	10,068	8,973	93,460	96,283
Residual fuel oil	3,312	3,961	2.129	36,023	16,960
Jet fuel, total	3,072	3,136	3,734	37,475	41,034
Naphtha-type	608	643	1,226	9,481	9,480
Kerosene-type	2,464	2,493	2,508	27,994	31,554
Lubricating oil	1,134	1,402	1,198	12,922	12,342
Wax	15	28	32	353	573
Asphalt and road oil	364	440	276	5,796	5,689
Liquefied gases	144	111	131	1,541	1,304
Petrochemical feedstocks	192	211	463	3,757	3,226
Other products	338	222	121	2,536	1,654
Total	43,989	42,750	41,923	462,741	480,220
Gulf Coast to P.A.D. District II:					
Crude oil	1,010	1,300	974	12,841	10,250
Unfinished oils	—	—	—	59	120
Gasoline, total	1,497	2,659	3,184	27,890	32,730
Motor	2,470	2,614	3,121	27,357	31,998
Aviation	27	45	63	533	732
Special naphthas	252	238	365	3,275	3,187
Kerosene	—	96	144	764	956
Distillate fuel oil	620	524	855	6,449	9,224
Residual fuel oil	1,776	1,234	1,127	13,209	10,523
Jet fuel, total	276	175	184	2,698	2,626
Naphtha-type	—	—	—	227	14
Kerosene-type	276	175	184	2,471	2.612
Lubricating oil	329	310	259	4,125	3,692
Wax	—	—	—	8	—
Asphalt and road oil	118	212	348	3,684	3,523
Liquefied gases	—	13	112	71	654
Petrochemical feedstocks	98	78	184	1,381	1,872
Other products	28	11	47	1,095	993
Total	7,004	6,850	7,783	77,549	80,350
Gulf Coast to West Coast:					
Crude oil	—	—	—	564	—
Unfinished oils	—	—	—	288	372
Motor gasoline	—	—	—	1,392	675
Kerosene	—	—	—	—	36
Distillate fuel oil	46	—	43	2,279	687
Residual fuel oil	—	—	315	316	1,898
Jet fuel, total	—	—	801	2,021	801
Naphtha-type	—	—	110	489	110
Kerosene-type	—	—	691	1,532	691
Lubricating oil	251	35	199	1,671	1,491
Wax	—	—	—	—	—
Petrochemical feedstocks	26	—	—	105	4
Other products	—	—	8	15	105
Total	323	35	1,366	8,651	6,069
West Coast to East Coast:					
Motor gasoline	—	—	—	—	—
Special naphthas	—	—	—	—	4
Distillate fuel oil	—	—	—	—	—
Residual fuel oil	—	—	—	—	—
Lubricating oil	88	41	29	785	690
Other products	22	16	11	324	242
Total	110	57	40	1,109	936

Source: Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, Petroleum Statement Monthly, Dec., 1974, pg. 14, Table 13.

Table 1-21. Shipment of Aviation Fuels in 1973 and 1972 (thousands of barrels)

Product and use	Shipments to P.A.D. Districts: I	II	III	IV	V	United States Total
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	109,090	61,206	22,656	8,049	78,748	279,749
1. Kerosene-type, total	106,296	60,876	21,886	8,049	74,335	271,442
a. Airlines	102,027	57,068	20,317	7,626	72,874	259,912
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[1]	24,112	13,067	13,840	3,162	31,850	86,031
1. JP-4	[1] 13,137	12,939	13,184	3,162	[1] 18,168	60,590
2. JP-5	[1] 10,783	117	653	—	[1] 13,411	24,964
3. Other	192	11	3	—	271	477
C. Non-aviation use[p]	4,630	1,266	150	—	303	6,349
1972:						
I. Aviation gasoline:						
A. For commercial use, total	2,843	3,103	1,762	486	2,513	10,707
1. Airlines	385	225	149	28	138	925
2. Factory	46	39	15	1	51	152
3. General aviation	2,412	2,839	1,598	457	2,324	9,630
B. For military use	2,207	794	1,002	190	1,733	5,926
II. Jet fuel:						
A. For commercial use, total	103,016	58,667	20,923	7,324	78,467	268,397
1. Kerosene-type, total	100,354	58,379	20,881	7,322	74,882	261,818
a. Airlines	92,851	55,057	18,916	6,934	73,185	246,943
b. Factory	626	554	290	—	645	2,115
c. General aviation	6,877	2,768	1,675	388	1,052	12,760
2. Naphtha-type, total	2,662	288	42	2	3,585	6,579
a. Airlines	1,154	7	—	—	3,308	4,469
b. Factory	1,015	166	20	—	20	1,221
c. General aviation	493	115	22	2	257	889
B. For military, use, total[2]	27,020	17,047	13,516	2,965	35,537	96,085
1. JP-4	[2] 16,935	16,786	11,183	2,650	[2] 25,153	72,707
2. JP-5	9,197	249	1,485	—	9,816	20,747
3. Other	888	12	848	315	568	2,631
C. Non-aviation use	6,891	1,464	2	55	409	8,821

p = preliminary

[1] 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, 376,000 barrels; P.A.D. V, 140,000 barrels.

[2] Excludes direct imports by the military of naphtha-type jet into: P.A.D. I, 6,939,000 barrels; P.A.D. V, 2,129,000 barrels.

Definitions of terms used in this table:

1. Aviation gasoline – Any fuel in the gasoline boiling range for use in a piston-type aviation engine.
2. Jet fuel – Any fuel for use in an aviation turbine engine.
3. 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.
4. Factory – Direct sales to airframe and engine manufacturers. Does not include aviation fuels supplied to these accounts for Defense Fuel Supply Center (DFSC).
5. General Aviation – All non-military sales which are not classified as airline or factory. Primarily made up of sales to distributors and airport dealers.
6. Military – Sales to Defense Fuel Supply Center and to other military agencies of the Government.
7. 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, 1974, Table 25.

Table 1-22. Interarea Total Oil Movements 1974

From \ To	U.S.A.	Canada	Other Western Hemisphere	Western Europe	Africa	South East Asia	Japan	Australasia	Other Eastern Hemisphere	Destination Not Known	Total Exports
					Million Tons						
U.S.A.	—	1.7	3.3	4.2	0.2	0.2	1.9	0.6	—	—	12.1
Canada	51.5	—	—	1.0	—	—	—	—	—	—	52.5
Caribbean	123.0	21.7	7.7	16.3	0.5	—	0.5	—	—	—	169.7
Other Western Hemisphere	6.7	—	6.0	—	—	—	—	—	—	—	12.7
Western Europe	11.7	—	—	—	3.7	—	0.8	—	1.6	4.5	22.3
Middle East	52.8	18.8	60.8	505.4	24.1	63.9	201.6	13.7	36.0	15.4	992.5
North Africa	11.4	0.7	6.1	91.2	0.5	—	3.3	—	12.1	—	125.3
West Africa	40.1	0.7	14.5	63.0	—	1.5	4.8	—	—	—	124.6
South East Asia	15.6	—	2.1	0.2	—	—	47.1	2.1	—	—	67.1
U.S.S.R., E. Europe	1.6	—	8.2	52.5	3.2	—	6.2	—	1.0	—	72.7
Other Eastern Hemisphere	1.0	—	—	—	—	1.4	1.9	—	—	—	4.3
Total Imports	315.4	43.6	108.7	733.8	32.2	67.0	268.1	16.4	50.7	19.9	1,655.8
					Thousand Barrels Daily						
U.S.A.	—	30	60	75	5	5	35	10	—	—	220
Canada	1,025	—	—	20	—	—	—	—	—	—	1,045
Caribbean	1,320	430	155	320	10	—	10	—	—	—	3,245
Other Western Hemisphere	125	—	120	—	—	—	—	—	—	—	245
Western Europe	240	—	—	—	80	—	15	—	35	95	465
Middle East	1,025	400	1,265	10,195	490	1,320	4,050	285	715	305	20,050
North Africa	230	15	130	1,915	10	—	70	—	255	—	2,625
West Africa	795	15	305	1,300	—	30	100	—	—	—	2,545
South East Asia	315	—	45	5	—	—	990	45	—	—	1,400
U.S.S.R., E. Europe	30	—	160	1,010	60	—	120	—	20	—	1,400
Other Eastern Hemisphere	20	—	—	—	—	30	40	—	—	—	90
Total Imports	6,125	890	2,240	14,840	655	1,385	5,430	340	1,025	400	33,330

Source: British Petroleum Co., *BP Statistical Review of the World Oil Industry, 1974*, p. 10.

Table 1-23. Imports and Exports, Crude Oil and Products, 1974

Country/Area	Million Tons				Thousand Barrels Daily			
	Imports		Exports		Imports		Exports	
	Crude	Products	Crude	Products	Crude	Products	Crude	Products
U.S.A.	172.0	143.4	—	12.1	3,475	2,650	—	220
Canada	40.9	2.7	39.1	13.4	810	80	795	250
Caribbean	60.8	3.0	54.2	115.5	1,230	60	1,045	2,200
Other Western Hemisphere	39.7	5.2	8.2	4.5	800	150	170	75
Western Europe	689.8	44.0	—	22.3	13,990	850	—	465
Middle East	6.2	0.6	945.5	47.0	130	10	19,065	985
North Africa	1.2	4.7	124.1	1.2	25	95	2,600	25
West Africa	0.8	1.3	124.0	0.6	15	25	2,535	10
E. & S. Africa, S. Asia	38.4	8.8	—	0.3	775	180	—	5
South East Asia	50.9	16.1	58.2	8.9	1,030	335	1,175	225
Japan	239.4	28.7	—	1.5	4,825	605	—	35
Australasia	12.1	4.3	—	2.5	245	95	—	50
U.S.S.R., E. Europe & China	19.5	1.4	33.5	39.2	400	25	670	730
*Destination not known	15.1	4.8	—	—	305	95	—	—
Total	1,386.8	269.0	1,386.8	269.0	28,055	5,275	28,055	5,275

*Includes quantities in transit, transit losses, minor movements not otherwise shown, military use, etc.

Source: British Petroleum Co., *BP Statistical Review of the World Oil Industry, 1974*, p. 10.

PART 2. RESERVES, PRODUCTION, AND REFINING

Table 2-1. Estimated Reserves of Crude Oil in the United States, 1973 and 1974
(thousands of barrels of 42 U.S. gallons)

State	Proved Reserves as of 12/31/73	Changes in Proved Reserves During 1974: Revisions Plus	Revisions Minus	Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Production[a]	Proved Reserves as of 12/31/74	Net Changes in Proved Reserves During 1974	Indicated Additional Reserves From Known Reservoirs[b]	State
Alabama	53,603	25,066	602	114	1,550	—	11,013	68,718	15,115	4,000	Alabama
Alaska	10,112,213	52,495	—	—	—	—	70,609	10,094,099	(18,114)	13,000	Alaska
Arkansas	105,552	16,840	2,917	1,262	1,123	319	15,843	106,336	784	21,444	Arkansas
California[c]	3,488,100	288,677	36,690	40,988	98,010	460	322,509	3,557,036	68,936	1,348,550	California[c]
Coastal Region	536,284	75,487	9,789	5,055	94,010	10	73,836	627,221	90,937	164,750	Coastal Region
Los Angeles Basin	1,197,868	52,795	12,475	653	—	—	125,581	1,113,260	(84,608)	357,500	Los Angeles Basin
San Joaquin Basin	1,753,948	160,395	14,426	35,280	4,000	450	123,092	1,816,555	62,607	826,300	San Joaquin Basin
Colorado	304,790	13,788	3,428	7,734	2,998	362	36,911	289,333	(15,457)	97,090	Colorado
Florida	183,859	152,904	147	1,305	874	—	36,086	302,709	118,850	20,936	Florida
Illinois	152,343	37,999	4,759	840	41	4	26,679	159,789	7,446	5,900	Illinois
Indiana	26,622	1,295	280	520	73	930	4,809	24,351	(2,271)	2,200	Indiana
Kansas	401,089	49,392	11,530	14,753	1,585	1,240	61,422	395,107	(5,982)	1,500	Kansas
Kentucky	39,980	5,035	1,023	190	300	50	7,960	36,572	(3,408)	2,700	Kentucky
Louisiana[c]	4,576,826	290,435	221,359	86,308	74,731	58,758	639,185	4,226,514	(350,312)	224,501	Louisiana[c]
North	252,388	57,244	3,854	3,051	398	108	35,387	273,948	21,560	31,645	North
South	4,324,438	233,191	217,505	83,257	74,333	58,650	603,798	3,952,566	(371,872)	192,856	South
Michigan	72,444	11,469	—	—	16,340	—	17,954	82,299	9,855	7,500	Michigan
Mississippi	291,049	46,079	32,489	3,857	1,862	1,762	50,712	261,408	(29,641)	27,252	Mississippi
Montana	219,343	22,598	6,283	4,922	1,566	—	34,757	207,389	(11,954)	46,200	Montana
Nebraska	28,166	5,825	1,133	60	401	—	6,540	26,779	(1,387)	4,120	Nebraska
New Mexico	642,994	62,396	2,959	14,522	525	983	93,493	624,968	(18,026)	311,549	New Mexico
Northwest	23,860	4,228	485	5,120	130	—	5,646	27,207	3,347	4,050	Northwest
Southeast	619,134	58,168	2,474	9,402	395	983	87,847	597,761	(21,373)	307,499	Southeast
New York	8,288	2,500	—	1,000	—	—	890	10,898	2,610	6,400	New York
North Dakota	179,520	15,481	6,001	2,318	975	165	19,664	172,794	(6,726)	12,720	North Dakota
Ohio	124,911	—	—	7,928	120	—	9,088	123,871	(1,040)	—	Ohio
Oklahoma	1,270,964	144,062	48,230	28,630	2,345	205	165,599	1,232,377	(38,587)	204,900	Oklahoma
Pennsylvania	39,613	12,200	—	2,000	—	—	3,399	50,414	10,801	54,670	Pennsylvania
Texas[c]	11,756,613	569,716	217,555	85,382	12,198	21,553	1,226,401	11,001,506	(755,107)	2,032,579	Texas[c]
District 1	144,149	14,106	10,105	2,695	621	195	18,272	133,389	(10,760)	38,339	District 1
District 2	677,125	46,551	35,991	994	74	2,906	68,773	622,886	(54,239)	5,720	District 2
District 3	1,489,428	42,784	25,745	11,985	209	3,958	170,516	1,352,103	(137,325)	27,328	District 3
District 4	304,422	19,806	57,581	4,880	902	7,306	42,543	237,192	(67,230)	38,550	District 4
District 5	126,462	3,807	817	282	995	140	19,977	110,892	(15,570)	36,000	District 5
District 6	2,049,248	23,156	6,560	1,431	750	254	154,621	1,913,658	(135,590)	199,351	District 6
District 7-B	235,870	51,361	13,691	10,799	945	749	35,646	250,387	14,517	10,700	District 7-B
District 7-C	204,996	19,197	13,595	17,533	708	265	29,517	199,587	(5,409)	9,028	District 7-C
District 8	3,205,538	115,922	18,277	20,279	3,996	2,951	265,893	3,064,516	(141,022)	978,247	District 8
District 8-A	2,785,308	153,420	9,969	6,212	758	1,477	359,003	2,578,203	(207,105)	678,261	District 8-A
District 9	363,708	61,362	20,296	4,184	1,975	990	42,101	369,822	6,114	7,555	District 9
District 10	170,359	18,244	4,928	4,108	265	362	19,539	168,871	(1,488)	3,500	District 10
Utah	264,512	15,075	23,028	32,000	1,300	—	39,211	250,648	(13,864)	40,500	Utah
West Virginia	32,126	—	—	1,998	720	15	2,649	32,210	84	5,000	West Virginia
Wyoming	916,763	105,823	17,083	28,757	6,250	757	137,907	903,360	(13,403)	140,007	Wyoming
Miscellaneous[d]	7,556	1,414	139	1,530	276	—	2,166	8,471	915	500	Miscellaneous[d]
Total U.S.	35,299,839	1,948,564	637,635	368,918	226,163	87,563	3,043,456	34,249,956	(1,049,883)	4,635,718	Total U.S.
Gulf of Mexico[e]	2,347,525	139,027	61,948	34,664	73,528	37,225	358,013	2,212,008	(135,517)	50,215	Gulf of Mexico[e]

[a] Preliminary estimate.
[b] Additional reserves include additional recoveries in known reservoirs (in excess of the proved reserves) which engineering knowledge and judgement indicate will be economically available by application of fluid injection, whether or not such program is currently installed.
[c] Includes offshore reserves.
[d] Includes Arizona, Missouri, Nevada, South Dakota, Tennessee, and Virginia.
[e] Included with Texas and Louisiana.
()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, 1974*, Volume 29, May 1975, Part I, Table I.

Table 2-2. Annual Estimates of Proved Crude Oil Reserves in the United States, 1946 through 1974 (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 a	Proved Reserves at End of Year	Net Change From Previous Year
1946	19,941,846	1,254,705	1,158,923	b	244,434	2,658,062	1,726,348	20,873,560	931,714
1947	20,873,560	749,278	1,269,862	b	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)

a Production is the amount originally estimated and used by the committee in prior volumes of the reserves report. These figures differ from production data developed by the committee and reported in Tables III and IV.

b 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, 1974.* Volume 29, May 1975, Part I, Table II.

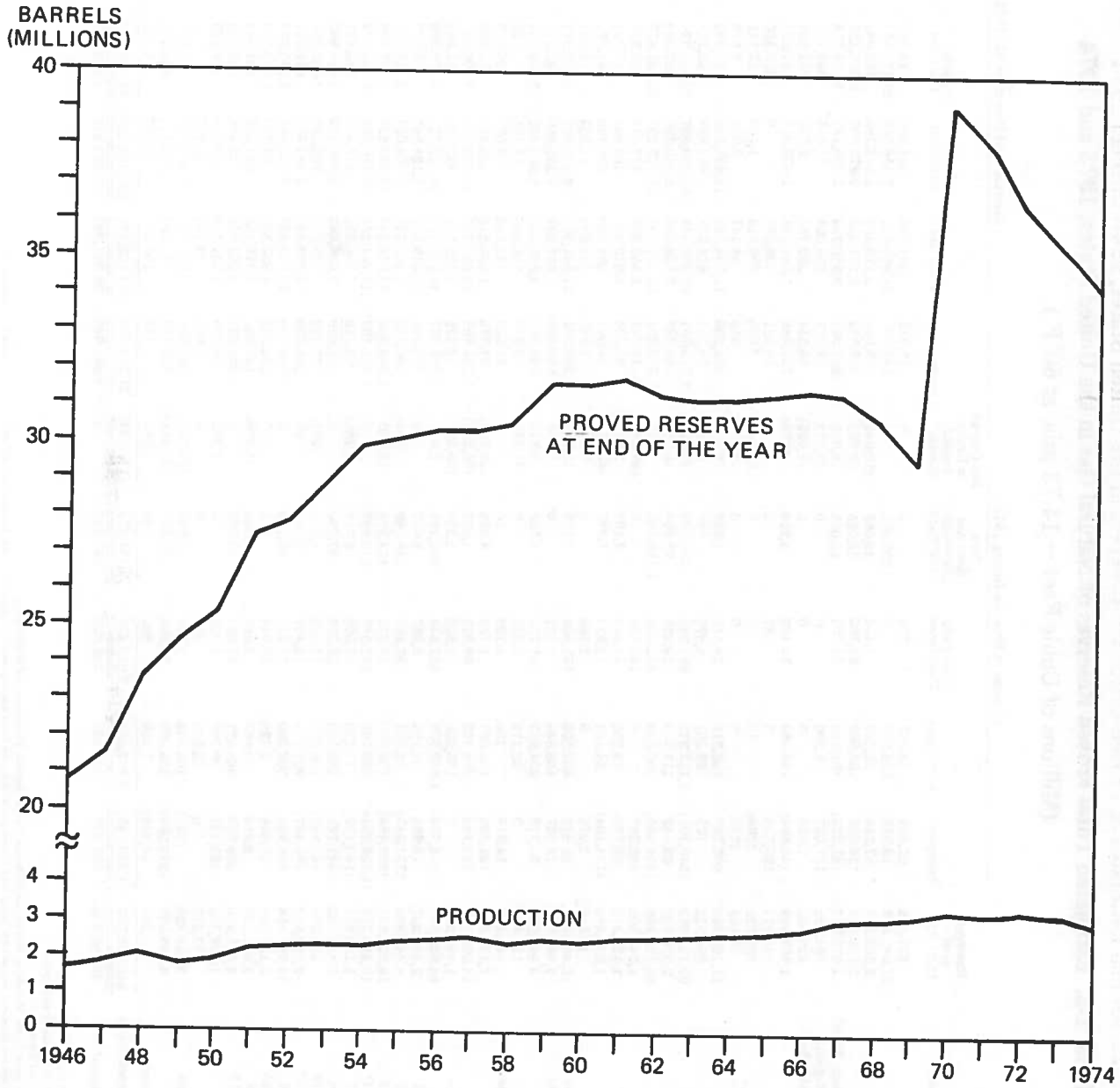


Figure 9. Production and Proved Crude Oil Reserves in the U.S., 1946 - 1974

Table 2-3. Estimated Total Proved Reserves of Natural Gas in the United States, 1973 and 1974
(Millions of Cubic Feet — 14.73 psia, at 60°F.)

State	Reserves as of 12-31-73	Changes in Reserves During 1974						Reserves as of December 31, 1974			
		Revisions	Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Net Change in Underground Storage[5]	Production[3]	Total Gas	Non-Associated	Associated-Dissolved	Underground Storage[6]
Alabama	327,375	62,404	133,787	716	0	0	16,912	507,370	464,760	42,610	0
Alaska	31,642,626	13,916	154,000	0	200,000	0	143,930	31,866,612	5,436,788	26,429,824	0
Arkansas	2,269,353	(87,115)	22,300	1,434	42,065	(10,943)	123,690	2,113,404	1,934,788	155,058	23,558
California	5,199,837	134,092	106,988	34,700	23,055	52,883	356,963	5,194,592	2,273,602	2,588,435	332,555
San Joaquin Basin[1]	4,075,907	(41,373)	101,788	34,700	23,055	16,909	252,202	3,958,784	2,209,182	1,628,753	120,849
Coastal Region[1]	684,922	167,637	5,200	0	0	37,013	58,717	836,055	61,685	607,751	166,619
Los Angeles Basin[1]	439,008	7,828	0	0	0	(1,039)	46,044	399,753	2,735	351,931	45,087
Colorado	1,868,299	(45,504)	174,363	13,780	3,218	(676)	131,785	1,881,695	1,609,917	247,421	24,357
Florida	148,914	199,346	0	87	0	0	39,481	308,866	0	308,866	0
Illinois	380,525	(388)	10	0	0	22,343	3,076	399,414	1,103	20,741	377,570
Indiana	66,682	(726)	0	0	0	(1,300)	515	64,141	2,078	2,648	59,415
Kansas	11,722,395	605,750	262,315	13,415	1,759	(8,594)	892,309	11,704,731	11,435,236	170,992	98,503
Kentucky	864,921	107	28,301	4,876	885	4,693	59,781	844,002	683,888	42,717	117,397
Louisiana[1]	69,151,613	(539,101)	1,112,272	852,039	1,194,730	(5,321)	7,713,787	64,052,445	52,929,627	10,949,026	173,792
North	2,976,133	69,449	111,763	19,235	25,964	(5,254)	360,736	2,836,554	1,750,390	927,389	158,775
South[1]	66,175,480	(608,550)	1,000,509	832,804	1,168,766	(67)	7,353,051	61,215,891	51,179,237	10,021,637	15,017
Michigan	1,548,508	(56,267)	0	140,240	0	(99,186)	75,041	1,458,254	477,613	455,230	525,411
Mississippi	1,178,218	(85,778)	15,986	44,949	7,107	2,642	83,704	1,079,420	869,964	117,721	91,735
Montana	1,092,449	(144,104)	24,104	13,937	7,947	(42,072)	51,001	901,260	676,749	81,272	143,329
Nebraska	48,816	2,976	9	2,169	0	5,179	4,540	54,609	11,884	11,304	31,421
New Mexico	12,488,363	86,943	403,506	151,806	4,108	11,157	1,200,981	11,944,902	9,483,527	2,433,917	27,458
Northwest	7,985,386	16,167	168,549	51	0	2,039	554,795	7,617,397	7,533,050	81,273	3,074
South	4,502,977	70,776	234,957	151,755	4,108	9,118	646,186	4,327,505	1,950,477	2,352,644	24,384
New York	136,842	0	28,175	5,975	0	(1,470)	3,976	165,546	62,191	25	103,330
North Dakota	448,184	14,219	156	1,729	16	0	31,622	432,682	6,059	426,623	0
Ohio	1,179,391	131,322	109,081	1,724	4,268	(23,200)	94,376	1,308,210	786,412	174,250	347,548
Oklahoma	14,098,735	148,190	805,452	64,212	4,697	(26,205)	1,704,769	13,390,312	10,670,558	2,506,095	213,659
Pennsylvania	1,494,381	0	135,200	1,800	2,500	(59,001)	82,735	1,492,145	933,752	11,881	546,512
Texas[1]	84,936,502	(1,524,894)	1,882,335	587,548	594,761	6,817	7,942,352	78,540,717	55,723,891	22,672,909	143,917
District 1	1,473,201	13,954	34,992	3,387	5,037	0	110,698	1,419,873	1,134,547	284,893	433
District 2	8,449,920	(731,249)	15,501	37,460	116,169	(184)	500,872	7,386,745	5,269,011	2,117,281	453
District 3[1]	18,526,171	(302,464)	158,070	28,311	124,578	12,880	1,469,302	17,078,244	11,533,627	5,468,699	75,918
District 4[1]	19,416,215	(1,354,621)	226,045	281,947	212,897	0	1,491,189	17,291,294	12,170,861	5,120,433	0
District 5	1,149,781	(140,132)	11,630	62,005	6,617	(3,765)	99,315	986,821	815,424	143,521	27,876
District 6	5,432,193	(341,762)	168,554	26,567	27,790	0	286,659	5,026,683	3,598,123	1,428,560	0
District 7B	652,076	(46,592)	108,560	15,658	8,820	(925)	77,982	659,615	290,383	342,353	26,879
District 7C	2,430,873	(81,447)	227,771	12,431	9,553	49	295,639	2,303,591	1,484,614	817,001	1,976
District 8	14,796,454	506,950	508,290	73,913	66,110	0	1,988,830	13,962,887	9,582,049	4,380,838	0
District 8A	2,121,505	39,644	3,728	10,944	881	0	222,842	1,953,860	81,107	1,872,753	0
District 9	1,502,193	3,846	49,667	3,898	4,086	(1,238)	145,987	1,416,465	1,041,699	364,384	10,382
District 10	8,985,920	908,979	369,527	31,027	12,223	0	1,253,037	9,054,639	8,722,446	332,193	0
Utah	1,024,723	(29,437)	90,170	1,020	0	1,392	56,459	1,031,409	553,738	474,629	3,042
Virginia	37,273	0	13,500	900	0	0	6,966	44,707	44,707	0	0
West Virginia	2,319,828	(335)	105,334	3,675	7,930	(10,753)	160,098	2,265,581	1,869,226	51,917	344,438
Wyoming	4,109,523	(213,956)	238,807	70,309	52,327	(2,454)	337,169	3,917,387	3,239,711	624,754	52,922
Miscellaneous[4]	165,931	(4,945)	1,100	505	100	5,645	452	168,084	10,453	1,325	156,306
Total United States	249,950,207	(1,333,285)	5,847,251	2,013,475	2,151,473	(178,424)	21,318,470	237,132,497	162,192,222	71,002,190	3,938,085
Gulf of Mexico[2]	36,785,308	607,323	765,931	736,676	547,548	0	4,094,945	35,347,841	30,873,975	4,473,866	0

[1] Includes offshore.
[2] Included with Louisiana and Texas.
[3] Preliminary net production.
[4] Includes Arizona, Iowa, Maryland, Minnesota, Missouri, South Dakota, Tennessee and Washington.
[5] The net difference between recoverable gas stored in and gas withdrawn from underground storage reservoirs, inclusive of adjustments and native gas transferred from other reserve categories.
[6] Proved, recoverable gas contained in underground gas storage reservoirs, including native and net injected gas.
( ) 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, 1974*, Volume 29, May 1975, Part II, Table I.

Table 2-4. Annual Estimates of Proved Natural Gas and Natural Gas Liquids Reserves, United States,[b] 1945 Through 1974 (millions of cubic feet — 14.73 psia, at 60°F, and thousands of barrels of 42 U.S. gallons)

	NATURAL GAS Year-End Reserves				NATURAL GAS LIQUIDS Year-End Reserves		
Year	Non-Associated	Associated-Dissolved	Underground Storage	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	266,084,846	4,572,721	2,213,838	6,786,559
1973	172,245,938	73,587,760	4,116,509c	249,950,207	4,124,031	2,330,676	6,454,707
1974	162,192,222	71,002,190	3,938,085c	237,132,497	4,109,128	2,241,321	6,350,449

a-Not estimated.
b-Includes offshore reserves.
c-See footnote e, Table 2-1.

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, 1974*, Vol. 29, May 1975, Table XIII-1, p. 124.

Table 2-5. Production and Disposition of Natural Gas in the United States, 1950 - 1973

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

	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[r]	4,973,517[r]	24,016,109[r]	1,236,292	22,779,817[r]	248,119[r]	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

[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."
r = Revised

Sources: American Gas Association, *Gas Facts, 1973*, p. 29, Table 21.

Table 2-6. Oil Shale Deposites

	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.

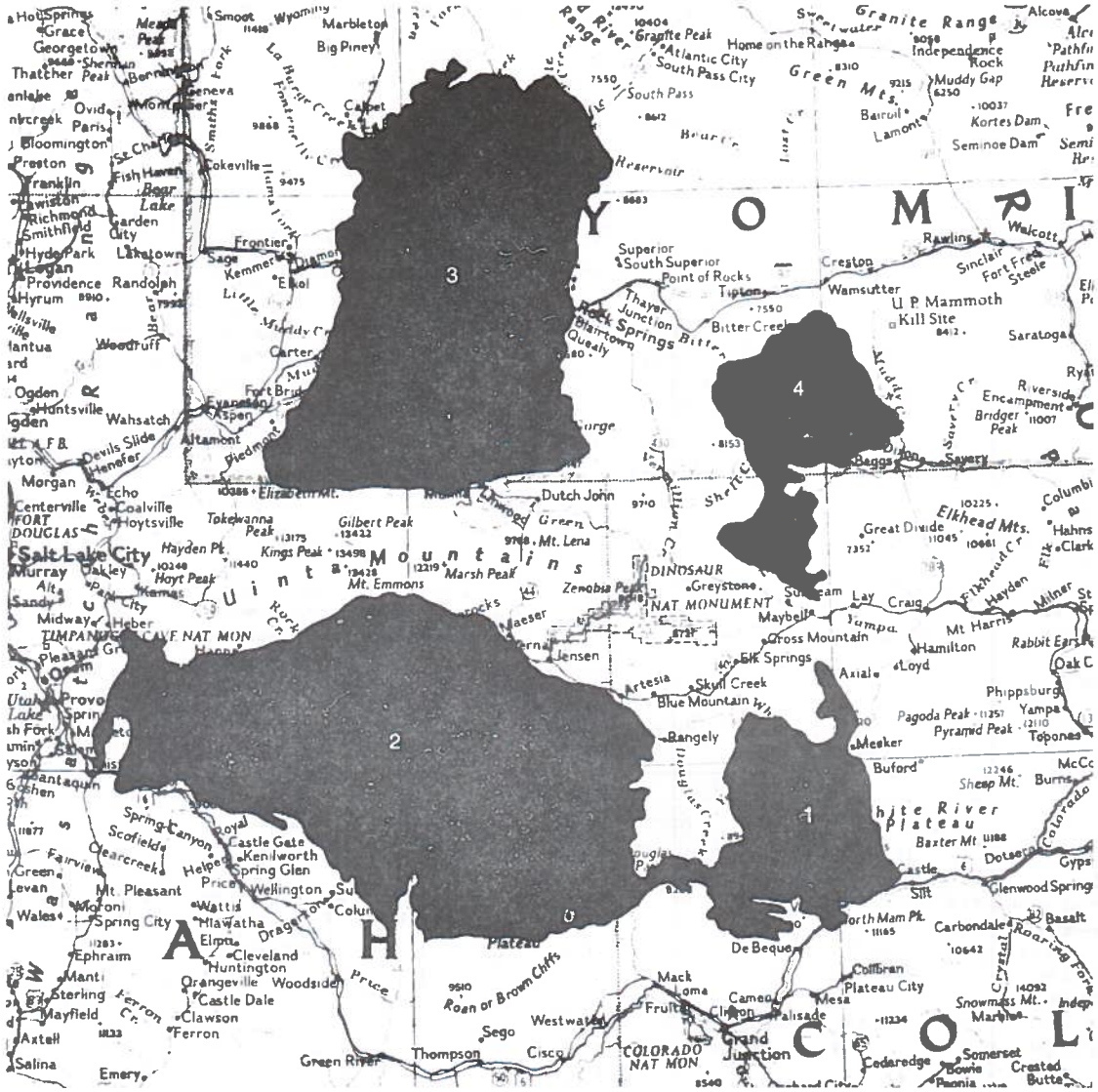
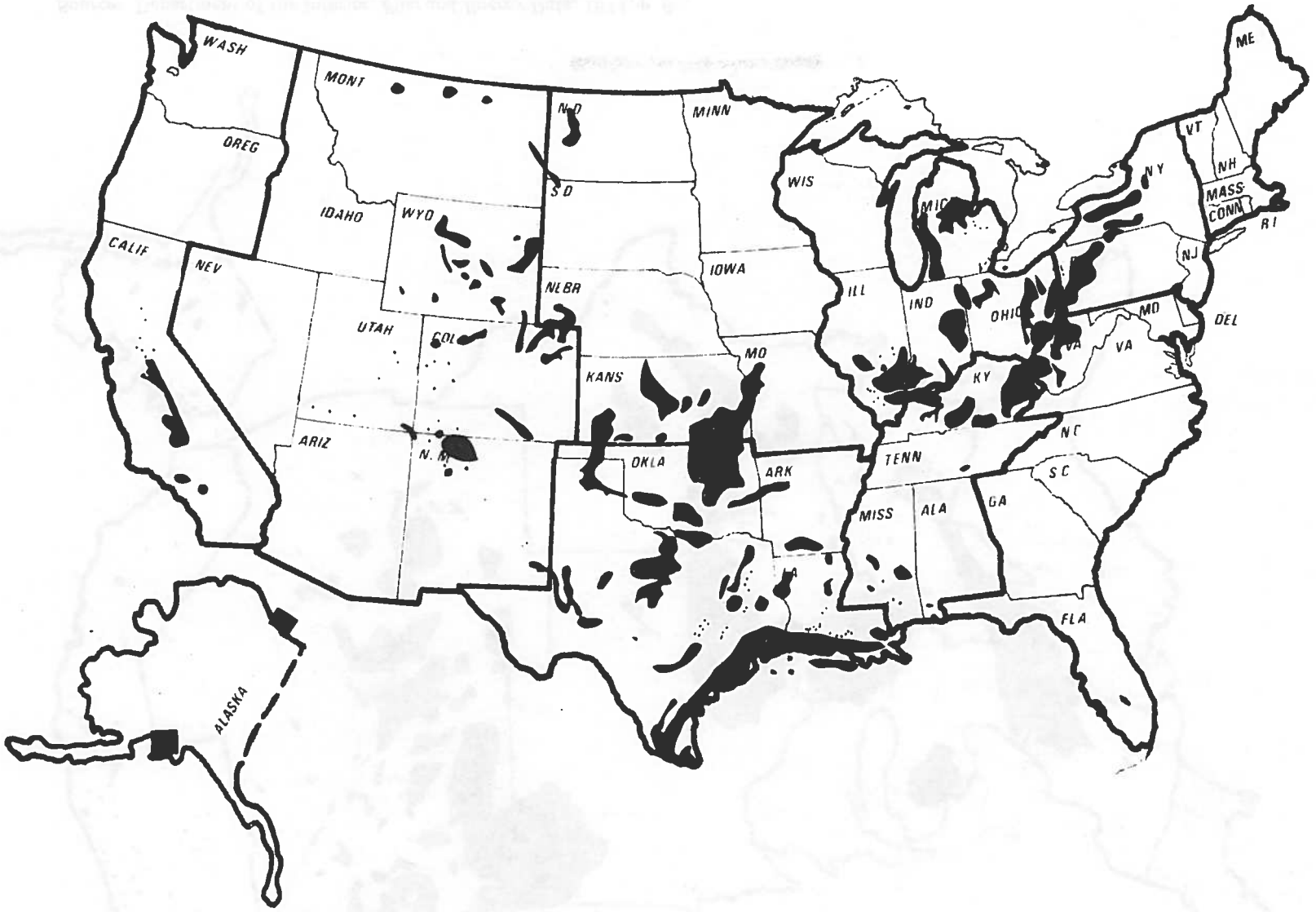


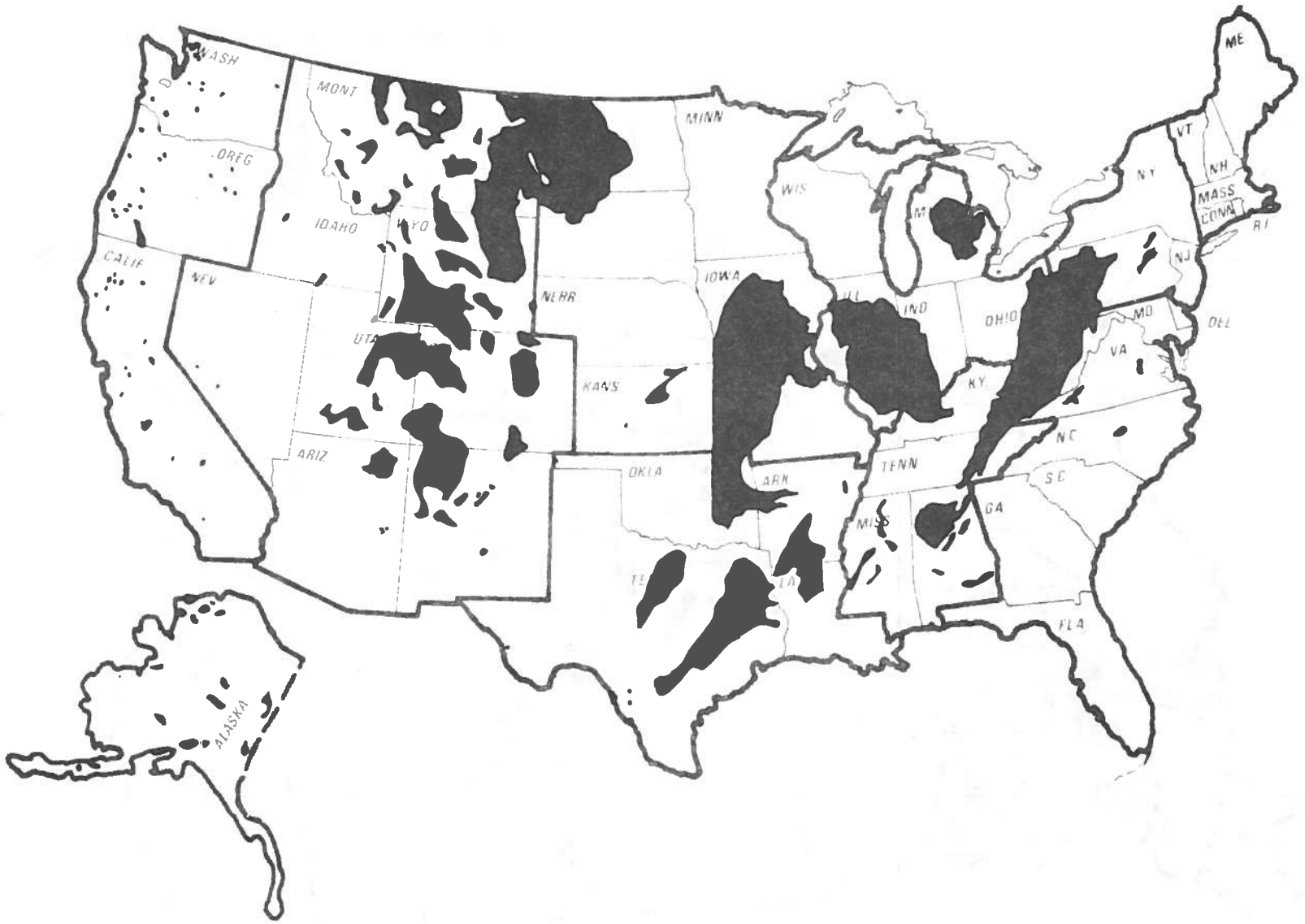
Figure 10. Map of U.S. Oil Shale Deposits

The West's oil shales, rocks containing up to 10 to 15 per cent organic matter, occur in the Green River Formation in the area where Utah, Wyoming, and Colorado join. The Piceance Creek Basin in Colorado (1)—though a small fraction by area of the Green River Formation—contains most of the richest shale and 80 per cent of the total recoverable oil, and it is the area of greatest current interest and potential activity. Other areas which contribute to the total of 600 billion bbl. of recoverable oil include the Uinta Basin (2) in Utah (90 billion bbl.) and the Green River (3) and Washakie (4) Basins in Wyoming and Colorado with some 30 billion bbl. (Map: © 1963 National Geographic Society)



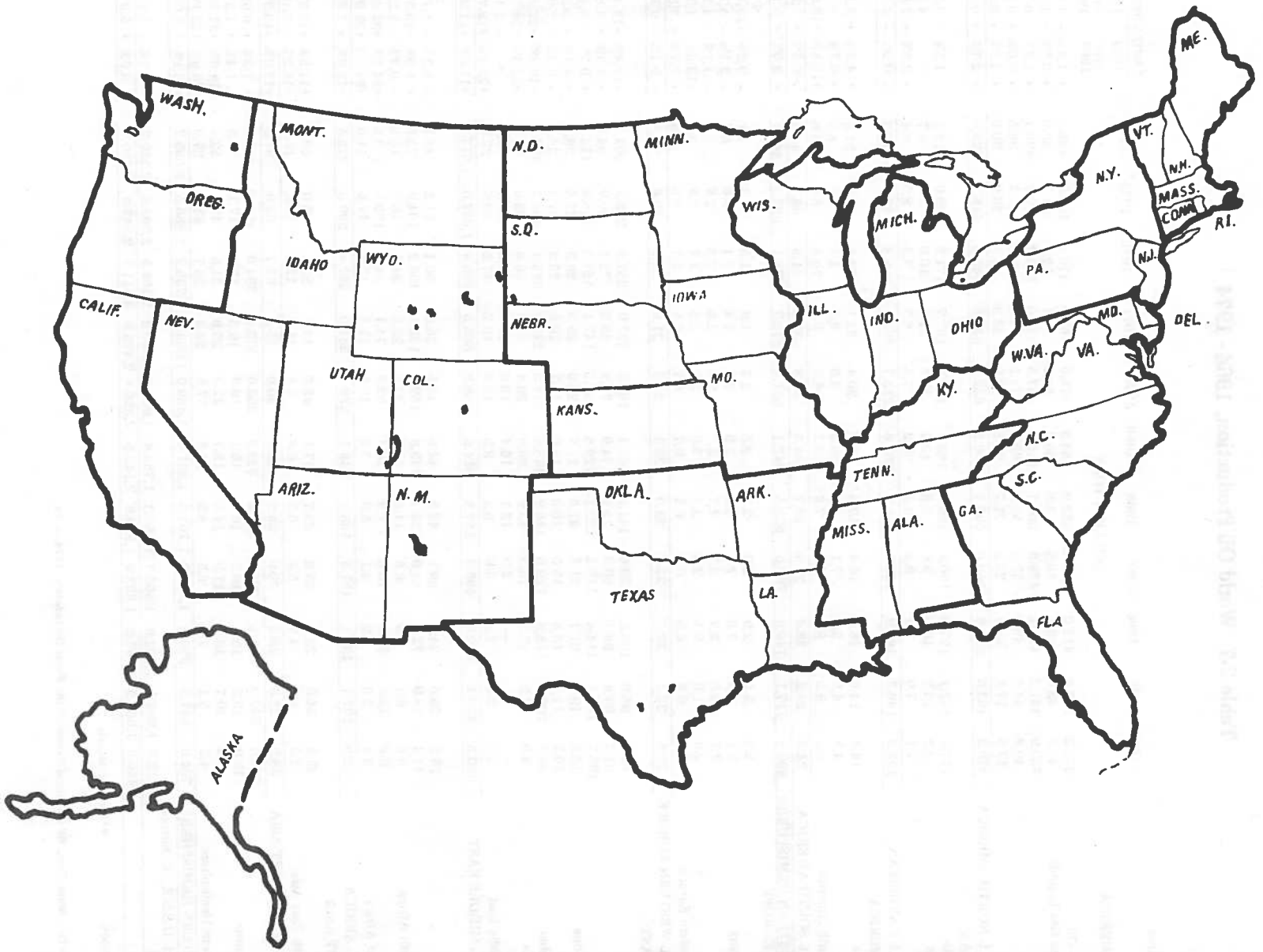
Source: Department of the Interior, *Fuel and Energy Data*, 1974, p. 69.

Figure 11. Oil and Gas Fields in the United States



Source: Department of the Interior, *Fuel and Energy Data*, 1974, p. 68.

Figure 12. Coal Fields of the United States



Source: U.S. Department of the Interior, Bureau at Mines Information Circular 8647, *Fuel and Energy Data, p. 70.*

Figure 13. Principal Uranium Deposits of the United States

Table 2-7. World Oil Production, 1964 - 1974

Country/Area	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973[r]	1974	Yearly Change 1974 over 1964	Yearly Change 1974 over 1969
	MILLION TONS												
NORTH AMERICA													
U.S.A.													
Crude Oil	379.2	387.6	412.0	437.5	452.9	458.8	478.6	469.9	470.1	457.3	436.8	+ 1.4%	- 1.0%
Natural Gas Liquids	41.7	43.6	46.1	50.5	53.8	56.4	58.9	60.1	62.1	61.7	59.9	+ 3.7%	+ 1.2%
	420.9	431.2	458.1	488.0	506.7	515.2	537.5	530.0	532.2	519.0	496.7	+ 1.7%	- 0.7%
Canada	40.8	44.6	49.2	53.8	58.2	62.2	71.5	76.6	88.8	102.3	96.5	+ 9.0%	+ 9.2%
Mexico	17.6	17.8	18.3	20.2	21.7	22.8	23.9	23.9	24.8	26.9	30.6	+ 5.7%	+ 6.0%
TOTAL NORTH AMERICA	479.3	493.6	525.6	562.0	586.6	600.2	632.9	630.5	645.8	648.2	623.8	+ 2.7%	+ 0.8%
CARIBBEAN													
Venezuela	177.4	182.1	177.0	186.1	189.9	188.7	195.2	187.7	171.5	179.0	158.2	- 1.1%	- 3.5%
Colombia	8.7	10.2	10.0	9.6	8.8	10.7	11.2	11.0	10.0	9.4	8.7	—	- 4.2%
Trinidad	7.1	7.0	7.9	9.3	9.5	8.2	7.3	6.7	7.3	8.6	9.4	+ 2.8%	+ 2.8%
TOTAL CARIBBEAN	193.2	199.3	194.9	205.0	208.2	207.6	213.7	205.4	188.8	197.0	176.3	- 0.9%	- 3.2%
SOUTH AMERICA													
Argentina	14.3	14.0	15.0	16.4	17.9	18.6	20.4	22.1	22.6	22.0	21.6	+ 4.2%	+ 3.1%
Brazil	4.5	4.6	5.6	7.1	8.0	8.5	8.0	8.3	8.1	8.1	8.5	+ 6.7%	—
Other South America	5.5	5.6	5.8	7.1	7.8	7.2	6.4	6.4	10.8	18.0	15.5	+10.8%	+16.6%
TOTAL SOUTH AMERICA	24.3	24.2	26.4	30.6	33.7	34.3	34.8	36.8	41.5	48.1	45.6	+ 6.5%	+ 5.9%
TOTAL WESTERN HEMISPHERE	696.8	717.1	746.9	797.6	828.5	842.1	881.4	872.7	876.1	893.3	845.7	+ 2.0%	+ 0.1%
WESTERN EUROPE													
France	2.8	3.0	2.9	2.8	2.7	2.5	2.3	1.9	1.5	1.3	1.1	- 9.2%	-15.4%
W. Germany	7.7	7.9	7.9	7.9	8.0	7.9	7.5	7.4	7.1	6.6	6.2	- 2.1%	- 4.7%
Austria	2.7	2.8	2.7	2.7	2.7	2.7	2.8	2.5	2.5	2.6	2.2	- 1.7%	- 4.1%
Turkey	0.9	1.6	2.1	2.8	3.1	3.6	3.5	3.5	3.4	3.5	3.3	+13.6%	- 1.7%
Other Western Europe	7.5	6.8	6.5	6.5	6.5	6.7	6.7	6.5	7.7	8.6	9.8	+ 2.7%	+ 7.8%
TOTAL WESTERN EUROPE	21.6	22.1	22.1	22.7	23.0	23.4	22.8	21.8	22.2	22.6	22.6	+ 0.4%	- 0.7%
MIDDLE EAST													
Iran	85.4	95.0	105.2	129.6	141.8	168.1	191.3	227.0	251.9	293.1	301.2	+13.4%	+12.4%
Iraq	61.7	64.4	68.1	60.3	73.9	74.9	76.9	83.5	72.1	99.0	94.9	+ 4.4%	+ 4.8%
Kuwait	106.7	109.1	114.4	115.2	122.1	129.5	137.5	147.1	151.2	138.4	114.4	+ 0.7%	- 2.4%
Neutral Zone	18.8	19.4	21.7	21.5	21.0	21.7	26.0	28.3	29.3	27.6	28.1	+ 4.1%	+ 5.3%
Qatar	10.2	11.1	13.8	15.5	16.3	17.0	17.7	20.5	23.2	27.3	24.9	+ 9.3%	+ 7.9%
Saudi Arabia	86.2	100.6	118.8	129.0	140.9	148.6	176.2	223.4	285.4	364.7	407.8	+16.8%	+22.4%
Abu Dhabi	9.0	13.5	17.3	18.3	23.9	28.9	33.4	44.9	50.6	62.6	67.9	+22.4%	+18.7%
Oman	------	------	------	2.9	12.1	16.4	16.6	14.4	14.2	14.7	14.8	*	- 2.1%
Other Middle East	2.5	3.0	3.3	3.6	5.3	9.5	12.6	16.2	17.5	19.6	23.5	+25.1%	+19.7%
TOTAL MIDDLE EAST	380.5	416.1	462.6	495.9	557.3	614.6	688.2	805.3	895.4	1,047.0	1,077.5	+11.0%	+11.9%
AFRICA													
Algeria	26.5	26.6	34.2	39.1	42.9	44.5	48.5	36.5	50.1	51.2	48.5	+ 6.2%	+ 1.7%
Libya	41.4	58.9	72.3	84.0	125.7	149.8	159.8	133.1	108.2	104.9	73.5	+ 5.9%	-13.3%
Other North Africa	6.6	6.7	7.0	8.6	14.5	20.9	27.7	25.2	21.6	16.7	16.0	+ 9.4%	- 5.2%
Nigeria	6.0	13.5	20.4	15.6	7.2	26.4	52.9	74.7	88.9	100.1	113.5	+34.2%	+33.9%
Other West Africa	2.4	2.0	2.2	4.1	5.8	7.5	10.9	11.5	13.6	17.6	21.0	+24.0%	+22.9%
TOTAL AFRICA	82.9	107.7	136.1	151.4	196.1	249.1	299.8	281.0	282.4	290.5	272.5	+12.6%	+ 1.8%
SOUTH EAST ASIA													
Indonesia	23.3	24.0	23.5	25.2	29.7	37.1	42.2	44.1	53.4	66.0	69.0	+11.5%	+13.2%
Other South East Asia	3.6	4.0	4.7	5.4	6.2	6.8	7.8	11.0	12.3	16.0	15.0	+15.2%	+17.1%
TOTAL SOUTH EAST ASIA	26.9	28.0	28.2	30.6	35.9	43.9	50.0	55.1	65.7	82.0	84.0	+12.0%	+13.8%
U.S.S.R.	223.6	242.9	265.1	288.1	309.2	328.3	353.0	372.0	394.0	421.0	451.0	+ 7.3%	+ 6.6%
Eastern Europe	15.0	15.2	15.6	16.2	16.4	16.1	16.3	16.8	17.3	17.1	17.3	+ 1.4%	+ 1.5%
China**	9.3	10.7	13.3	11.9	14.0	15.7	21.3	26.9	31.5	42.1	52.4	+18.9%	+27.3%
Other Eastern Hemisphere	4.2	5.1	7.0	8.5	9.5	10.3	17.6	24.3	26.7	28.2	27.9	+20.8%	+22.1%
TOTAL EASTERN HEMISPHERE	764.0	847.8	950.0	1,025.3	1,161.4	1,301.4	1,469.0	1,603.2	1,735.2	1,950.5	2,005.2	+10.1%	+ 9.0%
WORLD (excl. U.S.S.R., E. Europe and China)	1,212.9	1,296.1	1,402.9	1,506.7	1,650.3	1,783.4	1,959.8	2,060.2	2,168.5	2,363.6	2,330.2	+ 6.7%	+ 5.5%
WORLD	1,460.8	1,564.9	1,696.9	1,822.9	1,989.9	2,143.5	2,350.4	2,475.9	2,611.3	2,843.8	2,850.9	+ 6.9%	+ 5.9%

* Greater than 300% **Includes Albania

r = revised

Source: British Petroleum Corp., BP *Statistical Review of the World Oil Industry*, 1974, p. 18.

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

P.A.D. District		Operable Refinery Capacity					Operable Capacity Shut Down on Sept. 30 1974 (included in Column 1)	Inoperable Refinery Capacity Sept. 30, 1974 Through Sept. 30, 1975
		September 30 1974	December 31 1974	March 31 1975	June 30 1975	September 30 1975		
	East Coast	1,544,500	1,558,500	1,558,500	1,558,500	1,558,500	—	15,000
	Appalachian No. 1	215,710	215,710	215,710	215,710	215,710	—	1,400
I.	Total	1,760,210	1,774,210	1,774,210	1,774,210	1,774,210	—	16,400
	Appalachian No. 2	64,000	64,000	64,000	64,000	64,000	—	—
	Ind. Ill., Ky.	2,573,902	2,626,400	2,677,600	2,677,600	2,677,600	12,020	163,600
	Minn., Wisc., Daks.	298,300	303,300	303,300	303,300	303,300	5,000	—
	Okla., Kan., Mo.	1,035,466	1,065,146	1,066,146	1,075,006	1,096,006	12,400	6,200
II.	Total	3,971,668	4,058,846	4,111,046	4,119,906	4,140,906	19,420	169,800
	Inland Texas	513,200	517,200	524,200	524,200	524,200	3,000	—
	Texas Gulf Coast	3,432,350	3,447,350	3,447,350	3,447,350	3,447,350	9,000	—
	Louisiana Gulf Coast	1,901,800	1,937,800	1,937,800	1,937,800	1,937,800	—	20,000
	No. La. & Ark.	212,800	212,800	225,800	225,800	225,800	2,000	1,400
	New Mexico	88,450	98,350	98,350	98,350	98,350	—	—
III.	Total	6,148,600	6,213,500	6,233,500	6,233,500	6,233,500	14,000	21,400
IV.	Other Rocky Mt.	543,481	549,481	552,250	556,681	556,681	11,800	—
V.	West Coast	2,371,500	2,376,400	2,378,900	2,389,900	2,389,900	48,300	—
	Total United States	14,795,459	14,972,437	15,049,906	15,074,197	15,095,197	103,520	207,600

Source: American Petroleum Institute, *Weekly Statistical Bulletin*, Nov. 29, 1974

See Appendix C for new definition of operable refinery capacity.

Table 2-9. Number and Capacity of U.S. Refineries, 1918 - 1974

Year	Number of Refineries As of January 1					Capacity as of January 1 (Barrels Per Day)					Daily Average Crude Oil Runs To Stills (barrels)
	Operating	Shutdown	Total Operating and Shutdown	Building[1]	Total Operating, and Shutdown and Building	Operating	Shutdown[2]	Total Operating and Shutdown	Building[3]	Total Operating, Shutdown and Building	
1974	257	27	284	5	289	14,220,316	269,120	14,489,436	1,319,490	15,808,926	12,044,000*
1973	252	25	277	0	277	13,454,471	320,175	13,774,646	100,500	13,875,146	12,431,000
1972	250	32	282	2	284	13,034,818	402,650	13,437,468	223,470	13,660,938	11,696,000
1971	253	26	279	3	282	12,658,248	361,830	13,019,978	621,300	13,641,278	11,199,000
1970	262	19	281	4	285	11,882,393	191,930	12,074,323	386,700	12,461,023	10,870,000
1969	264	20	284	2	287	11,575,829	163,680	11,739,509	362,500	12,102,009	10,630,000
1968	270	21	291	1	292	11,172,694	360,160	11,532,854	751,550	12,284,404	10,312,000
1967	260	21	281	4	285	10,412,447	347,160	10,759,607	391,700	11,151,307	9,815,000
1966	267	19	286	3	289	10,171,159	321,580	10,492,739	148,300	10,641,039	9,444,364
1965	273	27	300	1	301	10,161,311	613,284	10,774,595	74,960	10,849,555	9,043,403
1964	282	22	304	1	305	10,063,164	322,210	10,385,374	54,700	10,440,074	8,806,910
1963	287	21	308	2	310	9,814,791	303,530	10,118,321	178,300	10,296,621	8,686,718
1962	287	24	311	1	312	9,812,248	292,899	10,105,147	110,350	10,215,497	8,409,947
1961	289	22	311	0	311	9,629,685	380,388	10,010,073	36,500	10,046,573	8,183,994
1960	290	20	310	2	312	9,543,329	358,095	9,901,424	70,947	9,972,371	8,067,032
1959	291	22	313	0	313	9,450,741	369,105	9,819,846	108,400	9,928,246	7,993,591
1958	289	29	318	2	320	8,939,907	467,800	9,407,707	185,265	9,592,972	7,605,737
1957	298	21	319	3	322	8,808,841	314,833	9,123,674	256,350	9,380,024	7,919,003
1956	294	24	318	2	320	8,380,801	251,589	8,632,390	267,000	8,899,390	7,937,448
1955	296	30	326	4	330	8,069,154	351,476	8,420,630	146,800	8,567,430	7,480,049
1954	308	29	337	7	344	7,782,103	224,794	8,006,897	397,500	8,404,397	6,957,710
1953	315	28	343	4	347	7,481,701	156,960	7,638,661	509,721	8,148,382	6,999,630
1952	327	23	350	0	350	7,161,366	171,519	7,332,885	282,680	7,615,565	6,670,106
1951	325	32	357	1	358	6,701,815	261,829	6,963,644	160,100	7,123,744	6,494,258
1950	320	47	367	2	369	6,222,998	473,302	6,696,300	145,600	6,841,900	5,739,362
1949	336	39	375	3	378	6,230,505	208,490	6,438,995	341,500	6,780,495	5,236,633
1948	352	38	390	2	392	5,825,566	208,686	6,034,252	367,250	6,401,502	5,596,583
1947	361	38	399	0	399	5,336,399	233,083	5,569,482	162,200	5,731,682	5,074,646
1946	364	29	393	1	394	5,086,165	229,691	5,315,856	53,100	5,368,956	4,740,266
1945	380	33	413	1	414	5,077,690	223,463	5,301,153	36,075	5,337,228	4,711,052
1944	384	68	452	0	452	4,709,382	383,641	5,093,023	118,270	5,211,293	4,551,049
1943	386	85	471	1	472	4,409,013	492,998	4,902,011	195,100	5,097,111	3,917,090
1942	430	92	522	1	523	4,496,843	459,756	4,956,599	43,400	4,999,999	3,655,077
1941	420	136	556	6	562	4,180,588	538,381	4,718,969	141,225	4,860,194	3,860,800
1940	461	86	547	10	557	4,196,694	431,952	4,628,646	92,567	4,721,213	3,535,962
1939	435	103	538	7	545	3,933,785	574,770	4,508,555	142,250	4,650,805	3,391,342
1938[4]	431	120	551	10	561	3,970,196	380,955	4,351,151	283,020	4,634,171	3,191,822
1938[5]	431	120	551	10	561	4,151,276	199,875	4,351,151	22,550	4,373,701	—
1937	423	149	572	11	583	3,966,616	328,265	4,294,881	81,200	4,376,081	3,242,301
1936	422	210	632	15	647	3,749,835	367,212	4,117,047	46,899	4,163,946	2,919,590
1935	435	196	631	7	638	3,614,749	443,751	4,058,500	13,900	4,072,400	2,646,000
1934	454	137	591	13	604	3,553,569	364,648	3,918,217	44,450	3,962,667	2,453,797
1933	372	133	505	18	523	3,445,118	444,118	3,889,510	31,545	3,921,055	2,359,600
1932	365	108	473	6	479	3,624,992	389,616	4,014,608	8,720	4,023,328	2,240,429
1931	346	89	435	10	445	3,706,610	236,075	3,942,685	45,000	3,987,685	2,450,981
1930	358	54	412	8	420	3,634,825	130,760	3,765,585	37,200	3,802,785	2,540,951
1929	341	72	413	14	427	3,325,890	183,650	3,509,540	99,000	3,608,540	2,706,049
1928	326	97	423	5	428	3,036,125	214,255	3,250,380	22,000	3,272,380	2,495,342
1927	327	138	465	7	472	2,834,282	226,725	3,061,007	61,000	3,122,007	2,270,781
1926	352	158	510	2	512	2,562,357	290,610	2,852,967	5,500	2,858,467	2,134,970
1925 (May 1)	365	185	550	4	554	2,511,817	342,025	2,853,842	11,000	2,864,842	2,027,178
1924 (November 1)	357	190	547	8	555	2,480,922	333,410	2,814,332	18,200	2,832,532	1,592,433
1922	325	154	479	30	509	1,854,590	254,610	2,109,200	59,950	2,169,150	1,371,797
1921	350	65	415	44	459	1,794,395	94,405	1,888,800	76,600	1,965,400	1,214,693
1920	373[6]	([6])	373	99	472	1,530,565[6]	([6])	1,530,565	263,500	1,794,065	1,185,560
1919	—	—	—	—	289	1,295,115	0	1,295,115	0	1,295,115	990,466
1918	—	—	—	—	267	1,186,155	0	1,186,155	0	1,186,155	893,219

[1] New plants.
[2] Beginning in 1938, shutdown capacity includes inoperative portions of operating refineries as well as plants completely shutdown. In previous years, shutdown capacity represented only plants completely shutdown.
[3] Beginning in 1938, building capacity includes additional capacity being built at existing refineries as well as new plants under construction. In previous years, building capacity included only new plants being built.
[4] New basis; see footnotes 2 and 3.
[5] Old basis; see footnotes 2 and 3.
[6] Shutdown facilities included with operating facilities.
*DOT — TSC computation from weekly averages in American Petroleum Industry, Weekly Statistical Bulletin, Vol. 55, 1974.

Source: U.S. Department of the Interior, Bureau of Mines, "Petroleum Refineries in the United States and Puerto Rico: January 1, 1974," July 22, 1974, p. 3 for 1974 and equivalent tables in earlier editions; and the "Annual Petroleum Statement."

Table 2-10. Total Input at U.S. Refineries and Percent Yields of Products, 1956 - 1974

Crude Oil Run To Stills	Unfinished Oils Re-run (Net)[1]	Total Input[2]	Gasoline From Crude	Kerosene	Jet Fuel Naphtha Type	Jet Fuel Kerosene Type	Dist. Fuel Oil	Resid. Fuel Oil	Lubricants	Others	Year
(In Thousands of 42 Gallon Barrels)			PERCENT YIELD								
2,905,106	+ 4,008	2,909,114	43.37	4.24			22.88	14.67	2.04	12.80	1956
2,890,436	- *1,355*	2,889,081	43.79	3.77			23.14	14.39	1.93	12.98	1957
2,789,404	+32,493	2,821,897	45.17	3.90	Prior years not available on a comparable basis.		22.38	12.88	1.82	13.85	1958
2,917,661	+25,868	2,943,529	44.85	3.76			23.06	11.82	1.91	14.60	1959[3]
2,917,661	+25,868	2,943,529	44.85	3.76			23.06	11.82	1.91	14.60	1959[4]
2,952,534	+22,094	2,974,628	45.16	4.56[5]			22.42	11.17	2.00	14.69	1960
2,987,158	+19,260	3,006,418	44.67	4.70			23.15	10.50	1.97	15.01	1961
3,069,631	+27,733[6]	3,097,364	44.80	5.05			23.23	9.55	1.98	15.39	1962
3,170,652	+31,934	3,202,586	44.14	5.14			23.87	8.62	1.97	16.26	1963
3,223,329	+27,322	3,250,651	44.10[7]	5.17			22.83	8.21	1.96	17.73	1964
3,300,842	+32,111	3,332,953	44.05	2.79	2.47	3.26	22.95	8.06	1.89	14.53	1965
3,447,193	+34,632	3,481,825	44.46	2.90	2.57	3.62	22.54	7.58	1.88	14.45	1966
3,582,594	+34,237	3,616,831	44.07	2.74	3.03	4.52	22.24	7.63	1.79	13.98	1967
3,774,360	+26,152	3,800,512	43.97	2.65	3.19	5.09	22.09	7.25	1.73	14.03	1968
3,879,605	+34,346	3,913,951	44.81	2.60	2.68	5.54	21.64	6.79	1.66	14.28	1969
3,967,503	+38,091	4,005,594	45.32	2.36	2.10	5.44	22.36	6.43	1.65	14.34	1970
4,087,809	+43,608	4,131,417	46.15	2.09	2.07	5.31	22.04	6.65	1.58	14.11	1971
4,280,863	+51,518	4,332,381	46.24	1.83	1.76	5.39	22.21	6.75	1.51	14.31	1972
4,537,254	+45,768	4,583,022	45.61	1.73	1.44	5.41	22.46	7.74	1.50	14.11	1973
4,428,726	+37,351	4,466,077	45.93	1.27	1.59	5.24	21.80	8.74	1.58	13.85	1974
											1973
377,903	+10,272	388,175	43.98	2.43	1.36	5.54	24.18	8.88	1.48	12.15	January
341,244	+ 2,663	343,907	43.15	2.70	1.33	5.98	23.91	8.45	1.58	12.90	February
378,221	- 5,882	372,339	44.67	2.13	1.63	6.00	22.20	7.95	1.58	13.84	March
366,239	- 2,524	363,715	46.70	1.79	1.64	5.68	20.71	7.24	1.50	14.74	April
380,702	+ 3,554	384,256	48.36	1.33	1.56	5.21	20.52	7.65	1.50	13.87	May
385,869	+ 6,431	392,300	47.82	1.14	1.36	5.03	21.61	7.00	1.38	14.66	June
395,236	+ 5,783	401,019	47.59	1.22	1.21	5.17	21.27	6.82	1.44	15.28	July
391,699	+ 7,897	399,596	46.97	1.35	1.34	5.21	21.73	6.60	1.40	15.40	August
376,789	+ 1,622	378,411	46.01	1.55	1.47	5.24	22.30	6.96	1.44	15.03	September
395,491	+ 2,993	398,484	45.21	1.74	1.32	5.48	22.64	7.66	1.55	14.40	October
371,224	+ 3,866	375,090	44.24	1.75	1.31	5.51	23.37	8.49	1.61	13.72	November
376,637	+ 9,093	385,730	42.32	1.83	1.76	4.90	25.20	9.31	1.56	13.12	December
4,537,254	+45,768	4,583,022	45.61	1.73	1.44	5.41	22.46	7.74	1.50	14.11	Total
											1974
356,206	+ 4,924	361,130	43.87	1.63	1.51	5.36	24.72	9.20	1.63	12.08	January
310,863	+ 6,100	316,963	45.82	1.77	1.53	5.38	21.19	9.09	1.64	13.58	February
352,008	- 6,721	345,287	47.31	1.35	1.93	5.54	19.99	8.18	1.77	13.93	March
354,689	+ 3,803	358,492	47.00	1.00	1.71	5.56	21.10	8.24	1.68	13.71	April
382,331	- 683	381,648	45.97	1.02	1.80	5.26	21.97	8.08	1.59	14.31	May
386,912	+ 1,662	382,574	46.69	1.06	1.68	4.67	21.82	8.04	1.59	14.45	June
397,142	+ 5,798	402,940	46.78	.92	1.29	4.88	21.48	8.12	1.48	15.05	July
391,978	+ 7,303	399,281	47.20	1.02	1.29	4.96	21.00	8.28	1.51	14.74	August
363,711	+ 5,125	368,836	46.73	1.11	1.76	5.30	20.75	8.40	1.57	14.38	September
380,854	+ 1,852	382,706	45.05	1.51	1.60	5.43	21.87	8.90	1.55	14.09	October
369,948	+ 2,843	372,791	44.32	1.43	1.74	5.20	22.54	9.89	1.56	13.32	November
388,084	+ 5,345	393,429	44.32	1.52	1.36	5.42	23.04	10.52	1.48	12.34	December
4,428,726	+37,351	4,466,077	45.93	1.27	1.59	5.24	21.80	8.74	1.58	13.85	Total

[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.

Source: American Petroleum Institute, *Annual Statistical Review*, 1956 - 1974.
U.S. Department of the Interior, Bureau of Mines, Petroleum Statements Monthly 1974, Tables 2 and 5.

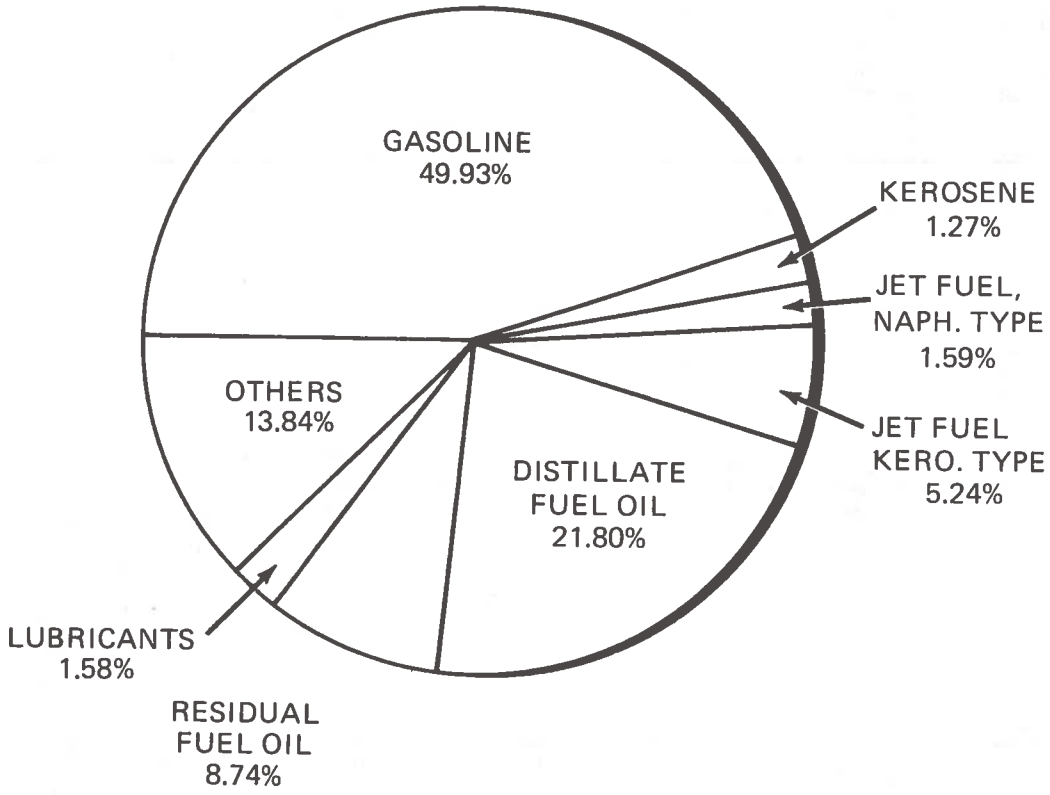


Figure 14. Percentage Yields of Petroleum Products at U.S. Refineries, 1974

Table 2-11. Facts About Prudhoe Bay Reserves and the Trans-Alaska Pipeline

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

Estimated proved crude oil reserves at the end of 1972

Prudhoe Bay area	9.6 billion barrels
All Alaska	10.1 billion barrels
Total United States	36.3 billion barrels

Estimated proved natural gas reserves at the end of 1972

Prudhoe Bay area	25 trillion cu. ft.
All Alaska	31.5 trillion cu. ft.
Total United States	266.1 trillion cu. ft.

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

- 789 miles long, running north and south between Prudhoe Bay and Valdez
- 4 feet in diameter
- In geological fault areas, the pipe is designed with flexibility to move 3 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 pump stations and temporary storage tanks.
- Power-operated, remote-control, cut-off valves would be spaced at 15-mile intervals.
- Estimated cost of construction is $2.8 billion, or approximately $3.5 million per mile.
- Approximate time of construction is 3 years.
- Expected initial oil flow is 600,000 barrels per day at 2 miles per hour.
- Anticipated peak oil flow is 2,000,000 barrels per day at 7 miles per hour.

Table 2-12. Total Estimated Remaining Coal Resources of the United States, January 1, 1972

In millions of short tons. Figures are for resources in the ground, about half of which may be considered recoverable. Includes beds of bituminous coal and anthracite 14 inches or more thick and beds of subbituminous coal and lignite 2.5 ft or more thick.

State	Overburden 0-3000 ft Thick							Overburden 3,000-6,000 ft Thick	
	Bituminous Coal	Subbituminous Coal	Lignite	Anthracite and Semi-Anthracite	Total	Estimated Additional Resources in Unmapped and Unexplored Area[1]	Estimated Total Remaining Resources in the Ground	Estimated Resources in Deeper Structural Basins[1]	Estimated Total Remaining Resources in the Ground, 0-6,000 ft Overburden
Alabama	13,342	0	2,000	0	15,342	20,000	26,000	6,000	41,342
Alaska	19,413	110,668	([2])	([3])	130,081	130,000	135,000	5,000	265,081
Arizona	[4] 21,246	([4])	0	0	21,246	0	0	0	21,246
Arkansas	1,638	0	350	430	2,418	4,000	4,000	0	6,418
Colorado	62,339	18,242	0	78	80,659	146,000	291,000	145,000	371,659
Georgia	24	0	0	0	24	60	60	0	84
Illinois	139,124	0	0	0	139,124	100,000	100,000	0	239,124
Indiana	34,573	0	0	0	34,573	22,000	22,000	0	56,573
Iowa	6,509	0	0	0	6,509	14,000	14,000	0	20,509
Kansas	18,674	0	([5])	0	18,674	4,000	4,000	0	22,674
Kentucky	64,842	0	0	0	64,842	52,000	52,000	0	116,842
Maryland	1,158	0	0	0	1,158	400	400	0	1,558
Michigan	205	0	0	0	205	500	500	0	705
Missouri	31,014	0	0	0	31,014	18,200	18,200	0	49,214
Montana	2,299	131,855	87,521	0	221,675	157,000	157,000	0	378,675
New Mexico	10,752	50,671	0	4	61,427	27,000	48,000	21,000	109,427
North Carolina	110	0	0	0	110	20	25	5	135
North Dakota	0	0	350,630	0	350,630	180,000	180,000	0	530,630
Ohio	41,358	0	0	0	41,358	2,000	2,000	0	43,358
Oklahoma	3,281	0	([5])	0	3,281	20,000	30,000	10,000	33,281
Oregon	50	284	0	0	334	100	100	0	434
Pennsylvania	56,759	0	0	20,510	77,269	[6] 10,000	10,000	0	87,269
Rhode Island	0	0	0	([7])	—	0	0	0	—
South Dakota	0	0	2,031	0	2,031	1,000	1,000	0	3,031
Tennessee	2,572	0	0	0	2,572	2,000	2,000	0	4,572
Texas	6,048	0	6,824	0	12,872	14,000	14,000	0	26,872
Utah	[8] 23,541	[8] 180	0	0	[11] 23,721	[9] 21,000	56,000	35,000	79,721
Virginia	9,352	0	0	335	9,687	5,000	5,100	100	14,787
Washington	1,867	4,190	117	5	6,179	30,000	45,000	15,000	51,179
West Virginia	100,628	0	0	0	100,628	0	0	0	100,628
Wyoming	12,705	107,951	([10])	0	120,656	325,000	425,000	100,000	545,656
Other States	[11] 610	[12] 32	[13] 46	0	688	1,000	1,000	0	1,688
Total	686,033	424,073	449,519	21,362	1,580,987	1,306,280	1,643,385	337,105	3,224,372

[1] Estimates by H.M. Beikman (Washington), H.L. Berryhill, Jr. (Virginia and Wyoming), R.A. Brant (Ohio and North Dakota), W.C. Culbertson (Alabama), K.J. Englund (Kentucky and Virginia), B. R. Haley (Arkansas), E.R. Landis (Colorado and Iowa), E.T. Luther (Tennessee), R.S. Mason (Oregon), C.E. Robinson (Missouri), J.A. Simon (Illinois), J.V.A. Trumbull (Oklahoma), C.E. Wier (Indiana), and the author for the remaining States.

[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] Includes coal in the Dakota Formation of the Black Mesa field, some of which may be of subbituminous rank. Does not include small resources of thin and impure coal in the Deer Creek and Pinedale fields.

[5] Small resources of lignite in beds generally less than 30 in. thick.

[6] From Ashley (1944).

[7] Small resources of meta-anthracite in the Narragansett basin believed to be too graphitic and too badly crushed and faulted to be economically recoverable as fuel.

[8] Excludes coal in beds less than 4 ft. thick.

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

[10] Hypothetical resources: Undiscovered mineral deposits, whether of recoverable or subeconomic grade, that are geologically predictable as existing in known district.

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

[12] California and Idaho.

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

Source: U.S. Geological Survey, Professional Paper 820, "United States Mineral Resources — Coal", Table 27, p. 137.

Table 2-13. Coal—Production, by States: 1961 to 1972

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

Source: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, 1972, Vol. 1, pg. 396, Table 1, pg. 338, Table 5 and previous years.

Table 2-14. Number and Production of Bituminous Coal and Lignite Mines, by State, Size of Output, and Type of Mining, in 1972

(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[1]	
	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	5	5,659	4	1,519	2	300	—	—	4	77	9	33	24	7,588
Strip	6	5,213	11	3,047	18	2,622	16	1,181	37	1,058	13	55	101	13,177
Auger	—	—	—	—	—	—	—	—	1	49	—	—	1	49
Total	11	10,873	15	4,566	20	2,922	16	1,181	42	1,184	22	88	126	20,814
Alaska:														
Strip	1	668	—	—	—	—	—	—	—	—	—	—	1	668
Arizona:														
Strip	1	2,954	—	—	—	—	—	—	—	—	—	—	1	2,954
Arkansas:														
Underground	—	—	—	—	—	—	—	—	—	—	1	8	1	8
Strip	—	—	—	—	2	248	1	84	2	81	2	7	7	420
Total	—	—	—	—	2	248	1	84	2	81	3	15	8	428
Colorado:														
Underground	1	616	6	1,682	3	442	2	146	7	146	8	36	27	3,070
Strip	3	2,198	—	—	1	122	1	93	2	36	1	4	8	2,452
Total	4	2,814	6	1,682	4	564	3	239	9	182	9	40	35	5,522
Illinois:														
Underground	20	31,358	—	—	3	300	—	—	3	63	—	—	26	31,721
Strip	19	32,031	2	979	3	482	3	246	4	57	2	7	33	33,802
Total	39	63.389	2	979	6	782	3	246	7	120	2	7	59	65,523
Indiana:														
Underground	1	950	1	306	1	104	1	85	—	—	—	—	4	1,446
Strip	12	23,172	1	288	2	273	7	506	9	240	5	26	36	24,503
Total	13	24,122	2	594	3	377	8	591	9	240	5	26	40	25,949
Iowa:														
Underground	—	—	1	239	1	113	—	—	—	—	—	—	2	352
Strip	—	—	—	—	—	—	6	419	3	79	—	—	9	499
Total	—	—	1	239	1	113	6	419	3	79	—	—	11	851
Kansas:														
Strip	1	820	1	205	1	197	—	—	—	—	1	6	4	1,227
Kentucky:														
Underground	29	27,437	29	9,770	51	7,200	65	4,390	285	6,595	238	1,102	697	56,494
Strip	22	32,391	22	7,020	51	6,837	80	5,515	225	3,219	117	794	517	55,776
Auger	—	—	3	1,391	10	1,410	27	1,837	86	3,422	118	857	244	8,917
Total	51	59,828	54	18,181	112	15,447	172	11,742	596	13,236	473	2,753	1,458	121,187
Maryland:														
Underground	—	—	—	—	1	100	—	—	1	28	8	13	5	141
Strip	—	—	—	—	3	407	8	529	18	437	12	62	41	1,435
Auger	—	—	—	—	—	—	—	—	1	21	8	43	9	65
Total[1]	—	—	—	—	4	507	8	529	20	486	23	118	55	1,640
Missouri:														
Strip	3	3,054	3	1,258	2	208	—	—	1	22	2	8	11	4,551
Montana:														
Underground	—	—	—	—	—	—	—	—	—	—	3	17	3	17
Strip	3	7,874	1	320	—	—	—	—	—	—	2	10	6	8,204
Total	3	7,874	1	320	—	—	—	—	—	—	5	27	9	8,221
New Mexico:														
Underground	1	1,014	—	—	—	—	—	—	—	—	—	—	1	1,014
Strip	1	6,816	1	397	—	—	—	—	1	17	1	5	4	7,235
Total[1]	2	7,830	1	397	—	—	—	—	1	17	1	5	5	8,248
North Dakota:														
Strip	4	5,426	2	876	2	282	—	—	2	33	4	15	14	6,632

See footnotes at end of table.

Table 2-14. Number and Production of Bituminous Coal and Lignite Mines, by State, Size of Output, and Type of Mining, in 1972 - 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[1]	
	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	14	12,741	8	2,850	2	375	2	160	5	120	4	24	35	16,269
Strip	17	18,742	23	6,815	27	3,420	44	3,067	66	1,704	59	329	236	34,077
Auger	—	—	—	—	1	130	2	102	22	355	10	34	35	621
Total	31	31,483	31	9,665	30	3,925	48	3,329	93	2,179	73	387	306	50,967
Oklahoma:														
Underground	—	—	—	—	—	—	1	80	—	—	1	8	2	88
Strip	2	1,568	1	222	3	452	3	260	2	27	2	7	13	2,536
Total	2	1,568	1	222	3	452	4	340	2	27	3	15	15	2,624
Pennsylvania:														
Underground	40	35,119	27	9,732	20	2,747	12	878	23	535	37	121	159	49,133
Strip	1	662	10	2,629	50	7,022	83	5,795	344	9,455	134	702	622	26,264
Auger	—	—	—	—	—	—	—	—	18	341	37	201	55	542
Total[1]	41	35,782	37	12,361	70	9,769	95	6,673	385	10,331	208	1,024	836	75,939
Tennessee:														
Underground	1	1,171	4	1,029	10	1,227	18	1,257	46	1,029	29	153	108	5,866
Strip	—	—	3	857	12	1,703	20	1,353	43	1,133	16	67	94	5,113
Auger	—	—	—	—	—	—	2	135	6	142	1	3	9	281
Total	1	1,171	7	1,886	22	2,930	40	2,745	95	2,304	46	223	211	11,260
Texas:														
Strip	2	3,805	1	240	—	—	—	—	—	—	—	—	3	4,045
Utah:														
Underground	1	961	10	2,918	4	636	2	183	3	66	1	6	21	4,770
Strip	—	—	—	—	—	—	—	—	1	32	—	—	1	32
Total	1	961	10	2,918	4	636	2	183	4	98	1	6	22	4,802
Virginia:														
Underground	7	6,718	20	7,438	15	2,397	30	2,401	160	4,559	95	480	327	23,993
Strip	—	—	3	952	7	1,032	33	1,825	140	3,888	61	238	244	7,935
Auger	—	—	—	—	2	294	5	357	56	1,176	59	273	122	2,100
Total[1]	7	6,718	23	8,390	24	3,723	68	4,583	356	9,623	215	991	693	34,028
Washington:														
Underground	—	—	—	—	—	—	—	—	1	29	—	—	1	29
Strip	1	2,597	—	—	—	—	—	—	—	—	1	9	2	2,606
Total[1]	1	2,597	—	—	—	—	—	—	1	29	1	9	3	2,634
West Virginia:														
Underground	49	49,735	92	30,084	61	9,515	70	5,716	161	5,717	115	895	548	101,662
Strip	4	3,110	18	4,626	38	4,932	64	4,736	114	1,377	50	320	288	19,101
Auger	—	—	—	—	7	874	8	640	40	1,290	44	175	99	2,979
Total[1]	53	52,845	110	34,710	106	15,321	142	11,092	315	8,384	209	1,390	935	123,743
Wyoming:														
Underground	—	—	1	335	—	—	1	96	—	—	3	10	5	442
Strip	8	10,022	1	289	1	120	—	—	2	53	1	2	13	10,487
Total[1]	8	10,022	2	624	1	120	1	96	2	53	4	12	18	10,928
United States														
Underground	169	173,479	203	67,902	174	25,456	204	15,392	699	18,964	547	2,906	1,996	304,103
Strip	111	163,124	104	31,020	223	30,359	369	25,609	1,016	22,948	486	2,673	2,309	275,730
Auger	—	—	3	1,391	20	2,708	44	3,071	230	6,796	277	1,586	574	15,554
Total[1]	280	336,604	310	100,313	417	58,523	617	44,072	1,945	48,708	1,310	7,165	4,879	595.386

[1] Data may not add to total shown because of independent rounding.

Source: U.S. Department of the Interior, Bureau of Mines, Minerals Yearbook 1972, Vol. 1, pg. 345, Table 10.

Table 2-15. Domestic Supply and Consumption of Coal, 1970-1972

ANTHRACITE

	1970 Thousand Short Tons	1971 Thousand Short Tons	1972[p] Thousand Short Tons
Domestic Supply			
Production	9,729	8,727	7,106
Exports	-1,481	-1,389	-1,191
Imports	—	—	—
Stock change: withdrawals (+), additions (-)	n/a	n/a	n/a
Losses, gains, unaccounted for	—	—	—
Total Domestic Supply	8,248	7,338	5,915
Domestic Consumption			
Household and commercial	4,042	3,850	2,960
Industrial	2,309	1,842	1,371
Transportation	n/a	n/a	n/a
Electricity generation, utilities	1,897	1,646	1,584
Total Domestic Consumption	8,248	7,338	5,915

BITUMINOUS COAL AND LIGNITE

Domestic Supply			
Production	602,932	552,192	592,000
Exports	-70,944	-56,633	-55,960
Imports	36	111	47
Stock changes: withdrawals (+), additions (-)	-11,777	2,553	-24,123
Losses, gains unaccounted for	-4,628	-3,361	7,812
Total Domestic Supply	515,619	494,862	519,776
Domestic Consumption			
Fuel and power			
Household and commercial	12,072	11,351	11,748
Industrial	178,718	152,747	154,613
Transportation	298	207	163
Electricity generation, utilities	318,921	326,280	348,612
Raw material, Industrial	5,610	4,277	4,640
Total Domestic Consumption	515,619	494,862	519,776

[p]Preliminary

n/a — Not Available

Source: U.S. Dept. of the Interior, Bureau of the Mines, Minerals Yearbook 1972, Vol. 1, Table 9, and similar data in earlier editions.

Table 2-16. Natural Uranium Resources

(In Thousands of tons U_3O_8)

	United States	Free World excluding United States	Total free world
$10/lb. U_3O_8:			
Reasonably assured	340	900	1,240
Estimated additional	700	430	1,130
Total	1,040	1,330	2,370
$10-15/lb. U_3O_8:			
Reasonably assured	180	740	920
Estimated additional	300	520	820
Total	480	1,260	1,740

Source: U.S. Atomic Energy Commission. Geology and Resources of Foreign Uranium Deposits, H. H. Adler, October 1974.

Table 2-17. Estimated Uranium Ore Reserves by States, January 1, 1975

State	Tons of Ore (Millions)	Grade of Ore (% U_3O_8)	Tons of U_3O_8
New Mexico	74.8	0.22	168,000
Wyoming	62.2	0.16	102,000
Colorado	2.9	0.28	8,000
Utah	2.8	0.21	6,000
Others: (Arizona, North Dakota, South Dakota, Texas, Washington, Oregon, Montana, California, Alaska)	24.9	0.12	31,000
Total	167.6	0.19	315,000

Source: U.S. Energy Research and Development Administration, press release, "ERDA Estimates U.S. Uranium Reserves", March 21, 1975.

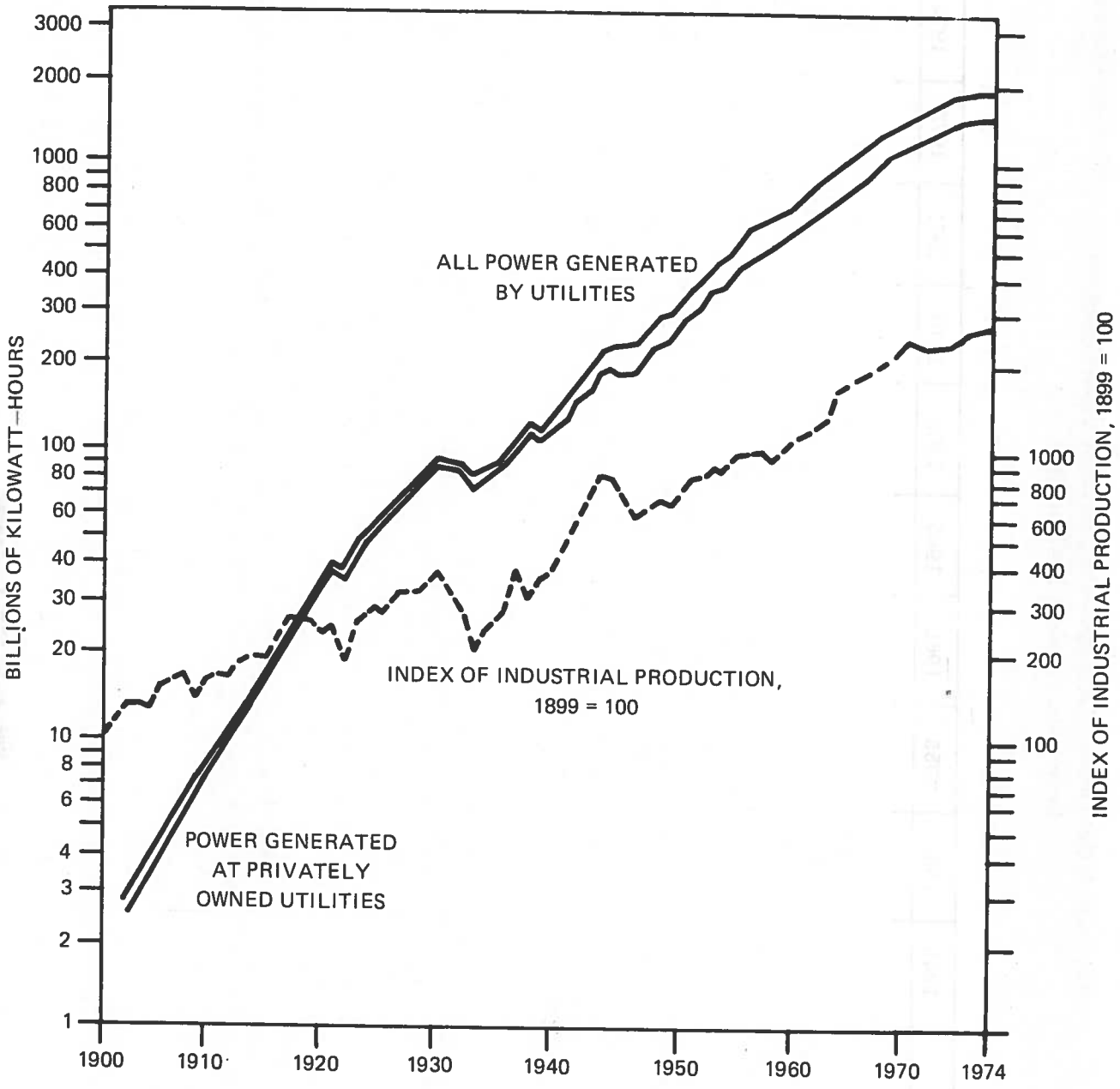
Table 2-18. Water Power — Developed and Estimated Undeveloped, by Geographic Division: 1945 to 1973

[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
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
New England[3]	1,170	1,239	1,385	1,520	1,495	1,495	1,473	1,511	1,508	1,490
Middle Atlantic	1,668	1,678	1,789	2,472	4,815	4,231	4,264	4,252	4,252	4,246
East North Central	818	901	943	929	886	933	936	944	944	935
West North Central	617	629	962	1,594	2,982	2,785	2,728	2,726	2,724	2,769
South Atlantic	2,664	2,767	3,536	3,773	5,170	5,271	5,265	5,473	5,472	5,467
East South Central	2,229	2,729	3,576	3,750	4,497	5,111	5,224	5,225	5,267	5,340
West South Central	374	466	948	944	1,661	1,840	1,946	2,096	2,116	2,237
Mountain	2,007	2,286	3,706	4,621	5,560	6,097	6,202	6,219	6,248	6,665
Pacific	4,345	5,979	8,898	13,578	17,424	22,485	23,914	24,958	25,165	25,681
Alaska									76	124
Hawaii									19	19
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
New England	3,348	3,250	2,586	2,900	3,240	3,300	3,330	3,318	3,332	3,327
Middle Atlantic	5,175	6,572	8,023	7,600	4,986	4,545	4,455	4,269	4,301	4,301
East North Central	2,574	2,344	3,051	3,000	1,351	1,288	1,576	1,305	1,333	1,321
West North Central	4,735	5,775	6,284	6,400	4,146	4,604	4,390	4,329	4,329	4,284
South Atlantic	7,462	8,161	7,943	8,400	9,977	9,708	9,556	9,059	8,989	9,066
East South Central	4,552	4,736	3,707	4,600	4,287	3,660	3,810	3,877	3,832	3,778
West South Central	2,894	3,568	3,506	3,900	3,056	3,394	3,279	3,029	3,009	2,847
Mountain	17,755	23,440	20,668	23,600	26,530	26,923	26,655	26,174	25,508	21,829
Pacific	28,635	29,768	31,127	53,800	66,514	71,478	70,939	69,843	38,978	35,935
Alaska									32,478	32,478
Hawaii									35	35

[1] Capacity of actual installations only. Electric utilities and industrial plants, excluding pumped storage capacity.
[2] 1947 data.
[3] Regional states shown in figure.

Source: U.S. Federal Power Commission, annual summaries and related monthly reports;
U.S. Department of Commerce, Statistical Abstract of the U.S., 1969.



Source: Federal Power Commission — Press Release Telephone Communication.
Historical Statistics of the United States;
U.S. Department of Commerce, Statistical Abstract of the United States, 1974.

Figure 15. Electric Power Generating Capacity, 1900 - 1974

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) Total Cost $	First Year (14,500 miles) Cost Per Mile ¢	Second Year (13,000 miles) Total Cost $	Second Year (13,000 miles) Cost Per Mile ¢	Totals and Averages for Ten Years (100,000 miles) Total Cost $	Totals and Averages for Ten Years (100,000 miles) 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.

See Appendix D 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 D 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 D 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) Total Cost	First Year (14,500 miles) Cost Per Mile	Second Year (13,000 miles) Total Cost	Second Year (13,000 miles) Cost Per Mile	Totals and Averages For Ten Years (100,000 miles) Total Cost	Totals and Averages For Ten Years (100,000 miles) 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 does 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 D 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 D 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) Total Cost	First Year (14,500 miles) Cost Per Mile	Second Year (13,000 miles) Total Cost	Second Year (13,000 miles) Cost Per Mile	Totals And Averages For Ten Years (100,000 miles) Total Cost	Totals And Averages For Ten Years (100,000 miles) 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 D 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)

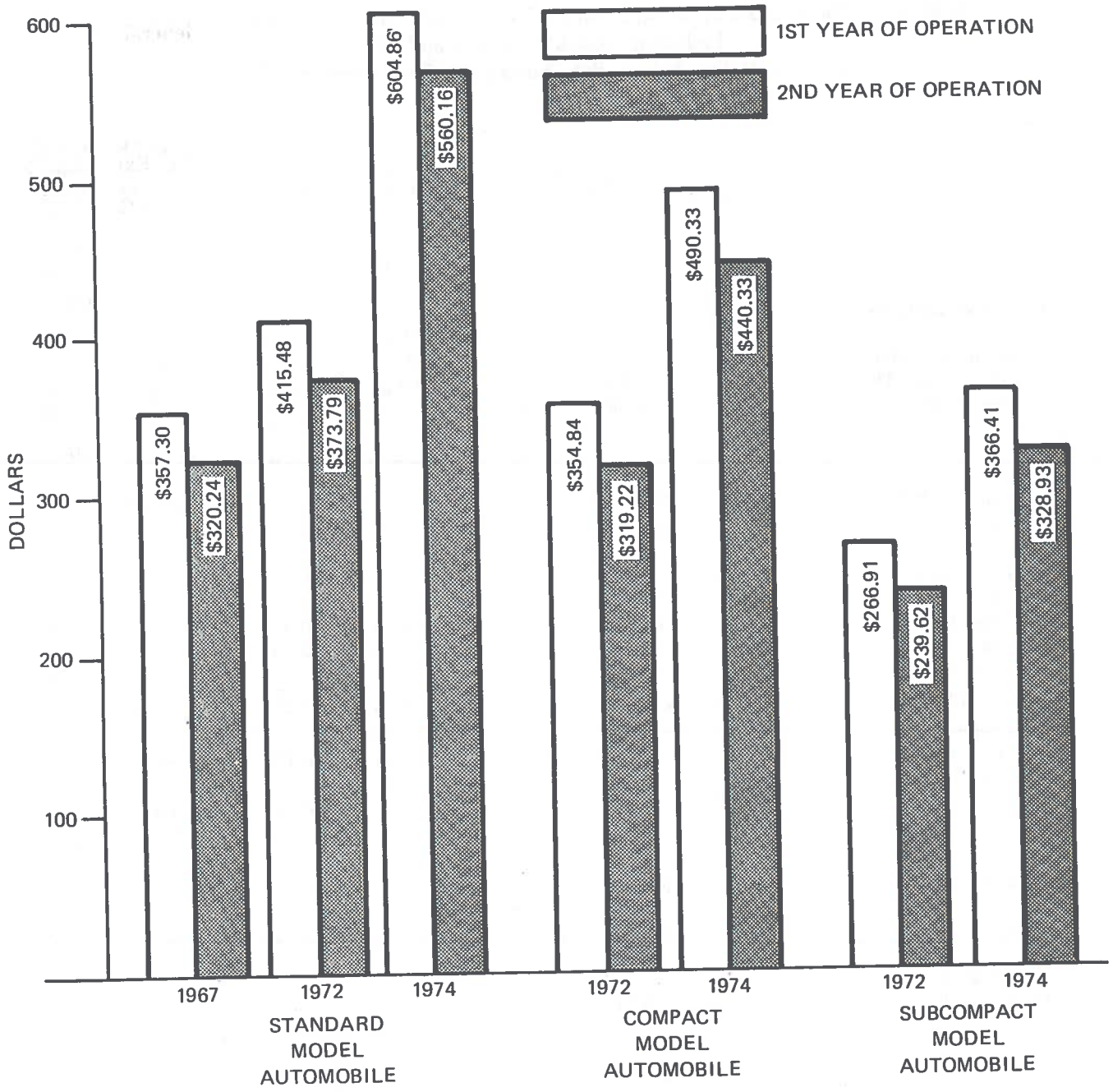
Item	First Year (14,500 miles) Total Cost	First Year (14,500 miles) Cost Per Mile	Second Year (13,000 miles) Total Cost	Second Year (13,000 miles) Cost Per Mile	Totals And Averages For Ten Years (100,000 miles) Total Cost	Totals And Averages For Ten Years (100,000 miles) Cost Per Mile
Costs Excluding 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 does 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 D for bases of estimates.

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



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

Figure 16. Estimated Annual Automobile Gasoline and Oil Costs, Including Taxes, by Size and Year of Operation

Table 3-8. Expenditures for Fuel by Class I Common Motor Carriers of General Freight Engaged in Intercity Service, All Districts, 1969-1973

	Fuel for Revenue Equipment ($000)	Oil ($000)	Total Transportation Expenses ($000)	Grand Total Expenditures ($000)	Fuel and Oil Expenditures as Percent of Grand Total
1969	177,060	9,761	3,205,122	6,287,848	2.9
1970	171,992	9,045	3,204,372	6,413,223	2.8
1971	187,900	9,615	3,673,858	7,325,096	2.6
1972	206,942	10,177	4,236,283	8,343,202	2.6
1973	276,142	11,572	4,892,293	9,412,796	3.0

Source: ICC, *Transport Statistics*, Part 7, "Motor Carriers", December 31, 1973, p. 24, and equivalent tables in earlier editions.

Table 3-9. Average Price of Railroad Fuel,* Class I Railroads, 1961-1973

	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	—

*Average costs exclude nonlocomotive fuel use beginning in 1964.

Source: A.A.R. *Statistics of Railroads of Class I, 1962-1973*, pg. 15.

Table 3-10. Jet Operating Expenses, Including Fuel and Oil Costs: B-727, B-737 and DC-9, Quarter Ending September 30, 1970

	B-727-100					B-727-200					B-737			
	AA	BN QC	EA	TW	UA	AA	CO	NE	TW	UA	TS	PI	UA	WA
Traffic & Service Fleet Size	56.4	17.0	45.8	27.0	86.0	41.0	19.0	13.0	32.0	28.0	4.0	11.0	74.2	30.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)														
Flying Operations														
Crew Salaries & Expenses	$166.57	153.36	158.99	160.63	175.44	170.50	135.06	152.59	156.38	177.09	116.03	109.26	187.81	119.70
Fuel, Oil & Taxes	149.13	130.20	138.20	142.03	143.03	149.59	167.62	150.17	154.71	154.47	123.61	105.36	103.53	112.84
Insurance	4.21	17.59	1.80	14.40	11.36	5.32	11.52	20.90	16.13	16.92	22.61	18.55	12.56	6.66
Other	-----	-----	(.03)	.36	.04	-----	-----	-----	.43	.04	.30	-----	.04	-----
Total	$319.91	301.15	298.96	317.42	329.87	325.41	314.20	323.66	327.65	348.52	262.55	233.17	303.94	239.20
Maintenance														
Airframe	$ 55.00	45.49	54.11	49.61	41.43	33.14	47.42	37.09	20.03	39.95	40.36	42.46	41.85	40.71
Engine	35.03	47.76	50.44	66.31	43.51	34.25	34.88	23.11	27.11	41.54	32.90	40.47	26.89	44.25
Other	6.81	3.99	11.47	11.57	17.32	6.65	7.07	6.72	5.47	17.50	10.29	7.29	16.93	5.43
Total Direct	$ 96.84	97.24	116.02	127.49	102.26	74.04	89.37	66.92	52.61	98.99	83.55	90.22	85.67	90.39
Maint. Burden	117.86	42.32	82.40	116.22	85.87	82.49	51.71	49.00	49.33	82.13	55.91	48.09	77.46	37.84
Total	$214.70	139.56	198.42	243.71	188.13	156.53	141.08	115.92	101.94	181.12	139.46	138.31	163.13	128.23
Cash Acft. Oper. Exp.	$534.61	440.71	497.38	561.13	518.00	481.94	455.28	439.58	429.59	529.64	402.01	371.48	467.07	367.43
Depr. & Rentals	-111.38	93.59	115.20	114.45	113.64	133.54	96.02	178.77	187.56	156.73	207.38	87.65	96.54	103.38
Total Acft. Oper. Exp.	$645.99	534.30	612.58	675.58	631.64	615.48	551.30	618.35	617.15	686.37	609.39	459.13	563.61	470.81
Cost Per Rev. Mile	177.8¢	154.2¢	171.1¢	179.4¢	166.2¢	176.3¢	130.1¢	168.2¢	165.6¢	207.2¢	260.1¢	171.2¢	215.5¢	141.7¢
Cost Per Sch. Seat Mile	1.91¢	1.74¢	1.76¢	1.93¢	1.78¢	1.45¢	1.18¢	1.29¢	1.35¢	1.63¢	2.20¢	1.91¢	2.37¢	1.50¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	23.1	24.4	22.6	21.0	22.6	24.3	30.4	24.3	25.1	22.5	20.3	22.9	18.4	24.0

Table 3-10. Jet Operating Expenses, Including Fuel and Oil Costs: B-727, B-737 and DC-9, Quarter Ending September 30, 1970 - Continued

				DC-9							
	RW −30	AL −31	CB −30	CO −10	DL −32	EA −30	HA −31	NC −30	NE −30	SO −10	TW −10
Traffic & Service											
Fleet Size	15.0	25.0	3.0	19.0	57.8	71.7	6.0	14.3	14.0	12.0	18.9
Aircraft Operating Expenses (Dollars Per Total Block Hours)											
Flying Operations											
Crew Salaries & Expenses	$112.52	97.15	121.27	102.88	113.40	139.89	104.95	96.54	122.44	93.03	131.27
Fuel, Oil & Taxes	122.18	117.85	127.23	107.30	103.78	98.11	118.13	117.91	106.29	107.05	99.62
Insurance	15.75	20.70	40.72	66.6	8.02	3.64	23.81	26.90	14.94	14.53	11.44
Other	.11	-----	(.17)	-----	-----	(.02)	-----	-----	-----	-----	.33
Total	$250.56	235.70	289.05	216.84	225.20	241.62	246.89	241.35	243.67	214.61	242.66
Maintenance											
Airframe	$ 41.24	28.87	-----	47.28	34.38	37.84	39.56	33.61	55.34	22.84	35.34
Engine	14.45	20.91	-----	34.82	24.78	37.25	86.97	66.54	20.93	59.25	41.96
Other	4.17	6.76	-----	9.17	2.08	8.69	4.61	2.07	9.77	18.83	9.36
Total Direct	$ 59.86	56.54	139.80	91.27	61.24	83.78	131.14	102.22	86.04	100.92	86.66
Maint. Burden	21.83	37.33	41.29	52.97	49.09	50.38	41.56	43.80	64.08	27.59	76.47
Total	$ 81.69	93.87	181.09	144.24	110.33	134.16	172.70	146.02	150.12	128.51	163.13
Cash Acft. Oper. Exp.	$332.25	329.57	470.14	361.08	335.53	375.78	419.59	387.37	393.79	343.12	405.79
Depr. & Rentals	117.30	105.87	163.04	89.67	98.12	100.49	164.13	109.30	109.02	115.39	131.50
Total Acft. Oper. Exp.	$449.55	435.44	633.18	450.75	433.65	476.27	583.72	496.67	502.81	458.51	537.29
Cost Per Rev. Mile	149.6¢	152.8¢	232.05¢	129.8¢	141.2¢	160.2¢	261.9¢	188.0¢	171.5¢	163.0¢	178.2¢
Cost Per Sch. Seat Mile	1.64¢	1.53¢	2.07¢	1.83¢	1.59¢	1.80¢	2.40¢	1.98¢	1.90¢	2.30¢	2.70¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	27.2	27.1	20.1	23.8	23.9	20.6	20.2	23.7	21.1	23.3	18.5

Table 3-11. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, Quarter Ending September 30, 1970

	B-747				
	AA Domestic	CO Domestic	PA Combined	TW Combined	UA Domestic
Traffic & Service Fleet Size	4.6	2.3	21.0	9.0	2.4
Aircraft Operating Expenses (Dollars Per Total Block Hours)					
Flying Operations					
Crew Salaries & Exp.	$ 199.49	281.63	281.31	250.39	192.54
Fuel, Oil & Taxes	366.69	442.07	342.78	309.59	355.33
Insurance	25.10	121.19	139.38	56.87	224.76
Other	----	----	.76	.38	.15
Total	$ 591.28	844.89	764.23	617.23	772.78
Maintenance					
Airframe	185.62	182.24	55.41	86.06	148.55
Engine	170.63	153.26	53.43	38.49	60.69
Other	4.79	12.88	30.41	19.29	45.03
Total Direct	361.04	348.38	139.25	143.84	254.27
Maint. Burden	112.25	190.44	163.01	110.08	193.30
Total	$ 473.29	538.82	302.26	253.92	447.57
Cash Acft. Oper. Exp.	$1,064.57	1,383.71	1,066.49	871.15	1,220.35
Depr. & Rentals	1,230.71	328.79	480.39	535.78	1,080.39
Total Acft. Oper. Exp.	$2,295.28	1,712.50	1,546.88	1,406.93	2,300.74
Cost Per Rev. Mile	511.6¢	355.5¢	338.8¢	308.8¢	490.3¢
Cost Per Sch. Seat Mile	1.52¢	1.04¢	0.94¢	0.90¢	1.45¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	16.0	25.8	22.2	22.0	15.4

Source: Air Transport World, *"Jet Operating Data"* - 1971.

Table 3-12. Jet Operating Expenses, Including Fuel and Oil Costs: B-737 and DC-9, Quarter Ending March 31, 1971

	B-737					DC-9											
	TS	FL	PI	UA	WA	AL -31	CO -30	DL -32	EA -30	HA -31	RW -30	NC -30	NE -30	OZ -30	SO -10	TT -10	TW -10
Traffic & Service																	
Fleet Size	3.0	10.0	12.0	73.0	30.0	27.0	19.0	58.0	72.0	6.0	15.0	15.0	14.0	10.0	13.1	11.0	18.9
Aircraft Operating Expenses (Dollars Per Total Block Hours)																	
Flying Operations																	
Crew Salaries & Exp.	$143.62	116.19	113.77	220.82	127.03	124.75	109.66	126.29	152.19	143.89	134.18	115.96	119.38	116.90	102.18	109.37	177.54
Fuel, Oil & Taxes	138.74	112.87	109.29	107.39	115.28	123.66	107.12	106.11	105.33	121.64	129.33	119.85	108.77	98.80	111.81	104.75	106.97
Insurance	21.61	18.82	23.52	11.05	7.61	22.66	6.48	7.71	6.73	29.37	17.13	17.23	15.86	24.92	15.64	20.95	9.10
Other	.16	.88	.71	----	----	----	----	----	84	----	34	1.30	----	.88	----	-----	1.19
Total	$304.14	248.76	247.29	339.26	249.92	271.07	223.26	240.11	265.09	294.90	280.98	254.34	244.01	241.50	229.63	235.07	294.80
Maintenance																	
Airframe	59.88	67.68	42.89	30.13	43.32	34.29	44.32	33.60	42.02	47.49	41.27	30.49	51.40	26.83	29.46	54.27	34.68
Engine	40.95	56.05	32.31	18.25	50.73	38.36	33.94	23.79	32.95	47.61	54.84	45.90	48.92	44.24	36.59	33.10	37.06
Other	19.99	6.52	6.90	16.42	5.71	6.61	9.81	2.06	8.37	5.06	6.01	4.10	11.80	5.18	30.20	18.29	10.55
Total Direct	$120.71	130.25	82.10	64.80	99.76	79.26	88.07	59.45	83.34	100.16	102.12	80.49	112.12	76.25	96.25	105,66	82.29
Maint. Burden	80.62	41.97	43.89	69.23	39.30	45.45	61.85	54.81	60.32	48.15	27.52	41.72	73.52	22.36	34.68	30.11	92.08
Total	$201.33	172.22	125.99	134.03	139.06	124.71	149.92	114.26	143.66	148.31	129.64	122.21	185.64	98.61	130.93	135.77	174.37
Cash Acft. Oper. Exp.	$505.47	420.98	373.28	473.29	388.98	395.78	373.18	354.37	408.75	443.21	410.62	376.55	429.65	340.11	360.56	370.84	469.17
Depr. & Rental	191.76	144.90	95.25	114.13	104.59	107.75	93.27	100.37	104.49	199.43	121.32	114.33	119.39	118.25	110.59	95.34	140.63
Total Acft. Oper. Exp.	$697.23	565.88	468.53	587.42	493.57	505.53	466.45	454.74	513.24	642.64	531.94	490.88	549.04	458.36	471.15	466.18	609.80
Cost Per Rev. Mile	315.6¢	168.5¢	177.9¢	211.2¢	156.5¢	175.1¢	137.8¢	153.5¢	169.3¢	301.2¢	181.2¢	174.5¢	180.5¢	163.7¢	179.1¢	161.5¢	196.8¢
Cost Per Sch. Seat Mile	2.67¢	1.76¢	1.98¢	2.33¢	1.66¢	1.75¢	1.94¢	1.72 ¢	1.90¢	2.77¢	1.97¢	1.96¢	2.00¢	1.79¢	2.44¢	2.15¢	2.98¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	19.9	19.9	23.3	18.3	23.4	24.5	23.0	23.3	20.5	18.9	24.3	24.4	19.8	21.6	23.7	22.5	17.5

Source: Air Transport World, *"Jet Operating Data"* - May 1972, Dec. 1971.

Table 3-13. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, Quarter Ending December 31, 1971

	B-747									
	AA Combined	BN DOM	CO DOM	DL DOM	EA LAD	NA DOM	MW Combined	PA Combined	TW Combined	UA DOM
Traffic & Service										
Fleet Size	16.0	0.7	4.0	5.6	2.3	2.0	14.2	26.4	18.7	11.3
Aircraft Operating Expenses (Dollars Per Total Block Hours)										
Flying Operations										
Crew Salaries & Exp.	$ 282.42	308.22	245.13	186.51	330.94	234.17	254.36	293.49	254.08	288.58
Fuel, Oil & Taxes	372.78	403.30	406.72	431.80	353.86	386.38	353.72	383.68	319.72	371.87
Insurance	12.61	9.57	61.16	38.86	37.49	99.01	43.78	89.94	1.35	52.82
Other	(.31)	------	------	------	1.02	------	1.28	4.47	1.03	.03
Total	$ 667.50	721.09	713.01	657.17	723.31	719.56	653.14	771.58	576.18	713.30
Maintenance										
Airframe	$ 119.07	151.38	168.63	100.27	545.12	105.46	168.00	68.11	110.75	106.96
Engine	166.28	95.11	240.77	118.24	.85	193.55	141.26	339.60	433.58	87.90
Other	6.02	7.62	21.59	7.45	3.79	13.18	13.25	68.05	27.50	29.15
Total Direct	$ 291.37	254.11	430.99	225.96	549.76	312.19	322.51	475.76	581.83	224.01
Maint. Burden	132.64	26.46	63.40	225.27	44.17	186.95	66.17	191.59	185.04	158.34
Total	424.01	280.57	494.39	451.23	593.93	499.14	388.68	667.35	756.87	382.35
Cash Acft. Oper. Exp.	1,091.51	1,001.66	1,207.40	1,108.40	1,317.24	1,218.70	1,041.82	1,438.93	1,333.05	1,095.65
Depr. & Rentals	636.41	535.89	356.06	501.82	1,679.33	566.20	415.54	575.67	567.17	601.96
Total Acft. Oper. Exp.	$1,727.92	1,537.55	1,563.46	1,610.22	2,996.57	1,784.90	1,457.36	2,014.60	1,900.22	1,697.61
Cost Per Rev. Sch. Mile	$ 3.83	3.11	3.49	4.01	6.73	4.18	3.23	4.41	4.17	3.67
Cost Per Sch. Seat Mile	1.25¢	0.97¢	1.19¢	1.09¢	1.93¢	1.16¢	0.90¢	1.27¢	1.31¢	1.18¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	21.6	26.2	26.0	26.8	11.8	21.6	24.3	19.0	16.8	21.9

Source: Air Transport World, *"Jet Operating Data"* - September, 1972.

Table 3-14. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200, B-737 and DC-9, Third Quarter, 1972

	B-727-200						B-737			DC-9			
	AA	BN	CO	NA	TW	UA	PI	UA	WA	AL	DL	EA	NC
Traffic & Service													
Fleet Size	42.0	12.0	22.0	25.0	37.0	27.4	13.0	71.0	30.0	31.0	72.3	70.0	15.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)													
Flying Operations													
Crew Salaries & Exp.	$177.01	168.97	157.47	167.53	178.15	203.43	137.13	210.09	170.51	135.91	125.91	163.58	118.23
Fuel, Oil & Taxes	165.78	168.10	182.29	162.64	163.97	164.50	109.88	104.27	122.48	127.28	107.22	106.89	117.03
Insurance	3.57	26.25	13.63	10.30	26.79	4.51	16.72	5.28	5.46	8.67	4.61	4.37	14.50
Other	3.32	----	----	----	.30	.02	----	.02	----	----	----	----	(.04)
Total	$349.68	363.38	353.39	340.47	369.21	372.46	263.73	319.66	298.45	271.86	237.74	274.84	249.72
Maintenance													
Airframe	$ 41.63	21.32	48.83	54.53	23.79	35.30	44.23	30.30	36.89	30.75	37.11	42.80	34.98
Engine	35.48	30.42	56.43	78.87	11.40	32.08	34.06	17.93	4.92	55.75	31.92	34.24	56.60
Other	8.54	3.06	13.54	8.28	6.61	15.94	10.47	16.19	3.49	6.83	2.50	8.97	6.92
Total Direct	$ 85.65	54.80	118.80	141.68	41.80	83.32	88.76	64.42	45.30	93.33	71.53	86.01	98.50
Maint. Burden	112.50	26.99	91.56	71.28	45.06	74.87	32.48	68.20	28.50	34.95	52.13	66.52	48.97
Total	$198.15	81.79	210.36	212. 96	86.86	158.19	121.24	132.62	73.80	128.28	123.66	152.53	147.47
Cash Acft. Oper. Exp.	$547.83	445.11	563.75	553.43	456.07	530.65	384.97	452.28	372.25	400.14	361.40	427.37	397.19
Depr. & Rentals	$144.74	177.26	95.36	130.05	201.70	158.28	93.47	105.82	100.59	106.16	105.51	98.03	104.08
Total Acft. Oper. Exp.	$692.57	622.37	695.11	683.48	657.77	688.93	478.44	558.10	472.84	506.30	466.91	525.40	501.27
Cost Per Rev. Mile	$ 1.95	1.90	1.67	2.05	1.74	1.91	1.72	1.89	1.41	1.72	1.52	1.67	1.73
Cost Per Sch. Seat Mile	1.59¢	1.49¢	1.54¢	1.55¢	1.47¢	1.57¢	1.93¢	2.14¢	1.49¢	1.72¢	1.71¢	1.87¢	1.89¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	23.9	27.0	26.2	23.8	24.9	23.9	23.0	18.7	26.0	25.1	23.0	20.4	23.3

Source: Air Transport World, *"Jet Operating Data"* - April 1973.

Table 3-15. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, L-1011 and DC-10, Third Quarter, 1972

	B-747							L-1011		DC-10			
	AA Combined	BN Dom.	CO Dom.	DL Dom.	PA Combined	TW Combined	UA Dom.	EA Combined	TW Dom.	AA	CO	NA	UA
Traffic & Service													
Fleet Size	16.0	1.0	4.0	6.2	30.0	19.0	13.8	5.0	2.9	16.7	5.0	5.0	14.9
Aircraft Operating Expenses (Dollars Per Total Block Hours)													
Flying Operations													
Crew Salaries & Exp.	$ 267.66	259.77	265.18	248.11	285.06	263.69	321.61	326.63	239.89	273.16	222.18	220.42	259.20
Fuel, Oil & Taxes	392.55	414.76	449.41	338.44	420.96	398.27	402.91	275.89	262.70	267.28	251.42	263.32	267.24
Insurance	13.90	54.03	37.56	21.24	54.47	43.17	30.23	73.10	88.82	11.36	34.15	42.02	25.30
Other	3.66	--------	--------	--------	1.69	.41	.02	--------	.32	6.93	-----	------	.01
Total	$ 677.77	728.56	752.15	607.79	762.18	705.54	754.77	675.62	591.73	558.73	507.75	525.76	551.75
Maintenance													
Airframe	$ 113.74	185.81	106.23	125.54	60.37	81.88	89.64	102.86	76.18	68.15	87.15	59.59	63.41
Engine	348.29	213.93	266.54	165.55	97.42	306.33	185.80	63.90	54.00	31.82	65.07	60.80	53.73
Other	15.73	2.77	23.18	6.54	31.98	23.33	21.97	29.66	35.43	7.81	14.38	13.49	22.17
Total Direct	$ 477.76	402.51	395.95	297.63	189.77	411.54	297.41	196.42	165.61	107.78	166.60	133.88	139.31
Maint. Burden	$ 187.87	22.86	67.88	206.38	216.04	209.10	177.32	155.87	106.57	123.89	73.12	119.64	111.91
Total	$ 665.63	425.37	463.83	504.01	405.81	620.64	474.73	352.29	272.18	231.67	239.72	253.52	251.22
Cash Acft. Oper. Exp.	$1,343.40	1,153.93	1,215.98	1,111.80	1,167.99	1,326.18	1,229.50	1,027.91	863.91	790.40	747.47	779.28	802.97
Depr. & Rentals	646.81	498.11	308.73	505.39	523.74	435.90	488.75	523.83	374.38	405.43	274.05	358.35	426.13
Total Acft. Oper. Exp.	$1,990.21	1,652.04	1,524.71	1,617.19	1,691.73	1,762.08	1,718.25	1,551.74	1,238.29	1,195.83	1,021.52	1,137.63	1,229.10
Cost Per Rev. Mile	$ 4.34	3.32	3.17	3.85	3.67	3.67	3.62	3.65	2.69	2.80	2.38	2.65	2.84
Cost Per Sch. Seat Mile	1.39¢	1.02¢	1.08¢	1.05¢	1.09¢	1.15¢	1.19¢	1.63¢	1.30¢	1.24¢	1.19¢	1.07¢	1.28¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	19.7	25.1	29.5	20.9	24.9	22.6	23.4	17.8	21.2	22.4	24.6	23.1	21.7

Source: Air Transport World, "*Jet Operating Data*" - March, 1973.

Table 3-16. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200, B-737 and DC-9, Fourth Quarter, 1972

	B-727-200					B-737			DC-9-30			
	AA	BI	NA	TW	UA	PI	UA	WA	AL	DL	EA	NC
Traffic & Service												
Fleet Size	42.0	11.7	25.0	37.0	27.2	14.0	69.0	30.0	30.6	77.0	70.7	15.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)												
Flying Operations												
Crew Salaries & Exp.	$179.04	172.26	152.80	191.63	207.34	142.59	221.90	155.78	138.34	125.89	166.86	125.07
Fuel, Oil & Taxes	160.68	158.37	160.85	160.81	164.74	109.13	106.23	119.54	127.18	110.74	106.77	116.42
Insurance	1.29	5.09	10.36	18.78	4.61	14.77	3.59	6.13	8.67	4.46	4.03	14.33
Other	11.45	-----	------	.85	.03	.99	.03	------	------	------	------	.83
Total	$352.46	335.72	324.01	372.07	376.72	267.48	331.75	281.45	274.19	241.09	277.66	256.65
Maintenance												
Airframe	$ 33.89	19.47	49.05	22.73	31.31	45.93	24.60	39.65	35.11	37.20	39.37	36.20
Engine	36.24	33.03	87.79	16.22	31.67	54.65	21.15	5.82	17.45	23.17	34.34	42.45
Other	7.72	3.70	6.73	7.69	16.51	10.28	16.09	3.90	6.98	2.74	8.84	8.54
Total Direct	$ 77.85	56.20	143.57	46.64	79.49	110.86	61.84	49.37	59.54	63.11	82.55	87.19
Maint. Burden	$102.92	20.57	55.35	49.81	73.25	32.20	66.41	30.70	31.93	60.70	66.39	50.21
Total	$180.77	76.77	198.92	96.45	152.74	143.06	128.25	80.07	91.47	123.81	148.94	137.40
Cash Acft. Oper. Exp.	$533.23	412.49	522.93	468.52	529.46	410.54	460.00	361.52	365.66	364.90	426.60	394.05
Depr. & Rentals	145.90	165.75	121.17	211.86	164.16	91.30	105.30	101.86	107.00	105.69	96.77	104.01
Total Acft. Oper. Exp.	$679.13	578.24	644.10	680.38	693.62	501.84	565.30	463.38	472.66	470.59	523.37	498.06
Cost Per Rev. Mile	$ 2.00	1.82	1.97	1.89	1.99	1.83	2.01	1.43	1.61	1.59	1.72	1.79
Cost Per Sch. Seat Mile	1.64¢	1.43¢	1.49¢	1.59¢	1.65¢	2.06¢	2.30¢	1.50¢	1.61¢	1.78¢	1.93¢	1.93¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	23.7	27.4	25.0	23.6	23.8	21.7	18.8	25.8	27.0	23.5	20.4	23.4

Source: Air Transport World, *"Jet Operating Data"* - June, 1973.

Table 3-17. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, L-1011 and DC-10, Fourth Quarter, 1972

	B-747							L-1011		DC-10				
	AA Combined	BI Dom.	CO Dom.	DL Dom.	PA Combined	TW Combined	UA Dom.	EA Combined	TW Dom.	AA Dom.	CO Dom.	DL Dom.	NA Dom.	UA Dom.
Traffic & Service														
Fleet Size	16.0	1.0	4.0	6.2	29.0	19.0	13.0	8.0	5.5	20.7	5.0	1.0	7.2	15.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)														
Flying Operations														
Crew Salaries & Exp.	$ 276.86.	244.13	287.74	285.61	309.11	298.98	344.70	262.23	253.23	169.23	218.25	208.21	184.57	285.62
Fuel, Oil & Taxes	398.29	345.07	458.30	324.70	415.39	392.67	405.88	281.21	264.27	251.60	256.47	254.74	253.50	253.20
Insurance	5.00	(6.70)	39.93	26.67	55.08	92.10	32.90	83.54	63.31	9.54	33.99	12.36	36.32	24.79
Other	13.44	------	------	------	4.51	.97	.03	------	1.01	10.70	.14	------	----	.04
Total	$ 693.59	582.50	785.97	636.98	784.09	784.72	783.51	626.98	581.82	441.07	508.85	475.31	474.39	563.71
Maintenance														
Airframe	$ 145.09	(136.22)	183.90	160.20	72.44	106.57	78.56	112.57	52.52	77.39	98.57	77.35	71.02	62.17
Engine	88.21	414.89	370.26	157.37	(20.60)	414.56	151.92	43.14	308.11	34.13	161.69	141.83	61.76	122.65
Other	19.11	4.38	34.40	5.85	41.60	34.28	26.31	31.37	35.00	9.40	19.95	3.99	9.48	23.54
Total Direct	$ 252.41	283.05	588.56	323.42	93.44	555.41	256.79	187.08	393.63	120.92	280.21	223.17	142.26	208.36
Maint. Burden	$ 162.65	29.49	68.75	287.91	239.54	311.36	172.60	255.31	110.75	120.59	59.79	77.81	97.75	122.52
Total	$ 415.06	312.54	657.31	611.33	332.98	866.77	429.39	442.39	506.38	241.51	340.00	300.98	240.01	330.88
Cash Acft. Oper. Exp.	$1,108.65	895.04	1,443.28	1,248.31	1,117.07	1,651.49	1,212.90	1,069.37	1,088.20	682.58	848.85	776.29	714.40	894.59
Depr. & Rentals	868.57	462.57	328.39	506.42	879.55	593.42	545.86	608.03	486.74	404.82	275.08	742.35	348.31	433.36
Total Acft. Oper. Exp.	$1,977.22	1,357.80	1,771.67	1,754.72	1,996.62	2,244.91	1,758.76	1,677.40	1,574.94	1,087.40	1,123.93	1,518.64	1,062.71	1,327.95
Cost Per Rev. Mile	$ 4.41	2.94	3.75	4.32	4.38	4.81	3.74	4.21	3.72	2.64	2.72	4.44	2.76	3.17
Cost Per Sch. Seat Mile	1.42¢	0.90¢	1.28¢	1.18¢	1.31¢	1.54¢	1.23¢	1.83¢	1.81¢	1.15¢	1.36¢	1.78¢	1.11¢	1.44¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	20.1	25.4	25.9	18.5	20.8	17.5	23.1	16.8	16.8	23.1	22.8	16.8	23.9	19.1

Source: Air Transport World, "*Jet Operating Data*" June, 1973.

Table 3-18. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200, B-737, DC-9-30, Third Quarter, 1973

	B-727-200						B-737			DC-9-20			
	AA	BI	CO	NA	TW	UA	PI	UA	WA	AL	DL	EA	NC
Traffic & Service													
Fleet Size	42.0	18.7	25.2	25.0	37.0	28.0	15.7	66.0	30.0	35.0	76.4	71.7	18.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)													
Flying Operations													
Crew Salaries & Exp.	$199.19	181.14	171.94	174.12	192.07	215.94	134.02	225.36	178.57	143.38	139.60	175.41	128.97
Fuel, Oil & Taxes	179.98	164.62	197.89	167.44	179.80	175.46	112.92	116.61	127.69	130.75	117.55	118.66	123.92
Insurance	3.36	19.22	10.60	8.25	6.93	4.06	10.66	3.26	6.22	6.76	5.34	4.99	11.31
Other	(2.79)	------	------	------	.32	.03	.03	.03	------	------	------	------	------
Total	$379.65	364.98	380.43	349.81	379.12	395.49	257.63	345.26	312.48	280.89	262.49	299.06	267.20
Maintenance													
Airframe	40.84	21.84	57.68	51.14	32.69	37.66	38.07	35.53	46.00	40.05	43.00	41.11	33.77
Engine	42.48	21.95	7.74	61.04	18.32	34.69	49.61	29.53	(24.68)	42.13	19.74	31.00	26.42
Other	6.01	3.65	13.39	7.59	8.55	16.16	6.46	16.55	3.10	9.39	2.54	9.60	7.02
Total Direct	$ 89.33	47.44	78.81	119.77	59.56	88.51	94.14	81.61	24.42	91.57	65.28	81.71	67.21
Maint. Burden	102.04	18.28	103.14	74.77	65.60	78.61	30.50	67.54	20.47	42.41	59.97	71.60	47.12
Total	$191.37	65.72	181.95	194.54	125.16	167.12	124.64	149.15	44.89	133.98	125.25	153.31	114.33
Cash Acft. & Oper. Exp.	$571.02	430.70	562.38	544.35	504.28	562.61	382.27	494.41	357.37	414.87	387.74	452.37	381.53
Depr. & Rentals	141.26	159.55	106.17	125.55	199.54	159.38	86.22	98.68	108.96	107.56	99.46	96.68	99.00
Total Acft. Oper. Exp.	$712.28	590.25	668.55	669.90	703.82	721.99	458.49	593.09	466.33	522.43	487.20	549.05	480.53
Cost Per Rev. Mile	$ 2.03	1.77	1.75	2.08	1.91	2.07	1.72	2.08	1.43	1.74	1.64	1.74	1.76
Cost Per Sch. Seat Mile	1.66¢	1.39¢	1.43¢	1.60¢	1.60¢	1.69¢	1.92¢	2.20¢	1.51¢	1.73¢	1.83¢	1.94¢	1.86¢
Fuel and Oil costs as % of Total Oper. Exp.	25.3	27.9	29.6	25.0	25.5	24.3	24.1	19.7	27.4	25.0	24.1	21.6	25.8

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

Table 3-19. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, L-1011 and DC-10, Third Quarter, 1973

	B-747								L-1011		DC-10						
	AA Combined	BI Dom.	CO Dom.	DL Dom.	NW Combined	PA Combined	TW Combined	UA Dom.	EA Combined	TW Dom.	AA Dom.	CO Dom.	DL Dom.	NA Dom.	NW Combined	UA Dom.	WA Dom.
Traffic & Service																	
Fleet size	16.0	1.0	4.0	5.0	15.0	31.1	21.3	18.0	14.7	15.0	24.0	8.0	5.0	9.0	9.3	18.0	3.3
Aircraft Operating Expenses (Dollars per total block hours)																	
Flying Operations																	
Crew salaries & expenses	308.78	276.56	311.69	348.18	282.95	306.21	282.42	302.24	323.81	242.61	276.63	227.85	289.00	209.27	227.85	261.61	276.79
Fuel, oil & taxes	443.47	403.34	483.49	451.43	441.96	515.95	504.20	433.58	313.36	306.67	304.32	281.69	299.74	272.57	314.03	282.18	288.49
Insurance	12.40	44.18	30.42	26.86	27.93	43.36	26.17	20.87	27.20	19.66	11.43	26.30	26.96	23.71	31.33	19.55	23.89
Other	(4.41)	----	----	----	1.13	1.61	.38	.02	----	.37	(3.98)	----	----	----	.71	.03	----
Total	760.24	724.08	825.60	826.47	753.97	867.13	813.17	756.71	664.37	569.31	588.40	535.84	615.70	505.55	573.92	563.37	589.17
Maintenance																	
Airframe	135.24	191.66	169.94	68.80	77.15	51.45	72.43	70.09	109.88	53.22	87.54	32.04	102.93	64.70	20.64	92.19	44.70
Engine	440.99	358.05	395.22	61.50	146.40	93.63	262.23	100.05	88.17	100.67	129.64	77.34	83.55	166.53	9.46	87.18	71.88
Other	13.73	5.74	37.95	5.79	27.07	15.06	25.63	22.92	38.32	27.73	9.89	20.52	2.90	9.55	4.36	20.42	2.56
Total direct	589.96	555.45	603.11	136.09	250.62	160.14	360.29	193.06	236.37	181.62	227.07	129.90	189.38	240.78	34.46	199.79	119.14
Maint. burden	158.50	21.16	126.15	190.58	71.68	234.92	190.20	149.43	239.96	109.84	158.22	79.36	145.71	109.26	20.10	128.28	99.85
Total	748.46	576.61	729.26	326.67	322.30	395.06	550.49	342.49	476.33	291.46	385.29	209.26	335.09	350.04	54.56	328.07	218.99
Cash acft. oper. exp.	1508.70	1300.69	1554.86	1153.14	1076.27	1262.19	1363.66	1099.20	1140.70	860.77	973.69	745.10	950.79	855.59	628.48	891.44	808.16
Depr. & rentals	614.76	550.30	320.97	474.57	362.11	502.58	475.15	481.00	495.56	467.63	384.05	276.41	888.19	295.78	372.72	423.50	337.17
Total acft. oper. exp.	$2123.46	$1850.99	$1875.83	$1627.71	$1438.38	$1764.77	$1838.81	$1580.20	$1636.26	$1328.40	$1357.74	$1021.51	$1838.98	$1151.37	$1001.20	$1314.94	$1145.33
Cost per rev. mile	$ 4.73	$ 3.69	$ 3.97	$ 3.93	$ 3.23	$ 3.83	$ 4.01	$ 3.40	$ 4.04	$ 2.94	$ 3.36	$ 2.36	$ 4.77	$ 2.81	$ 2.68	$ 3.11	$ 2.47
Cost per sch. seat mile	1.49¢	1.13¢	1.28¢	1.06¢	0.90¢	1.06¢	1.12¢	1.06¢	1.61¢	1.41¢	1.40¢	1.18¢	1.91¢	1.13¢	1.13¢	1.30¢	1.06¢
Fuel and oil costs as % of total acft. oper. exp.	20.9	21.8	25.8	27.7	30.7	29.2	27.4	27.4	19.2	23.1	22.4	27.6	16.3	23.7	31.4	21.5	25.2

Source: Air Transport World, "*Jet Operating Data*" — April, May, 1974.

Table 3-20. Jet Operating Expenses, Including Fuel and Oil Costs: B-727-200, B-737 and DC-9-30, Fourth Quarter, 1973

	B-727-200						B-737			DC-9-30			
	AA	BI	CO	NA	NW	UA	PI	UA	WA	AL	DL	EA	NC
Traffic & Service													
Fleet Size	40.8	24.8	28.3	25.0	24.0	28.0	15.3	66.0	29.3	36.6	75.6	71.2	18.7
Aircraft Operating Expenses (Dollars Per Total Block Hours)													
Flying Operations													
Crew Salaries & Exp.	$199.06	180.28	192.84	172.55	177.85	226.87	144.77	239.90	207.30	154.08	145.76	191.54	132.25
Fuel, Oil & Taxes	189.03	175.88	202.12	174.02	191.60	184.16	123.45	123.22	140.23	138.28	124.78	129.05	123.32
Insurance	5.09	10.50	11.80	11.38	8.03	3.59	22.89	2.97	4.01	7.30	5.57	6.02	15.16
Other	(2.11)	—	------	------	.27	.02	.49	.02	-------	------	------	------	.59
Total	$391.07	366.66	406.76	357.95	377.75	414.64	291.60	366.11	351.54	299.66	276.11	326.61	271.32
Maintenance													
Airframe	$ 42.74	24.99	57.53	57.27	32.66	50.56	43.99	39.46	56.38	44.19	38.72	40.73	32.38
Engine	42.45	19.36	25.01	57.65	54.06	37.96	49.31	32.62	(4.27)	51.10	23.41	37.12	39.62
Other	6.24	2.02	15.02	7.66	6.45	17.10	7.64	17.00	4.53	9.47	2.75	10.42	8.84
Total Direct	$ 91.43	46.37	97.56	122.58	93.17	105.62	100.94	89.08	56.64	104.76	64.88	88.27	80.84
Maint. Burden	100.25	25.29	109.19	69.64	35.09	89.42	25.15	79.10	27.00	50.62	58.60	72.72	58.96
Total	$191.68	71.66	206.75	192.22	128.26	195.04	126.09	168.18	83.64	155.38	123.48	160.99	139.80
Cash Acft. Oper. Exp.	$582.75	438.32	613.51	550.17	506.01	609.68	417.69	534.29	435.18	455.04	399.59	487.60	411.12
Depr. & Rentals	155.41	153.45	175.12	125.98	196.83	165.55	103.50	104.86	100.74	123.12	100.35	101.16	113.26
Total Acft. Oper. Exp.	$738.16	591.77	788.63	676.15	702.84	775.23	521.19	639.15	535.92	578.16	499.94	588.76	524.38
Cost Per Rev. Mile	$ 2.09	1.77	2.09	2.07	2.27	2.26	1.89	2.28	1.67	1.92	1.68	1.88	1.92
Cost Per Sch. Seat Mile	1.71¢	1.39¢	1.09¢	1.60¢	1.83¢	1.83¢	2.10¢	2.40¢	1.76¢	1.92¢	1.87¢	2.08¢	2.04¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	25.6	29.7	25.6	25.7	27.3	23.6	23.7	19.3	26.2	23.9	25.0	21.9	23.5

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

Table 3-21. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, L-1011 and DC-10, Fourth Quarter, 1973

	B-747							
	AA Combined	BI Dom.	CO Dom.	DL Dom.	NA Dom.	NW Combined	PA Combined	UA Dom.
Traffic & Service								
Fleet Size	16.0	1.0	4.0	5.0	2.0	15.0	29.5	18.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)								
Flying Operations								
Crew Salaries & Expenses	$ 323.14	267.44	339.96	336.37	297.41	275.34	369.48	328.68
Fuel, Oil & Taxes	530.68	415.03	510.39	425.24	425.09	566.70	623.53	455.82
Insurance	19.01	22.49	40.48	50.27	49.15	23.38	41.72	21.08
Other	(3.57)	------	------	------	------	1.08	2.44	.02
Total	$ 869.26	704.96	890.83	811.88	771.65	866.50	1,037.17	805.60
Maintenance								
Air Frame	$ 182.46	287.78	139.87	177.20	113.21	66.44	71.94	93.93
Engine	742.67	425.26	1,306.67	230.86	273.63	170.58	72.76	96.87
Other	15.92	4.56	59.04	7.66	26.32	18.77	29.92	21.49
Total Direct	$ 941.05	717.60	1,505.58	415.72	413.16	255.79	174.62	212.29
Maint. Burden	160.17	13.84	165.66	333.14	94.02	74.49	223.49	143.81
Total	$1,101.22	731.44	1,671.24	748.86	507.18	330.28	398.11	356.10
Cash Acft. Oper. Exp.	$1,970.48	1.436.40	2,562.07	1,560.74	1,278.83	1,196.78	1.435.28	1,161.70
Depr. & Rentals	768.24	559.64	1,088.23	591.78	563.57	384.07	654.45	524.20
Total Acft. Oper. Exp.	$2,738.72	1,996.04	3,650.30	2,152.47	1,842.40	1,580.85	2,089.73	1,685.90
Cost Per Rev. Mile	$ 6.29	4.04	7.68	5.35	4.27	3.55	4.60	3.66
Cost Per Sch. Seat Mile	2.10¢	1.23¢	2.47¢	1.45¢	1.18¢	.99¢	1.28¢	1.15¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	19.4	20.8	14.0	19.6	23.1	35.8	29.8	27.0

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

Table 3-21. Jet Operating Expenses, Including Fuel and Oil Costs: B-747, L-1011 and DC-10, Fourth Quarter, 1973 - Continued

	L-1011		DC-10						
	DL Dom.	EA Combined	AA Dom.	CO Dom.	DL Dom.	NA Dom.	NW Dom.	UA Dom.	WA Dom.
Traffic & Service									
Fleet Size	1.0	20.5	21.7	8.0	5.0	9.0	10.0	18.0	3.0
Aircraft Operating Expenses (Dollars Per Total Block Hours)									
Flying Operations									
Crew Salaries & Expenses	$ 173.59	339.50	272.09	291.74	328.19	211.36	258.99	311.40	340.91
Fuel, Oil & Taxes	313.54	376.56	310.50	304.56	308.01	278.27	333.33	303.25	300.77
Insurance	37.03	30.27	15.56	30.41	32.22	51.70	27.08	19.55	22.13
Other	------	------	(3.40)	------	------	------	.66	.02	------
Total	$ 524.16	746.33	594.75	626.71	668.42	541.33	626.06	634.22	663.81
Maintenance									
Airframe	$ 58.15	108.12	151.08	49.63	141.39	99.28	38.87	144.43	82.77
Engine	58.86	141.26	303.83	151.59	70.61	150.98	5.32	240.89	86.65
Other	10.96	35.55	11.04	27.07	3.82	8.63	7.41	30.78	4.66
Total Direct	$ 127.97	284.93	465.95	228.29	215.82	258.89	51.60	416.10	174.08
Maint. Burden	212.56	202.77	161.65	123.62	207.82	108.02	24.90	183.10	82.91
Total	$ 340.53	487.70	627.60	351.91	423.64	366.91	76.50	599.20	256.99
Cash Acft. Oper Exp.	$ 864.69	1,234.03	1,222.35	978.62	1,092.06	908.24	702.56	1,233.42	920.80
Depr. & Rentals	589.41	631.00	471.66	303.71	1,178.89	352.58	421.29	518.28	402.39
Total Acft. Oper. Exp.	$1,454.10	1,865.03	1,694.01	1,282.33	2,270.95	1,260.82	1,123.85	1,751.70	1,323.19
Cost Per Rev. Mile	$ 4.04	4.81	4.26	3.03	6.28	3.15	3.14	4.19	2.85
Cost Per Sch. Seat Mile	1.62¢	1.98¢	1.79¢	1.52¢	2.51¢	1.27¢	1.32¢	1.77¢	1.21¢
Fuel and Oil Costs as % of Total Acft. Oper. Exp.	21.6	20.2	18.3	23.6	13.6	22.1	30.2	17.3	22.7

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

Table 3-22. 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	$ 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
Maint. Burden	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: Air Transport World, *"Jet Operating Data"* 1975.

Table 3-23. 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 Maint.	$ 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: Air Transport World, *"Jet Operating Data"* 1975.

Table 3-24. 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: Air Transport World *"Jet Operating Data"* 1975.

Table 3-25. 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	$ 270.65	$ 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: Air Transport World, *"Jet Operating Data"* 1975.

Table 3-26. 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: Air Transport World, "*Jet Operating Data*" 1975.

Table 3-27. 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 Maint. Burden	$ 408.32 219.90	$ 547.28 11.54	$ 345.50 406.19	$ 424.43 297.89	$ 347.33 81.82	$ 251.30 253.24	$ 405.12 331.82	$ 274.48 161.40
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: Air Transport World, *"Jet Operating Data"* 1975.

Table 3-28. 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 & Taxes	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 Coast 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: Air Transport World *"Jet Operating Data"* 1975.

Table 3-29. 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 Maint.	$ 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 Coast as a % of Total Acft. Oper. Exp.	34.3	28.2	37.9	44.5	39.6	34.2	38.3	32.4

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

Table 3-30. United States Total Gross Consumption of Energy Resources by Major Sources,[1] 1947-1974

(Trillion Btu)*

Year	Anthracite	Bituminous Coal and Lignite	Natural Gas Dry[2]	Petroleum[3]	Total Fossil Fuels	Hydro-power[4]	Nuclear Power[4]	Total Gross Energy Inputs	Percentage Change From Prior Year
1947	1,224	14,600	4,518	11,367	31,709	1,326	—	33,035	—
1948	1,275	13,622	5,033	12,557	32,487	1,393	—	33,880	+2.6
1949	958	11,673	5,289	12,119	30,039	1,449	—	31,488	-7.1
1950	1,013	11,900	6,150	13,489	32,552	1,440	—	33,992	+8.0
1951	940	12,285	7,248	14,848	35,321	1,454	—	36,775	+8.2
1952	897	10,971	7,760	15,334	34,962	1,496	—	36,458	- .9
1953	711	11,182	8,156	16,098	36,147	1,439	—	37,586	+3.1
1954	683	9.512	8,548	16,132	34,875	1,388	—	36,263	-3.5
1955	599	10,941	9,232	17,524	38,296	1,407	—	39,703	+9.5
1956	610	11,142	9,834	18,627	40,213	1,487	—	41,700	+5.0
1957	528	10,640	10,416	18,570	40,154	1,551	1	41,706	—
1958	483	9,366	10,995	19,214	40,058	1,636	2	41,696	—
1959	478	9,332	11,990	19,747	41,547	1,591	2	43,140	+3.5
1960	447	9,693	12,699	20,067	42,906	1,657	6	44,569	+3.3
1961	404	9,502	13,228	20,487	43,621	1,680	18	45,319	+1.7
1962	363	9,826	14,121	21,267	45,577	1,821	24	47,422	+4.6
1963	361	10,353	14,843	21,950	47,507	1,767	34	49,308	+4.0
1964	365	10,899	15,648	22,386	49,298	1,907	35	51,240	+3.9
1965	328	11,580	16,098	23,241	51,247	2,058	38	53,343	+4.1
1966	290	12,205	17,393	24,394	54,282	2,073	57	56,412	+5.8
1967	274	11,982	18,250	25,335	55,841	2,344	80	58,265	+3.3
1968	258	12,401	19,580	27,052	59,291	2,342	130	61,763	+6.0
1969	224	12,509	21,020	28,421	62,174	2,659	146	64,979	+5.2
1970	210	12,712	22,029	29,614	64,565	2,650	229	67,444	+3.8
1971	186	11,887	22,819	30,570	65,462	2,862	404	68,728	+1.9
1972	150	12,345	23,125	32,966	68,586	2,946	576	72,108	+5.0
1973[r]	144	13,150	22,712	34,851	70,857	2,998	888	74,743	+4.8
1974[p]	132	13,037	22,737	33,480	69,396	3,052	1,173	73,121	-2.2

*One British Thermal Unit (BTU) is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at or near 39.2°F.

[1] Gross energy is that contained in all types of commercial energy at the time it is incorporated in the economy, whether the 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 energy inputs. Gross energy includes the energy used for the production, processing, and transportation of energy proper.

[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) and nuclear power converted to theoretical energy inputs calculated from national average heat rates for fossil-fueled steam-electric plants provided by the Federal Power Commission. Energy input for nuclear power in 1971 is converted at an average heat rate of 10,660 Btu per net kilowatt-hour based on information from the Atomic Energy Commission. Excludes inputs for power generated by nonutility fuel-burning plants, which are included within the other consuming sectors.

[p] Preliminary

[r] revised

Source: U.S. Department of the Interior, *U.S. Energy through the Year 2000*, Dec., 1972; and *News Release*, April 3, 1975, Table 2.

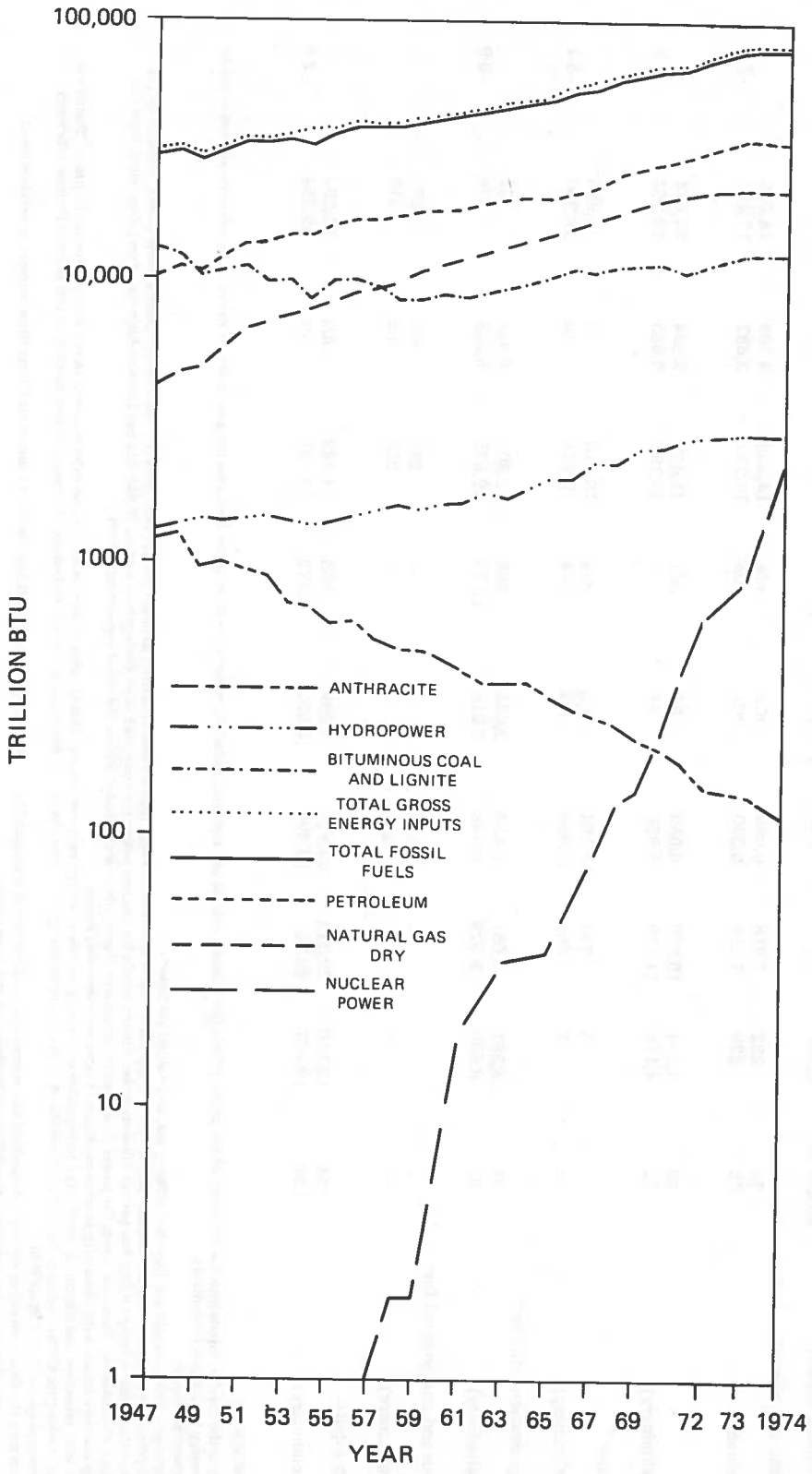


Figure 17. United States Total Gross Consumption of Energy Resources by Major Sources, 1947-1974

Table 3-31. U.S. Gross Consumption of Energy Resources by Major Sources and Consuming Sectors, 1973 and 1974 (Trillion Btu)[1]

Consuming Sectors	Anthracite	Bituminous coal and lignite	Natural gas dry[2]	Petroleum[3]	Hydropower[4]	Nuclear power[4]	Total gross energy inputs[5]	Utility electricity distributed[6]	Total net energy inputs[7]	Percentage change from 1973
Household and commercial:										
1973	74	222	7,318	6,689	n/a	n/a	14,303	3,709	18,012	
1974 (preliminary)	62	229	7,116	6,390	n/a	n/a	13,797	3,687	17,484	-2.9
Industrial:										
1973	33	4,344	10,970	6,059	34	n/a	21,440	2,634	24,074	
1974 (preliminary)	32	4,176	11,129	5,826	34	n/a	21,197	2,665	23,862	-0.9
Transportation:[8]										
1973	—	3	743	18,164	n/a	n/a	18,910	15	18,925	
1974 (preliminary)	—	2	664	17,608	n/a	n/a	18,274	16	18,290	-3.4
Electricity generation, utilities:[4]										
1973	37	8,581	3,681	3,656	2,964	888	19,807	6,358	n/a	
1974 (preliminary)	38	8,630	3,328	3,448	3,018	1,173	19,635	6,368	n/a	-0.9
Miscellaneous and unaccounted for:										
1973	—	—	—	283	—	—	283	n/a	283	
1974 (preliminary)	—	—	—	218	—	—	218	n/a	218	
Total energy inputs:										
1973	144	13,150	22,712	34,851	2,998	888	74,743	n/a	61,294	
1974 (preliminary)	132	13,037	22,237	33,490	3,052	1,173	73,121	n/a	59,854	-2.2

n/a — not available

[1] Gross energy is the total of inputs into the economy of the primary fuels (petroleum, natural gas, and coal, including imports) or their derivatives, plus the generation of hydro and nuclear power converted to equivalent energy inputs (see footnote 4).
[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 Atomic Energy Commission. Excludes inputs for power generated by nonutility plants, which are included within the other consuming sectors.
[5] Gross energy resource inputs with electricity generation shown as separate consuming sector.
[6] Utility electricity generated and imported, distributed to the other consuming sectors as energy resource inputs. Distribution to sectors is based on sales reported to the Edison Electric Institute "Statistical Yearbook of the Electric Utility Industry for 1973." Conversion of electricity to energy equivalent by sector was made at the value of contained energy corresponding to 100 percent thermal efficiency using a theoretical rate of 3,412 Btu/kW-hr.
[7] Energy inputs into the final consuming sectors — household and commercial, industrial and transportation — consisting of direct fuels and electricity distributed from the electricity generation sector. Conversion losses in the electric sector constitute the difference between net and gross energy.
[8] Includes bunkers and military transportation.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Interfuels and Special Studies, *News Release*, April 3, 1975, Table 2.

Table 3-32. Gross Consumption of Mineral Energy Resources and Electricity from Hydropower and Nuclear Power in the United States, 1947-1974

Year	Coal Thousand tons	Natural Gas, dry Million Cu. Ft.	Petroleum[1] Million barrels	Hydropower Million Kilowatt-hours	Nuclear Power Million Kilowatt-hours
1947	605,443	4,365,608	1,989.8	84,981	—
1948	570,109	4,862,427	2,120.0	88,535	—
1949	483,238	5,109,680	2,128.0	96,361	—
1950	494,102	5,942,429	2,375.1	102,671	—
1951	505,904	7,002,545	2,584.2	106,554	—
1952	454,057	7,497,945	2,671.1	111,977	—
1953	454,798	7,869,867	2,775.3	111,625	—
1954	389,960	8,258,515	2,848.9	113,980	—
1955	447,012	8,920,259	3,100.2	120,304	—
1956	456,858	9,501,857	3,232.9	129,775	—
1957	434,468	10,063,912	3,233.8	136,959	10
1958	385,703	10,623,393	3,370.9	147,581	165
1959	385,056	11,584,909	3,481.2	145,002	188
1960	398,029	12,269,341	3,611.2	153,958	518
1961	390,305	12,750,043	3,641.3	157,754	1,692
1962	402,774	13,612,325	3,796.0	172,458	2,270
1963	423,325	14,341,255	3,924.5	168,573	3,212
1964	445,516	15,118,174	4,034.2	182,258	3,341
1965	472,064	15,598,427	4,202.0	196,843	3,657
1966	497,666	16,853,606	4,410.8	199,030	5,520
1967	491,216	17,684,573	4,584.5	224,650	7,655
1968	508,990	18,972,915	4,901.8	225,242	12,528
1969	516,084	20,387,827	5,159.9	254,540	13,928
1970	525,406	21,367,036	5,364.5	252,571	21,801
1971	494,862	22,132,453	5,552.6	269,851	37,899
1972	519,800	22,429,500	5,990.3	280,477	54,031
1973[r]	556,000	22,245,200	6,317.3	285,331	83,292
1974[p]	540,000	21,780,000	6,080.0	290,500	110,000

[p] Preliminary

[r] revised

[1] Petroleum products refined and processed from crude oil, including gas, liquefied refinery gas and natural gas liquids.

Source: U.S. Department of the Interior, *U.S. Energy through the Year 2000*, Dec., 1972; and *News Release*, April 3, 1975, Table 1, and equivalent tables in earlier editions.

Table 3-33. Petroleum Consumption by Sector, 1947-1974

(Trillion Btu)

	Household and Commercial			Industrial							
Year	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[r]	5,425	1,264	6,689	3,819	2,240	6,059	18,164	52.1	3,656	283	34,851
1974[p]	5,148	1,241	6,390	3,648	2,177	5,826	17,608	52.6	3,448	218	33,490

[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 bunders and military transportation.

Source: U.S. Department of the Interior, *U.S. Energy through the Year 2000*, Dec. 1972; and *News Release*, April 3, 1975, Tables 2, 6a, 6b.

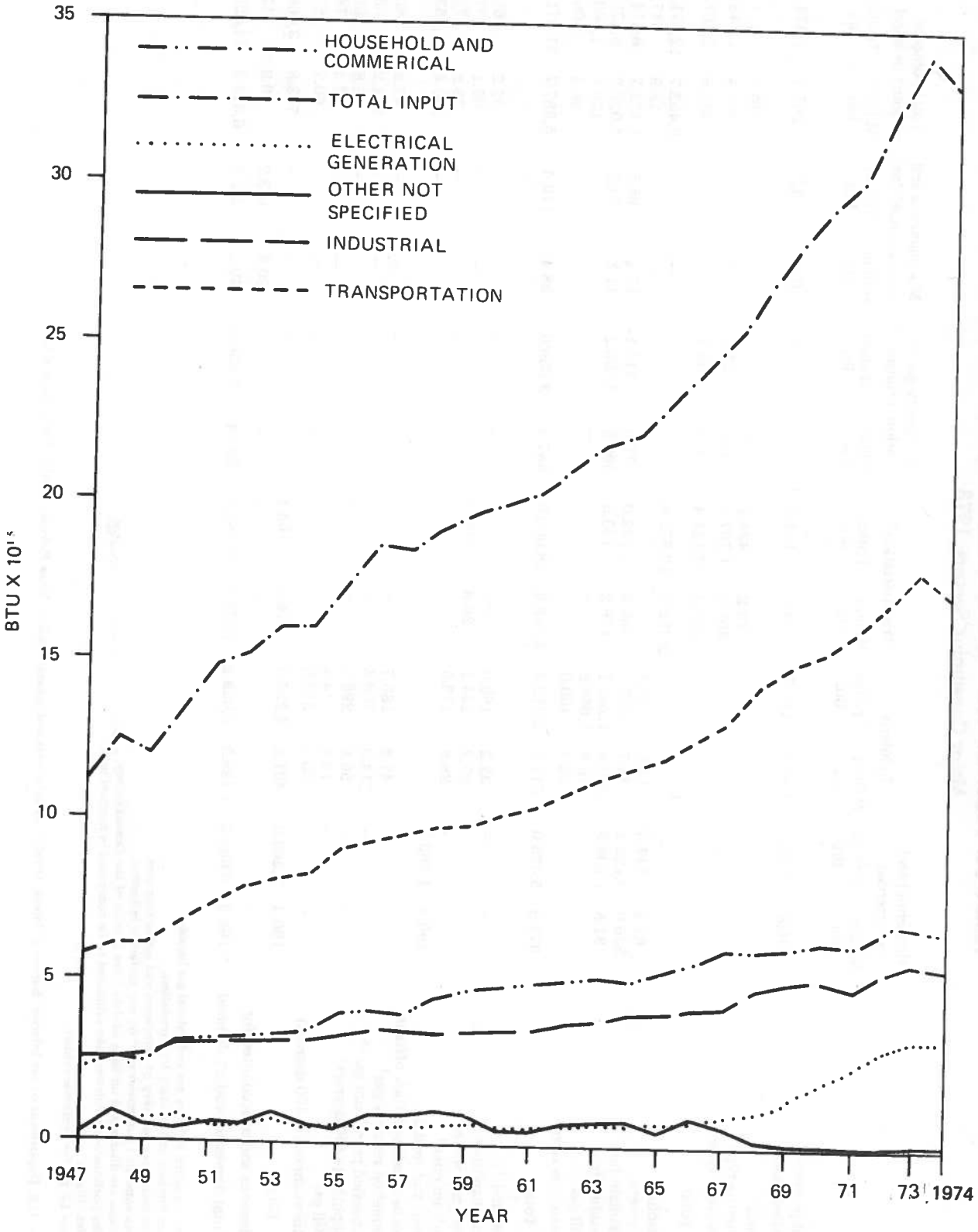


Figure 18. Petroleum Consumption by Sector, 1947-1974

Table 3-34. Petroleum Consumption, by Major Products[1] and by Major Consuming Sectors, 1973

	Household and commercial		Industrial		Transportation[2]		Electricity generation, utilities		Miscellaneous and unaccounted for		Total domestic product demand	
	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu
Fuel and power:												
Liquefied gases	186.8	749.3	[3] 46.8	187.7	33.6	134.8	—	—	0.2	0.7	267.4	1,072.5
Jet fuels:												
Naphtha type	—	—	—	—	79.2	424.1	—	—	—	—	79.2	424.1
Kerosene type	—	—	—	—	301.1	1,707.3	6.3	35.7	—	—	307.4	1,743.0
Total	—	—	—	—	380.3	2,131.4	6.3	35.7	—	—	386.6	2,167.1
Gasoline	—	—	—	—	2,452.7	12,871.8	—	—	—	—	2,452.7	12,871.8
Kerosene	61.3	347.6	17.6	99.8	—	—	—	—	—	—	78.9	447.4
Distillate fuel	536.0	3,122.2	138.7	807.9	366.0	2,132.0	71.6	417.1	16.4	95.5	1,128.7	6,574.7
Residual fuel	191.8	1,205.9	200.9	1,263.1	116.2	730.5	509.5	3,203.2	11.8	74.2	1,030.2	6,476.9
Still gas	—	—	176.8	1,060.8	—	—	—	—	—	—	176.8	1,060.8
Petroleum coke	—	—	66.4	400.0	—	—	—	—	—	—	66.4	400.0
Total	975.9	5,425.0	647.2	3,819.3	3,348.8	18,000.5	587.4	3,656.0	28.4	170.4	5,587.7	31,071.2
Raw material:[4]												
Special naphthas	—	—	32.2	169.0	—	—	—	—	—	—	32.2	169.0
Lubes[5] and waxes	—	—	39.2	234.1	26.9	163.1	—	—	—	—	66.1	397.2
Petroleum coke[6]	—	—	28.8	173.5	—	—	—	—	—	—	28.8	173.5
Asphalt and road oil	190.4	1,263.5	—	—	—	—	—	—	—	—	190.4	1,263.5
Petrochemical feedstock offtake:												
Liquefied refinery gas[7]	—	—	47.2	180.7	—	—	—	—	—	—	47.2	180.7
Liquefied petroleum gas[7,8]	—	—	214.2	756.5	—	—	—	—	—	—	214.2	756.5
Naphtha (–400 degrees)	—	—	56.8	298.1	—	—	—	—	—	—	56.8	298.1
Still gas	—	—	12.4	74.4	—	—	—	—	—	—	12.4	74.4
Miscellaneous (+400 degrees)	—	—	60.7	353.6	—	—	—	—	—	—	60.7	353.6
Total	190.4	1,263.5	491.5	2,239.9	26.9	163.1	—	—	—	—	708.8	3,666.5
Miscellaneous and unaccounted for	—	—	—	—	—	—	—	—	20.8	113.2	20.8	113.2
Total domestic product demand	1,166.3	6,688.5	1,138.7	6,059.2	3,375.7	18,163.6	587.4	3,656.0	49.2	283.6	6,317.3	34,850.9

[1] Includes liquefied refinery gas and natural gas liquids.
[2] Includes bunkers and military transportation.
[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 survey.
[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 3, 1975, Table 6A.

Table 3-35. Petroleum Consumption by Major Products[1] and by Major Consuming Sectors, 1974 (Preliminary)

	Household and commercial		Industrial		Transportation[2]		Electricity generation, utilities		Miscellaneous and unaccounted for		Total domestic product demand	
	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu
Fuel and Power:												
Liquefied gases	183.0	734.0	[3]46.3	185.7	33.2	133.2	—	—	—	—	262.5	1,052.9
Jet fuels												
Naphtha type	—	—	—	—	75.0	401.6	—	—	—	—	75.0	401.6
Kerosene type	—	—	—	—	282.9	1,604.1	6.0	34.0	—	—	288.9	1,638.1
Total	—	—	—	—	357.9	2,005.7	6.0	34.0	—	—	363.9	2,039.7
Gasoline	—	—	—	—	2,400.2	12,596.2	—	—	—	—	2,400.2	12,596.2
Kerosene	51.0	289.2	14.6	82.8	—	—	—	—	—	—	65.6	372.0
Distillate fuel	515.0	2,999.9	132.0	768.9	348.0	2,027.1	68.0	396.1	8.6	50.1	1,071.6	6,242.1
Residual fuel	179.0	1,125.4	188.0	1,182.0	109.0	685.3	480.0	3,017.8	9.9	62.1	965.9	6,072.6
Still gas	—	—	173.0	1,038.0	—	—	—	—	—	—	173.0	1,038.0
Petroleum coke	—	—	64.9	391.0	—	—	—	—	—	—	64.9	391.0
Total	928.0	5,148.5	618.8	3,648.4	3,248.3	17,447.5	554.0	3,447.9	18.5	112.2	5,367.6	29,804.5
Raw material:[4]												
Special naphthas	—	—	31.5	165.3	—	—	—	—	—	—	31.5	165.3
Lubes[5] and waxes	—	—	38.2	228.1	26.4	160.1	—	—	—	—	64.6	388.2
Petroleum code[6]	—	—	28.2	169.9	—	—	—	—	—	—	28.2	169.9
Asphalt and road oil	187.0	1,241.0	—	—	—	—	—	—	—	—	187.0	1,241.0
Petrochemical feedstock offtake:												
Liquefied refinery gas[7]	—	—	46.0	176.1	—	—	—	—	—	—	46.0	176.1
Liquefied petroleum gas[7,8]	—	—	209.5	740.0	—	—	—	—	—	—	209.5	740.0
Naphtha (–400 degrees)	—	—	55.5	291.3	—	—	—	—	—	—	55.5	291.3
Still gas	—	—	12.1	60.5	—	—	—	—	—	—	12.1	60.5
Miscellaneous (+400 degrees)	—	—	59.4	346.0	—	—	—	—	—	—	59.4	346.0
Total	187.0	1,241.0	480.4	2,177.2	26.4	160.1	—	—	—	—	693.8	3,578.3
Miscellaneous and unaccounted for	—	—	—	—	—	—	—	—	19.4	106.8	19.4	106.8
Total domestic product demand	1,115.0	6,389.5	1,099.2	5,825.6	3,274.7	17,607.6	554.0	3,447.9	37.9	219.0	6,080.8	33,489.6

[1] Includes liquefied refinery gas and natural gas liquids
[2] Includes bunkers and military transportation.
[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 survey.
[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 3, 1975, Table 6B.

Table 3-36. Energy Consumption: Transportation Sector, 1947-1974

Year	Coal[1]		Petroleum[2]		Natural gas[3]		Total fossil fuels	Utility electricity purchased		Total energy input	
	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[r]	116	3	3,348.8	18,164	728,177	743	18,910	4	15	18,925	25.3
1974[p]	80	2	3,248.3	17,608	650,000	664	18,274	5	16	18,290	25.0

[p] Preliminary.

[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 3, 1975, Tables 2, 3, 4, 5, and equivalent tables in earlier editions.

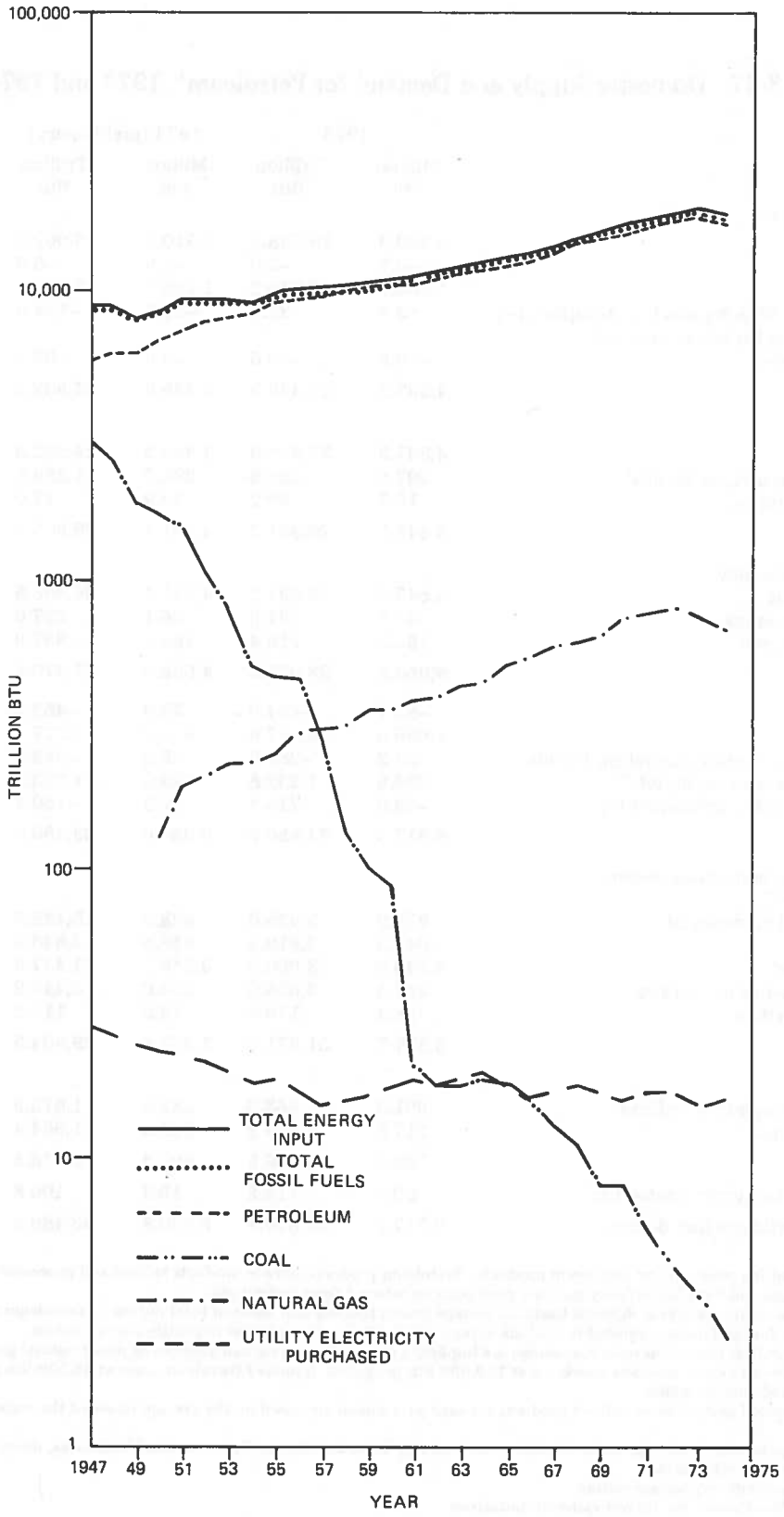


Figure 19. Energy Consumption: Transportation Sector

Table 3-37. Domestic Supply and Demand for Petroleum[1], 1973 and 1974

	1973		1974 (preliminary)		Percentage change from 1973
	Million bbl	Trillion Btu	Million bbl	Trillion Btu	
Supply, crude oil:[2]					
Production	3,360.9	18,848.9	3,210.5	18,001.9	−4.5
Exports	−0.7	−3.9	−1.0	−5.6	
Imports	1,184.0	6,640.2	1,268.7	7,113.8	+7.2
Stock change: Withdrawals (+), Additions (−)	+3.9	+21.9	−22.2	−124.5	
Losses, transfers for use as fuel, and unaccounted for	−10.8	−60.6	−9.5	−53.3	
Total	4,537.3	25,446.5	4,446.5	24,932.3	−2.0
Refinery input:					
Crude oil[2]	4,537.3	25,446.5	4,446.5	24,932.3	−2.0
Transfers in, natural gas liquids[3]	297.5	1,325.5	291.0	1,296.2	−2.2
Other hydrocarbons	10.7	59.2	13.9	77.0	+29.9
Total	4,845.5	26,831.2	4,751.4	26,305.5	−1.9
Supply, refined products:					
Refinery output	4,845.5	26,831.2	4,751.4	26,305.5	−1.9
Unfinished oil reruns net	45.8	287.9	36.1	227.0	−21.2
Processing gain, net	165.5	916.4	169.4	937.9	+2.4
Total	5,056.8	28,035.5	4,956.9	27,470.4	−2.0
Exports[4]	−83.7	−484.9	−79.9	−462.9	−4.5
Imports[4]	1,099.5	6,567.6	967.3	5,777.9	−12.0
Stock change, including natural gas liquids	−53.2	−284.9	−65.2	−349.2	
Transfers in, natural gas liquids[3,5]	336.9	1,232.8	329.0	1,203.8	−2.3
Losses, gains, and unaccounted for	−39.0	−215.2	−27.3	−150.4	
Total	6,317.3	34,850.9	6,080.8	33,489.6	−3.7
Demand by major consuming sectors:					
Fuel and power:					
Household and commercial	975.9	5,425.0	928.0	5,148.5	−4.9
Industrial	647.2	3,819.3	618.8	3,648.4	−4.4
Transportation[6]	3,348.8	18,000.3	3,248.3	17,447.5	−3.0
Electricity generation, utilities	587.4	3,656.0	554.0	3,447.9	−5.7
Other, not specified	28.4	170.4	18.5	112.2	−34.9
Total	5,587.7	31,071.2	5,367.6	29,804.5	−3.9
Raw material:[7]					
Petrochemical feedstock offtake	391.3	1,663.3	382.5	1,613.9	−2.2
Other nonfuel use	317.5	2,003.2	311.3	1,964.4	−2.0
Total	708.8	3,666.5	693.8	3,578.3	−2.1
Miscellaneous and unaccounted for	20.8	113.2	19.4	106.8	
Total domestic product demand	6,317.3	34,850.9	6,080.8	33,489.6	−3.7

[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 gas liquids transferred from natural gas.
[2] Btu value for crude oil for each year shown is based on average British thermal unit value of total output of petroleum products (including refinery fuel and losses) adjusted to exclude natural gas liquids inputs and their implicitly derived values.
[3] 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 cycle products converted at 110,000 Btu per gallon, liquefied petroleum gases at 95,500 Btu per gallon, and ethane at 73,390 Btu per gallon.
[4] Btu values for imported and exported refined products for each year shown are based on the average values of the respective products.
[5] Includes natural gas liquids other than those channeled into refinery input as follows: Petrochemical feedstocks, direct uses for fuel and power, and other uses.
[6] Includes bunkers and military transportation.
[7] 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, Office of Assistant Director-Fuels, *News Release*, April 3, 1975, Table 5.

Table 3-38. Domestic Supply and Demand for Natural Gas, 1973 and 1974

	1973		1974 (preliminary)		Percentage change from 1973
	Million cubic feet	Trillion Btu	Million cubic feet	Trillion Btu	
Supply:					
Production[1]	22,647,549	24,745.7	21,900,000	23,951.4	−3.3
Exports	−77,169	−78.8	−80,000	−82.0	+3.7
Imports	1,032,901	1,054.6	940,000	960.0	−9.0
Stock change: Withdrawals (+), Additions (−)	−441,504	−450.8	−90,000	−92.0	
Transfers out, extraction loss[2]	−916,551	−2,558.3	−890,000	−2,500.0	−2.9
Losses, gains, unaccounted for	—	—	—	—	
Total	22,245,226	22,712.4	21,780,000	22,237.4	−2.1
Demand by major consuming sectors:					
Fuel and power:					
Household and commercial	7,167,428	7,317.9	6,970,000	7,116.4	−2.8
Industrial[3]	9,144,606	9,336.7	9,299,300	9,494.6	+1.7
Transportation	728,177	743.5	650,000	663.6	−10.7
Electricity generation, utilities	3,605,333	3,681.0	3,260,000	3,328.5	−9.6
Total	20,645,544	21,079.1	20,179,300	20.603.1	−2.3
Raw material: Industrial:[4]					
Carbon black	49,682	50.7	45,700	46.7	−8.0
Other chemicals[5]	1,550,000	1,582.6	1,555,000	1,587.6	+0.3
Total	1,599,682	1,633.3	1,600,700	1,634.3	Negligible
Grand Total	22,245,226	22,712.4	21,780,000	22,237.4	−2.1

[1] Marketed production includes wet gas sold or consumed by producers, losses in transmission, producers addition to storage, and increase in gas pipeline fill; excludes repressuring and quantities vented and 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 are reflected in value of natural gas liquids production for each year.

[2] Extraction loss from cycling plants represents offtake 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 at 73,390 Btu per gallon. (Prior to 1967, ethane production was included with LPG in converting to Btu value.)

[3] Includes transmission losses and unaccounted for of 195,863 million cubic feet in 1973 and 200,000 million cubic feet in 1974.

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

[5] Estimated from partial data.

Source: U.S. Department of the Interior, Bureau of Mines, Division of Fossil Fuels-Mineral Supply, *News Release*, April 3, 1975, Table 4.

Table 3-39. Domestic Supply and Demand for Coal, 1973 and 1974

	1973		1974 (preliminary)		Percentage change from 1973
ANTHRACITE	Thousand short tons	Trillion Btu	Thousand short tons	Trillion Btu	
Supply:					
Production[1]	6,830	173.5	6,300	160.0	–7.8
Exports[2]	–1,159	–29.5	–1,100	–27.9	–5.1
Imports	—	—	—	—	
Stock change: Withdrawals (+), Additions (–)	n/a	n/a	n/a	n/a	
Losses, gains, and unaccounted for	—	—	—	—	
Total	5,671	144.0	5,200	132.1	–8.3
Demand by major consuming sectors:[3]					
Household and commercial[4]	2,917	74.1	1,453	62.3	–15.9
Industrial[5]	1,312	33.3	1,250	31.8	–4.7
Electricity generation, utilities	1,442	36.6	1,497	38.0	+3.8
Total	5,671	144.0	5,200	132.1	–8.3
BITUMINOUS COAL AND LIGNITE					
Supply:					
Production[1]	591,738	14,207.6	600,000	14,406.0	+1.4
Exports	–52,903	–1,430.6	–60,000	–1,623.6	+13.4
Imports	127	3.0	2,000	47.3	
Stock change: Withdrawals (+), Additions (–)	+12,268	+266.0	+7,450	+167.0	
Losses, gains, and unaccounted for	4,792	104.0	1,813	40.7	
Total	556,022	13,150.0	551,263	13,037.4	–0.9
Demand by major consuming sectors:					
Fuel and power:					
Household and commercial[4]	8,200	221.5	8,440	229.4	+2.9
Industrial[5]	156,448	4,226.1	149,450	4,061.5	–4.5
(Coal carbonized for coke)[6]	(93,648)	(2,529.7)	(89,668)	(2,436.8)	–4.2
Transportation[7]	116	3.1	80	2.2	–31.0
Electricity generation, utilities	386,879	8,581.0	389,070	8,629.6	+0.6
Total	551,643	13,031.7	547,040	12,922.7	–0.8
Raw material: Industrial[8]					
Crude light oil	1,131	30.6	1,087	29.5	–3.9
Crude coal tar	3,248	87.7	3,136	85.2	–3.4
Total raw material	4,379	118.3	4,223	114.7	–3.6
Grand total	556,022	13,150.0	551,263	13,037.4	–0.9

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, Office of Assistant Director-Fuels, *News Release*, April 3, 1975, table 3.

Table 3-40. Fuel Consumption by Mode of Transport, 1963-1973

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Class I Railroads											
Locomotives											
Diesel Oil, gals X 10^6	3,537	3,624	3,736	3,920	3,883	3,917	3,919	3,804	3,819	3,999	4,141
Fuel Oil, gals X 10^6	90	85	77	65	47	42	33	—	—	—	—
Electricity, KWH X 10^6	1,018	931	933	922	832	750	610	578	534	605[r]	346
Coal, tons	7,332	6,831	3,695	3,235	2,310	1,669	1,137	1,238	1,191	1,400	1,202
Motor Cars											
Diesel Oil, gals X 10^6	7	7	6	6	6	5	5	8	4	3	3
Electricity, KWH X 10^6	591	583	576	576	580	567	538	763	756	715	901
Gasoline, gals	7,591	4,585	—	—	—	—	—	—	—	—	—
Air											
Certificated Carriers											
Aviation Gasoline, gals X 10^6	651	589	519	398	268	128	33	15	12	12	11
Jet Fuel, gals X 10^6	3,291	3,830	4,650	5,670	7,523	8,891	10,113	10,085	10,140	10,302	10,671
General Aviation											
Aviation Gasoline, gals X 10^6	250	262	292	375	396	495	522	551	508	584	n/a
Jet Fuel, gals X 10^6	32	41	81	106	138	n/a	168	208	226	245	n/a
Highway											
Gasoline, gals X 10^6											
Pass. Cars + Taxis	45,246*	47,567*	50,206	53,220	55,007	58,413	62,325	65,649	69,213	73,121	77,619
Motorcycles	—	—	69	92	103	111	123	135	301	342	392
Diesel + Gasoline, gals X 10^6											
Commercial Buses	606	622	645	637	646	655	657	644	631	561	520
School Buses	232	242	249	259	264	277	290	300	316	320	327
Single-unit Trucks[1]	12,348	13,199	13,504	13,636	14,470	15,674	16,528	17,237	18,221	22,118	22,755
Combination Trucks	6,084	6,271	6,431	6,779	7,203	7,808	8,199	8,363	8,865	8,600	8,860
Water											
Vessels											
Residual Fuel Oil, gals X 10^6	3,213	3,487	3,093	3,093	3,389	3,678	3,506	3,774	3,307	3,273	3,859
Distillate Fuel Oil, gals X 10^6	636	672	652	699	734	766	793	819	880	1,013	1,125
Gasoline, gals X 10^6	n/a	n/a	n/a	485	501	533	569	598	645	687	717
Transit											
Electricity, KWH X 10^6											
Rapid Transit	2,125	2,171	2,185	2,075	2,194	2,250	2,291	2,261	2,262	2,149	2,098
Surface Rail	255	222	218	226	180	179	173	157	153	146	140
Trolley	262	204	181	166	157	157	154	143	141	133	93
Gallons of Motor Fuel, gals X 10^6											
Gasoline	103	96	92	76	58	46	40	37	29	26	22
Diesel Oil	235	242	248	256	270	274	274	271	257	247	273
Propane	36	33	33	34	33	32	32	31	27	24	15
Pipelines (Gas & Oil)											
Natural Gas, Cu. Ft. X 10^6	423,783	433,204	500,024	535,353	575,752	590,965	630,962	722,166	742,592	766,156	728,177

[1] Includes non-freight truck movements.

r = revised

*Includes Motorcycles.

n/a = not available

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 3-41. Highway Use of Motor Fuel[1], 1973

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)	101,762	4,356	106,119	89.5	336.0	425.5	106,544	22,205	1,028	23,233	129,777
Average miles traveled per vehicle	9,992	4,498	9,767	28,469	7,178	11,662	9,774	9,868	46,716	11,538	10,083
Fuel consumed (million gallons)	77,619	392	78,011	520	327	847	78,858	22,755	8,860	31,615	110,473
Average fuel consumption per vehicle (gallons)	763	90	736	5,810	973	1,991	741	1,025	8,620	1,361	857
Average miles traveled per gallon of fuel consumed	13.10	50.00	13.29	4.90	7.37	5.86	13.21	9.63	5.42	8.45	11.85

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

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, 1973, Table VM-1.

Table 3-42. Electrical Energy and Motor Fuel Consumed by the Transit Industry of the United States At Five Year Intervals 1940 — 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
1940	1,977	4,050	307	6,334	n/a	n/a	0
1945	1,966	4,547	520	7,033	510,000	11,800	0
1950	2,000	2,410	841	5,251	430,000[a]	98,600	(a)
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	25,600	247,300	24,400
1973	2,098	140	93	2,331	22,426	272,525	15,152
1974[p]	n/a	n/a	n/a	2,978	24,245	292,992	3,142

n/a = not available

[p]Preliminary

[a]Propane included with gasoline

Source: American Public Transit Association, *Transit Fact Book*, '74-'75.

Table 3-43. Consumption of Jet Fuel by the Certificated Route Air Carriers, Scheduled plus Non-scheduled Service, 1960-1973 (000 gallons)

	Certificated route air carriers													
		Domestic operations										International and territorial operations		
			Passenger/cargo carriers											
	Total certificated route air carriers	Total domestic operations	Total	Domestic trunk			Local service	Other[2]	Intra-Alaska	Intra-Hawaii	All-cargo carriers	Total	Passenger/cargo carriers	All-cargo carriers
				Total	Big Four	Other trunks								
1960	1,330,564	988,036	988,003	963,878	651,574	312,305	20,025	11	1,470	2,619	33	342,528	342,513	15
1961	2,072,591	1,514,457	1,503,856	1,475,536	1,081,527	394,009	23,677	55	1,576	3,012	10,601	558,135	556,095	2,040
1962	2,808,437	2,080,040	2,046,922	2,016,397	1,457,538	558,859	24,646	984	1,679	3,215	33,119	728,397	714,102	14,295
1963	3,290,513	2,375,557	2,342,101	2,310,013	1,665,901	644,112	24,298	1,819	1,825	4,145	33,456	914,956	896,203	18,753
1964	3,829,510	2,759,529	2,722,315	2,679,016	1,903,627	775,389	33,341	2,474	2,185	5,299	37,214	1,069,982	1,043,699	26,283
1965	4,650,340	3,420,095	3,367,915	3,305,661	2,317,962	987,699	51,267	3,142	2,367	5,478	52,180	1,230,245	1,194,765	35,480
1966	5,669,485	4,079,711	3,993,205	3,856,317	2,622,880	1,233,436	117,041	3,983	2,696	13,168	86,506	1,589,774	1,529,713	60,061
1967	7,522,739[1]	5,422,095[1]	5,324,794[1]	5,054,561	3,447,674	1,606,887	241,997	4,597	3,623	20,016	97,301	2,100,644	1,983,292	117,352
1968	8,980,577[1]	6,561,655[1]	6,454,803[1]	6,012,886	4,044,156	1,968,730	407,860	4,036	5,702	24,319	106,852	2,418,922	2,267,156	151,766
1969	10,112,684[1]	7,534,865[1]	7,441,547[1]	6,856,018	4,524,675	2,331,343	542,277	2,707	9,747	30,799	93,318	2,577,819	2,354,729	223,090
1969*	10,112,553[1]	7,978,471[1]	7,885,153[1]	7,271,930	4,689,640	2,582,290	542,277	30,532	9,615	30,799	93,318	2,134,082	1,910,992	223,090
1970	10,084,693[1]	7,842,744[1]	7,782,536[1]	7,105,591	4,740,271	2,365,320	608,617	29,635	8,803	29,890	60,208	2,241,949	2,013,883	228,066
1971	10,140,053[1]	7,786,820[1]	7,728,254[1]	7,049,669	4,452,320	2,597,349	610,577	28,322	10,664	29,022	58,566	2,353,233	2,113,192	240,041
1972	10,302,068[1]	7,954,285[1]	7,886,394[1]	7,172,149	4,533,072	2,639,077	614,849	27,729	11,474	33,193	67,891	2,347,783	2,009,232	248,551
1973	10,670,950[1]	8,326,267[1]	8,235,747[1]	7,446,623	4,576,051	2,870,572	710,261	29,659	11,907	37,297	90,520	2,344,683	2,143,033	201,650

Note: Individual figures may not add to totals because of rounding.

[1] Data for other carrier (Aspen) which commenced scheduled operations June 22, 1967 and (Alaska) from January 1, 1970 are included.
[2] Includes Helicopter carriers

*Compiled on a 50-state basis, 1969 and after.

Source: *C.A.B., Handbook of Airline Statistics*, 1972, p. 67, 1973 preliminary.

Table 3-44. Consumption of Aviation Gasoline by the Certificated Route Air Carriers, Scheduled Plus Non-scheduled Service, 1960-1973 (000 gallons)

	Certificated route air carriers													
			Domestic Operations									International and territorial operations		
			Passenger/cargo carriers											
	Total certificated route air carriers	Total domestic operations	Total	Domestic trunk			Local service	Other[2]	Intra-Alaska	Intra-Hawaii	All-cargo carriers	Total	Passenger/cargo carriers	All-cargo carriers
				Total	Big Four	Other trunks								
1960	1,189,192	966,201	922,480	842,324	576,948	265,376	68,007	2,258	3,850	5,881	43,721	222,991	204,526	18,465
1961	950,668	798,338	752,078	662,402	451,724	210,677	79,359	2,414	4,090	3,560	46,260	152,330	128,394	23,936
1962	737,896	633,344	583,398	478,230	336,293	141,937	95,291	1,234	4,804	3,537	49,945	104,552	90,598	13,954
1963	651,150	581,620	554,177	434,544	311,927	122,617	109,538	420	5,485	4,090	27,443	69,530	61,275	8,255
1964	589,497	537,790	506,916	377,925	254,393	123,532	117,865	338	5,775	5,014	30,873	51,707	46,010	5,697
1965	518,684	468,739	448,022	311,511	206,906	104,606	124,985	261	5,394	5,870	20,718	49,944	41,114	8,831
1966	397,558	342,501	331,869	209,118	129,845	79,274	114,882	176	5,261	2,432	10,632	55,067	31,258	23,799
1967	267,634[1]	232,412[1]	223,355[1]	141,597	86,118	55,479	76,691	149	4,918	—	9,057	35,222	17,900	17,321
1968	127,873[1]	115,293[1]	113,234[1]	68,617	52,474	16,143	41,641	348	2,628	—	2,059	12,580	8,840	3,740
1969	32,566[1]	29,831[1]	26,324[1]	5,785	2,644	3,141	19,059	532	948	—	3,507	2,735	907	1,828
1969*	32,697[1]	30,777[1]	27,270[1]	5,785	2,644	3,141	19,059	1,308	1,079	—	3,507	1,920	92	1,828
1970	14,479[1]	13,849[1]	13,839[1]	1,312	277	1,035	9,509	1,347	2,036	—	10	630	—	630
1971	12,142[1]	12,134[1]	12,134[1]	887	38	849	8,574	973	1,700	—	—	8	8	—
1972	12,923[1]	12,054[1]	12,054[1]	10	10	—	8,972	1,602	1,400	—	—	869	869	—
1973	10,895[1]	10,509[1]	10,509[1]	11	11	—	7,493	1,460	1,345	—	—	386	386	—

Note: Individual figures may not add to totals because of rounding.

[1] Data for other carrier (Aspen) which commenced scheduled operations June 22, 1967 and (Alaska) from January 1, 1970 are included.
[2] Includes Helicopter carriers.

*Compiled on a 50state basis, 1969 and after.

Source: *C.A.B., Handbook of Airline Statistics*, 1972, p. 66, 1973 preliminary.

Table 3-45. Consumption of Aviation Gasoline and Jet Fuel by the Certificated Carriers, Scheduled Plus Non-Scheduled Service, 1960-1973 (000 gallons)

	Certificated Route Air Carriers													
		Domestic Operations										International and Territorial Operations		
			Passenger/Cargo Carriers											
				Domestic Trunk										
Year	Total Certificated Route Air Carriers	Total Domestic Operations	Total	Total	Big Four	Other Trunks	Local Service	Other[1]	Intra-Alaska	Intra-Hawaii	All-Cargo Carriers	Total	Passenger/ Cargo Carriers	All-Cargo Carriers
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*	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	10,314,991	7,966,339	7,898,448	7,172,159	4,533,082	2,639,077	650,821	29,331	12,944	33,193	67,891	2,348,652	2,100,101	248,551
1973	10,699,779	8,354,484	8,263,964	7,450,949	4,576,063[+]	2,874,886	727,633	1,480[x]	44,661[x]	37,297	90,520	2,345,294	2,143,420	201,875

Note: Individual figures may not add because of rounding.

[1] Includes Helicopter Carriers.

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

*Compiled on a 50-state basis, 1969 and after.

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

Source: *C.A.B. Handbook of Airline Statistics*, Advance Information for 1973.

Table 3-46. Consumption of Oil by the Certificated Carriers, Scheduled Plus Non-Scheduled Service, 1960-1973 (000 gallons)

	Certificated Route Air Carriers													
		Domestic Operations												
			Passenger/Cargo Carriers											
				Domestic Trunk								International and Territorial Operations		
Year	Total Certificated Route Air Carriers	Total Domestic Operations	Total	Total	Big Four	Other Trunks	Local Service	Other[1]	Intra-Alaska	Intra-Hawaii	All-Cargo Carriers	Total	Passenger/ Cargo Carriers	All-Cargo Carriers
1960	16,287	13,172	12,688	11,718	8,310	3,409	795	31	52	89	483	3,115	2,857	258
1961	12,558	10,503	9,946	8,859	6,614	2,244	939	30	58	56	557	2,055	1,696	359
1962	10,820	9,295	8,654	7,285	5,415	1,870	1,217	17	73	58	641	1,525	1,289	235
1963	9,786	8,765	8,383	6,704	4,939	1,765	1,534	7	70	65	383	1,021	888	133
1964	9,044	8,245	7,810	5,835	3,960	1,875	1,820	5	72	78	435	799	701	98
1965	8,001	7,235	6,943	4,831	3,165	1,666	1,936	4	73	99	292	766	626	140
1966	6,202	5,326	5,153	3,297	1,991	1,307	1,701	3	111	41	173	876	548	329
1967	4,432	3,743	3,597	2,450	1,342	1,108	1,066	4	74	4	146	689	436	253
1968	3,000	2,528	2,474	1,760	1,168	592	659	5	46	5	54	472	402	70
1969	2,014	1,699	1,638	1,135	555	580	445	7	45	6	61	316	278	38
1969*	2,014	1,752	1,690	1,172	566	606	445	22	45	6	61	263	225	38
1970	1,435	1,150	1,144	867	519	348	218	15	38	6	6	285	249	36
1971	1,545	1,247	1,239	975	580	395	217	17	24	6	8	298	280	18
1972	1,412	1,109	1,105	844	520	324	203	26	25	7	4	303	289	14
1973	1,490	1,187	1,187	896	564	332	236	32	17	6	1/	303	292	11

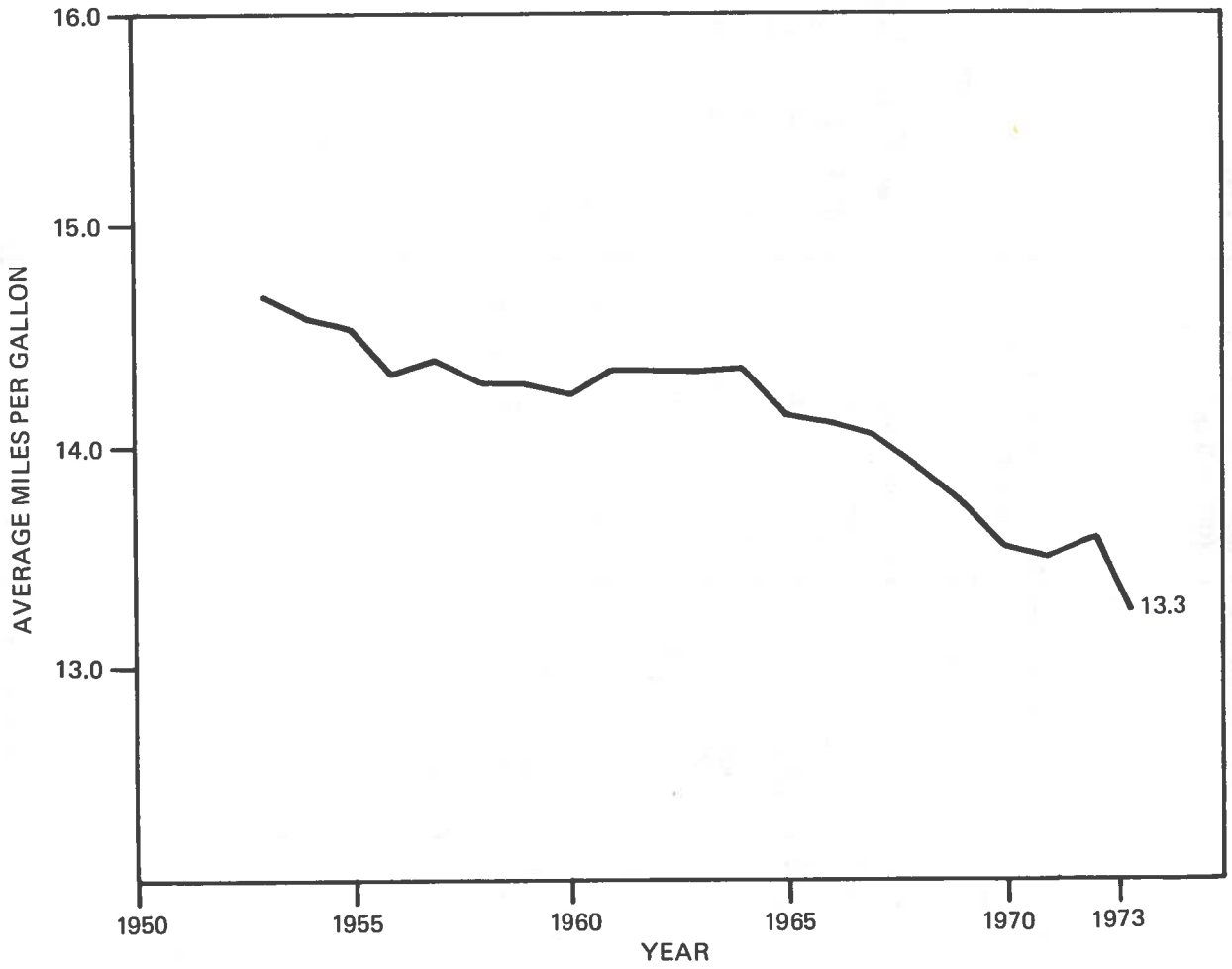
Note: Individual figures may not add to totals because of rounding.

1/Less than 500 gallons

[1] Includes Helicopter carriers

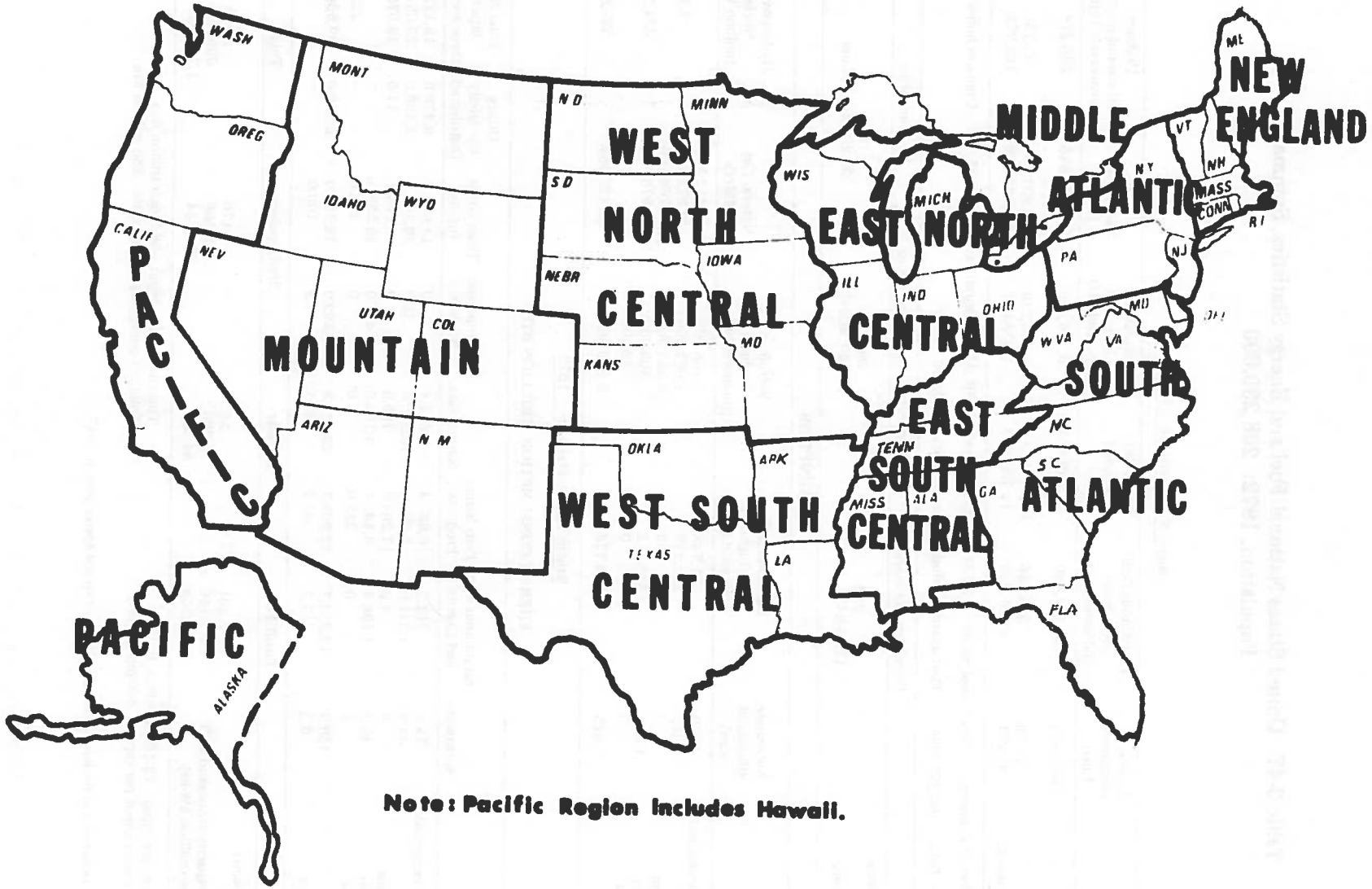
*Data compiled on 50 state basis, 1969 and after.

Source: *C.A.B., Handbook of Airline Statistics,* Advance Information for 1973.



Source: Federal Highway Administration (annual report) *"Highway Statistics"*.

Figure 20. Average Fuel Efficiency of U.S. Passenger Car Fleet, 1953-1973



Note: Pacific Region includes Hawaii.

Figure 21. Regional Divisions of the United States

Table 3-47. United States National Fuel and Energy Statistics, Summary
Population, 1972: 208,230,000

Salient Fuel Statistics – 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	7,384,460	420,457,450	36,339,408	6,786,559	266,084,846	546,378
Production:						
Quantity	7,106	595,386	3,455,368	638,216	22,531,698	25,758
Value, thousands	85,251	4,561,983	11,706,510	1,433,074	4,185,869	162,272

Average number of active operations — Coal mines: 5,182 Crude oil wells: 508,433 Natural gas wells: 121,153 Uranium mines: 212

Labor force — Total: 90,271,600 Fuel sector (excluding processing): 400,000

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	252	786	18
Daily capacity	13,454,471 bbl	73,260 MMcf	30,250 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	2,960	11,748	1,168,900	7,412,543	0
Industrial	1,371	159,253	1,062,200	10,272,082	3,389
Transportation	0	163	3,213,000	766,156	0
Electric power	1,584	348,612	503,700	3,978,673	334,508
Miscellaneous	0	0	42,500	0	0
Total	5,915	519,776	5,990,300	22,429,454	337,897

Salient Energy Statistics – 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	75.2	312.2	6,667.4	7,642.4	0	14,697.2	3,478.0	18,175.2
Industrial	34.8	4,231.8	5,668.0	10,590.5	35.0	20,560.1	2,493.0	23,053.1
Transportation	0	4.3	17,263.9	789.9	0	18,058.1	17.0	18,075.1
Electric power	40.2	7,796.4	3,133.8	4,102.0	3,487.0	18,559.4	—	—
Miscellaneous	0	0	232.6	0	0	232.6	—	232.6
Total	150.2	12,344.7	32,965.7	23,124.8	3,522.0	72,107.4	5,988.0	59,536.0
Percentages	0.2	17.1	45.7	32.1	4.9	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	2,401	26	1,176	3,603
Installed capacity (thousand kW)	327,740	15,300	56,566	399,606
Production (million kW-hr)	1,420,558	54,031	272,734	1,747,323

Total gross energy input: 72,107.4 trillion Btu
Total gross energy input per capita: 346 million Btu

Total net energy input: 59,536.0 trillion Btu
Total net energy input per capita: 286 million Btu

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-48. New England Fuel and Energy Statistics
Population, 1972: 12,105,000

Salient Fuel Statistics - 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	0	0	0	0	0	0
Production:						
Quantity	0	0	0	0	0	0
Value, thousands	0	0	0	0	0	0

Average number of active operations — Coal mines: 0 Crude oil wells: 0 Natural gas wells: 0 Uranium mines: 0

Labor force — Total: 5,405,000 Fuel sector (excluding processing): 0

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	1	0	0
Daily capacity	7,500 bbl	0 MMcf	0 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	21	170,740	190,850	0
Industrial	0	192	32,177	69,504	0
Transportation	0	0	153,030	713	0
Electric power	0	1,332	88,020	8,978	14,587
Miscellaneous	89	0	1,157	0	0
Total	89	1,545	445,124	270,045	14,587

Salient Energy Statistics — 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	0.6	1,010.1	196.7	0	1,207.4	163.6	1,371.0
Industrial	0	5.2	197.3	71.7	0	274.2	78.4	352.6
Transportation	0	0	822.2	0.7	0	822.9	0.1	823.0
Electric power	0	29.8	551.7	9.3	153.9	744.7	—	—
Miscellaneous	2.1	0	6.8	0	0	8.9	—	8.9
Total	2.1	35.6	2,588.1	278.4	153.9	3,058.1	242.1	2,555.5
Percentages	0.1	1.2	84.6	9.1	5.0	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	140	6	141	287
Installed capacity (thousand kW)	11,406	3,469	1,480	16,355
Production (million kW-hr)	53,499	9,500	5,087	68,086

Total gross energy input: 3,058.1 trillion Btu
Total gross energy input per capita: 253 million Btu
Total net energy input: 2,555.5 trillion Btu
Total net energy input per capita: 211 million Btu

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-49. Middle Atlantic States Fuel and Energy Statistics
Population, 1972: 37,621,000

Salient Fuel Statistics - 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	7,120,000	23,880,010	46,951	735	1,546,132	0
Production:						
Quantity	7,106	75,939	4,459	W	77,637	0
Value, thousands	85,251	694,267	21,311	W	23,588	0

Average number of active operations — Coal mines: 1,139 Crude oil wells: 38,023 Natural gas wells: 17,250 Uranium mines: 0

Labor force — Total: 16,602,600 Fuel sector (excluding processing): 28,532

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	18	2	0
Daily capacity	1,345,220 bbl	5 MMcf	0 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	499	321,224	1,120,203	0
Industrial	0	35,970	61,685	620,298	0
Transportation	0	0	465,315	31,685	0
Electric power	0	42,220	169,105	106,020	39,961
Miscellaneous	5,529	0	2,893	0	0
Total	5,529	78,689	1,020,222	1,878,206	39,961

Salient Energy Statistics — 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	13.7	1,911.5	1,154.9	0	3,080.1	486.9	3,567.0
Industrial	0	980.7	363.7	639.5	0	1,983.9	334.0	2,317.9
Transportation	0	0	2,511.5	32.7	0	2,544.2	13.6	2,557.8
Electric power	0	943.1	1,050.1	109.3	417.9	2,520.4	—	—
Miscellaneous	140.5	0	17.2	0	0	157.7	—	157.7
Total	140.5	1,937.5	5,854.0	1,936.4	417.9	10,286.3	834.5	8,600.4
Percentages	1.4	18.5	57.1	18.9	4.1	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	226	7	130	363
Installed capacity (thousand kW)	49,932	2,140	5,967	58,039
Production (million kW-hr)	194,494	11,110	28,851	234,455

Total gross energy input: 10,286.3 trillion Btu
Total gross energy input per capita: 273 million Btu

Total net energy input: 8,600.4 trillion Btu
Total net energy input per capita: 229 million Btu

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-50. South Atlantic States Fuel and Energy Statistics
Population, 1972: 31,920,000

Salient Fuel Statistics – 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	137,490	44,150,480	[1] 242,189	90,884	[2] 2,562,507	0
Production:						
Quantity	0	159,411	19,574	W	233,503	0
Value, thousands	0	1,628,835	[3] 12,047	W	70,395	0

Average number of active operations — Coal mines: 1,683 Crude oil wells: 12,279 Natural gas wells: 21,470 Uranium mines: 0

Labor force — Total: 14,467,800 Fuel sector (excluding processing): 63,964

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	10	5	0
Daily capacity	249,200 bbl	1,274 MMcf	0 tons of ore

CONSUMPTION

	Anthracite [4] (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	1,388	143,098	546,880	0
Industrial	0	19,788	80,452	722,908	0
Transportation	0	0	491,391	47,722	0
Electric power	0	71,152	139,690	264,416	22,823
Miscellaneous	103	0	5,731	0	0
Total	103	92,328	860,362	1,581,926	22,823

Salient Energy Statistics – 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite [4]	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	37.8	818.5	563.9	0	1,420.2	615.0	2,035.2
Industrial	0	539.6	462.2	745.3	0	1,747.1	343.9	2,091.0
Transportation	0	0	2,637.5	49.2	0	2,686.7	0.7	2,687.4
Electric power	0	1,589.3	873.2	272.6	238.4	2,973.5	—	—
Miscellaneous	2.6	0	31.4	0	0	34.0	—	34.0
Total	2.6	2,166.7	4,822.8	1,631.0	238.4	8,861.5	959.6	6,847.6
Percentages	insig.	24.5	54.4	18.4	2.7	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	265	3	129	397
Installed capacity (thousand kW)	59,691	2,376	5,505	67,572
Production (million kW-hr)	275,818	5,343	17,480	298,641

Total gross energy input: 8,861.5 trillion Btu
Total gross energy input per capita: 278 million Btu
Total net energy input: 6,847.6 trillion Btu
Total net energy input per capita: 215 million Btu

[1] Virginia withheld.
[2] Maryland withheld.
[3] Florida withheld.
[4] Florida, North Carolina, South Carolina, and West Virginia withheld.

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-51. East North Central States Energy and Fuel Statistics
Population, 1972: 40,791,000

Salient Fuel Statistics – 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	0	97,482,640	393,653	19,854	3,076,177	0
Production:						
Quantity	0	142,439	63,352	[1] 1,228	125,765	0
Value, thousands	0	850,988	218,712	[1] 3,261	46,166	0

Average number of active operations — Coal mines: 405 Crude oil wells: 48,002 Natural gas wells: 10,065 Uranium mines: 0

Labor force — Total: 17,451,600 Fuel sector (excluding processing): 19,637

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	33	6	0
Daily capacity	2,283,950 bbl	692 MMcf	0 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	4,931	217,120	2,277,443	0
Industrial	0	68,642	69,485	1,624,510	0
Transportation	0	0	556,382	71,539	0
Electric power	0	125,161	28,827	194,484	22,765
Miscellaneous	344	0	4,011	0	0
Total	344	198,734	875,825	4,167,976	22,765

Salient Energy Statistics – 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	134.5	1,227.1	2,348.0	0	3,709.6	602.5	4,312.1
Industrial	0	1,871.6	393.0	1,674.9	0	3,939.5	550.8	4,490.3
Transportation	0	0	2,965.6	73.8	0	3,039.4	1.7	3,041.1
Electric power	0	2,795.5	174.7	200.5	241.5	3,412.2	—	—
Miscellaneous	8.6	0	20.7	0	0	29.3	—	29.3
Total	8.6	4,801.6	4,781.1	4,297.2	241.5	14,130.0	1,155.0	11,872.8
Percentages	0.1	34.0	33.8	30.4	1.7	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	417	6	158	581
Installed capacity (thousand kW)	67,197	5,436	840	73,473
Production (million kW-hr)	299,045	18,486	4,279	321,810

Total gross energy input: 14,130.0 trillion Btu
Total gross energy input per capita: 346 million Btu

Total net energy input: 11,872.8 trillion Btu
Total net energy input per capita: 291 million Btu

[1] Illinois withheld.

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-52. West North Central States Fuel and Energy Statistics
Population, 1972: 16,618,000

Salient Fuel Statistics - 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	0	30,191,220	[1] 649,980	440,079	[2] 12,430,601	0
Production:						
Quantity	0	13,261	103,352	[3] 30,604	925,227	0
Value, thousands	0	49,056	[4] 357,222	[3] 56,340	133,935	0

Average number of active operations — Coal mines: 40 Crude oil wells: 43,765 Natural gas wells: 8,674 Uranium mines: 4

Labor force — Total: 7,268,700 Fuel sector (excluding processing): 10,279

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	17	35	0
Daily capacity	714,550 bbl	5,644 MMcf	0 tons of ore

CONSUMPTION

	Anthracite[5] (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	665	109,418	854,798	0
Industrial	0	5,807	26,045	682,803	0
Transportation	0	0	279,252	130,844	0
Electric power	0	31,582	5,396	404,763	17,884
Miscellaneous	11	0	2,260	0	0
Total	11	38,054	422,371	2,073,208	17,884

Salient Energy Statistics — 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite[5]	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	18.1	572.8	881.3	0	1,472.2	247.9	1,720.1
Industrial	0	158.3	143.7	704.0	0	1,006.0	134.2	1,140.2
Transportation	0	0	1,487.2	134.9	0	1,622.1	0.1	1,622.2
Electric power	0	705.4	32.2	417.3	186.6	1,341.5	—	—
Miscellaneous	0.3	0	11.5	0	0	11.8	—	11.8
Total	0.3	881.8	2,247.4	2,137.5	186.6	5,453.6	382.2	4,494.3
Percentages	—	16.2	41.2	39.2	3.4	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	686	1	63	750
Installed capacity (thousand kW)	24,249	569	3,089	27,907
Production (million kW-hr)	93,027	3,558	14,325	110,910

Total gross energy input: 5,453.6 trillion Btu
Total gross energy input per capita: 328 million Btu

Total net energy input: 4,494.3 trillion Btu
Total net energy input per capita: 270 million Btu

[1] Missouri and South Dakota withheld.
[2] Iowa, Minnesota, Missouri, and South Dakota withheld.
[3] Nebraska and North Dakota withheld.
[4] Missouri withheld.
[5] Iowa and Missouri withheld.

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Data*, IC 8647.

Table 3-53. East South Central States Fuel and Energy Statistics
Population, 1972: 13,155,000

Salient Fuel Statistics – 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	0	29,491,600	[1] 417,385	89,008	[1] 2,288,132	0
Production:						
Quantity	0	153,261	80,934	[2] 829	171,306	0
Value, thousands	0	1,106,507	[1] 25,553	[2] 2,308	45,343	0

Average number of active operations — Coal mines: 1,795 Crude oil wells: 18,428 Natural gas wells: 7,411 Uranium mines: 0

Labor force — Total: 5,376,000 Fuel sector (excluding processing): 43,523

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	14	13	0
Daily capacity	554,500 bbl	1,284 MMcf	0 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	894	46,749	365,561	0
Industrial	0	16,207	20,275	587,070	0
Transportation	0	0	196,897	139,283	0
Electric power	0	56,969	4,523	129,331	25,160
Miscellaneous	W	0	1,476	0	0
Total	W	74,070	269,920	1,221,245	25,160

Salient Energy Statistics – 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	24.4	244.2	376.9	0	645.5	253.0	898.5
Industrial	0	441.9	109.3	605.3	0	1,156.5	329.3	1,485.8
Transportation	0	0	1,049.7	143.6	0	1,193.3	0	1,193.3
Electric power	0	1,272.5	27.0	133.3	261.0	1,693.8	—	—
Miscellaneous	W	0	8.4	0	0	8.4	—	8.4
Total	W	1,738.8	1,438.6	1,259.1	261.0	4,697.5	582.3	3,586.0
Percentages	—	37.0	30.6	26.8	5.6	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	77	0	52	129
Installed capacity (thousand kW)	30,288	0	5,259	35,147
Production (million kW-hr)	142,272	0	25,160	167,432

Total gross energy input: 4,697.5 trillion Btu
Total gross energy input per capita: 357 million Btu

Total net energy input: 3,586.0 trillion Btu
Total net energy input per capita: 273 million Btu

[1] Tennessee withheld.
[2] Kentucky withheld.

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-54. West South Central States Fuel and Energy Statistics
Population, 1972: 19,983,000

Salient Fuel Statistics – 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	96,400	5,135,440	18,588,639	5,370,359	186,961,284	32,498
Production:						
Quantity	0	7,097	2,419,664	512,650	18,603,927	W
Value, thousands	0	[1] 23,788	8,505,104	1,159,774	3,369,643	W

Average number of active operations — Coal mines: 26 Crude oil wells: 275,897 Natural gas wells: 42,327 Uranium mines: 14

Labor force — Total: 8,276,300 Fuel sector (excluding processing): 183,987

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	79	590	3
Daily capacity	5,594,098 bbl	56,984 MMcf	3,750 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	4	72,679	647,680	0
Industrial	0	926	243,944	4,478,641	0
Transportation	0	0	383,188	221,659	0
Electric power	0	2,270	6,754	1,999,777	3,921
Miscellaneous	W	0	3,624	0	0
Total	W	3,200	710,189	7,347,757	3,921

Salient Energy Statistics – 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	0.1	372.4	667.8	0	1,040.3	400.1	1,440.4
Industrial	0	25.2	1,035.2	4,617.4	0	5,677.8	290.3	5,968.1
Transportation	0	0	2,038.4	228.5	0	2,266.9	insig.	2,266.9
Electric power	0	50.7	41.1	2,061.8	40.7	2,194.3	—	—
Miscellaneous	W	0	19.9	0	0	19.9	—	19.9
Total	W	76.0	3,507.0	7,575.5	40.7	11,199.2	690.4	9,695.3
Percentages	—	0.7	31.3	67.6	0.4	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	288	0	43	331
Installed capacity (thousand kW)	47,653	0	2,280	49,933
Production (million kW-hr)	204,370	0	3,921	208,291

Total gross energy input: 11,199.2 trillion Btu
Total gross energy input per capita: 560 million Btu

Total net energy input: 9,695.3 trillion Btu
Total net energy input per capita: 485 million Btu

[1] Texas withheld.

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-55. Mountain States Fuel and Energy Statistics
Population, 1972: 8,880,000

Salient Fuel Statistics – 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	30.040	176,529,890	[1] 2,344,428	648,472	[2] 20,165,721	[3] 495,906
Production:						
Quantity	0	40,675	344,118	[4] 54,097	1,781,459	22,725
Value, thousands	0	[2] 165,887	[5] 1,105,943	[4] 111,296	299,018	143,168

Average number of active operations — Coal mines: 90 Crude oil wells: 32,602 Natural gas wells: 12,820 Uranium mines: 191

Labor force — Total: 3,667,200 Fuel sector (excluding processing): 27,911

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	33	84	7
Daily capacity	508,753 bbl	5,556 MMcf	26,000 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	652	40,819	431,050	0
Industrial	0	4,577	21,122	561,208	0
Transportation	0	0	168,167	77,898	0
Electric power	0	20,092	4,727	251,621	29,276
Miscellaneous	0	0	2,327	0	0
Total	0	25,321	237,162	1,321,777	29,276

Salient Energy Statistics – 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	17.8	225.3	444.5	0	687.6	169.8	857.4
Industrial	0	124.8	122.3	578.6	0	825.7	102.4	928.1
Transportation	0	0	900.0	80.3	0	980.3	0.3	980.6
Electric power	0	448.7	29.1	259.4	303.9	1,041.1	—	—
Miscellaneous	0	0	12.6	0	0	12.6	—	12.6
Total	0	591.3	1,289.3	1,362.8	303.9	3,547.3	272.5	2,778.7
Percentages	0	10.7	36.3	38.4	8.6	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	165	0	173	338
Installed capacity (thousand kW)	13,369	0	6,601	19,970
Production (million kW-hr)	61,571	0	29,276	90,847

Total gross energy input: 3,547.3 trillion Btu
Total gross energy input per capita: 399 million Btu
Total net energy input: 2,778.7 trillion Btu
Total net energy input per capita: 313 million Btu

[1] Arizona and Nevada withheld.
[2] Arizona withheld.
[3] Arizona, Montana, and Nevada withheld.
[4] Montana withheld.
[5] Nevada withheld.

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

Table 3-56. Pacific Coast Fuel and Energy Statistics
Population, 1972: 27,155,000

Salient Fuel Statistics – 1972

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Crude Oil (thousand bbl)	Natural Gas Liquids (thousand bbl)	Natural Gas (MMcf)	Uranium (thousand pounds recoverable U_3O_8)
Reserves	0	13,596,170	13,650,017	127,168	36,784,305[1]	W
Production:						
Quantity	0	3,302	419,915	14,913	612,874	W
Value, thousands	0	17,424[2]	1,175,874	46,524	197,781	W

Average number of active operations — Coal mines: 4 Crude oil wells: 39,447 Natural gas wells: 1,136 Uranium mines: W

Labor force — Total: 11,756,100 Fuel sector (excluding processing): 22,167

	Petroleum Refineries	Natural Gas Processing Plants	Uranium Mills
Processing plants:			
Number	47	51	1
Daily capacity	2.196,700 bbl	1,821 MMcf	500 tons of ore

CONSUMPTION

	Anthracite (thousand tons)	Bituminous Coal and Lignite (thousand tons)	Petroleum Products (thousand bbl)	Natural Gas (MMcf)	Hydropower and Nuclear (million kW-hr)
Household-commercial	0	96	61,713	978,078	0
Industrial	0	2,395	52,466	925,140	0
Transportation	0	0	455,863	44,813	0
Electric power	0	267	56,640	619,283	150,389
Miscellaneous	W	0	3,772	0	0
Total	W	2,758	630,454	2,567,314	150,389

Salient Energy Statistics – 1972

ENERGY CONSUMPTION, TRILLION BTU

	Anthracite	Bituminous Coal and Lignite	Petroleum Products	Natural Gas	Hydropower-Nuclear	Total Gross Inputs	Utility Electricity Distributed	Total Net Inputs (three sectors)
Household-commercial	0	2.6	363.0	1,008.4	0	1,374.0	539.6	1,913.6
Industrial	0	65.2	303.6	953.8	0	1,322.6	329.8	1,652.4
Transportation	0	0	2,470.7	46.2	0	2,516.9	0.3	2,517.2
Electric power	0	6.0	355.6	638.5	1,562.6	2,562.7	—	—
Miscellaneous	W	0	21.0	0	0	21.0	—	21.0
Total	W	73.8	3,513.9	2,646.9	1,562.6	7,797.2	869.7	6,104.2
Percentages	--	1.0	45.1	33.9	20.0	100.0	—	—

	Fossil Fuel	Nuclear	Hydropower	Total
Generating plants:				
Number	137	3	287	427
Installed capacity (thousand kW)	23,955	1,310	25,545	50,810
Production (million kW-hr)	96,462	6,034	144,355	246,851

Total gross energy input: 7,797.2 trillion Btu
Total gross energy input per capita: 287 million Btu

Total net energy input: 6,104.2 trillion Btu
Total net energy input per capita: 225 million Btu

[1] Washington withheld.
[2] Alaska withheld.

Source: U.S. Department of the Interior, Bureau of Mines, *Fuel and Energy Data*, IC 8647.

APPENDIX A

Energy Intensiveness Tables

Table A-1. Energy Intensiveness For Automobiles and Buses, 1974-1980

Vehicle Type	Gross Weight (1000 lbs.)	Trip Length (Statute Miles)	Average Trip Hrs @ MPH	Fuel Type[1]	Vehicle Statute Miles/Gal	Number of Seats		Specific Energy, Stop/Start: Seat-Miles/Gallon		BTU's Seat-Mile	
						Available (Full Load)	1972 Actual Aver. Oper.	Available (Full Load)	1972 Actual Aver. Oper.	Available (Full Load)	1972 Actual Aver. Oper.
Urban, Subcompact Auto	2.0-2.4	10.0	.24/25	Gas	24.0	4.0	1.6	96	38.4	1,302	3,255
Urban, Compact Auto	2.5-3.4	10.0	.24/25	Gas	18.0	5.0	1.6	90	28.8	1,389	4,340
Urban, Standard Auto	3.5-4.4	10.0	.24/25	Gas	14.4	6.0	1.6	86.4	23.0	1,447	5,435
Urban, Luxury Auto	4.5-6.0	10.0	.24/25	Gas	9.0	6.0	1.6	54	14.4	2,315	8,681
Urban, Bus	(18.5 Empty) 20.3-3-26.0	13.0	1.25/ 10.3	Diesel	3.6-4.0	50	12	180	48	771	2,891
Intercity, Bus	(28.7 Empty) 45.0	100.0	1.81/55	Diesel	6.0	46	19.4	276	116.4	503	1,192
Intercity, Subcompact Auto	2.0-2.4	100.0	1.81/55	Gas	30.0	4.0	2.0	120	60	1,042	2,083
Intercity, Compact Auto	2.5-3.4	100.0	1.81/55	Gas	22.5	5.0	2.2	112.5	49.5	1,111	2,525
Intercity, Standard Auto	3.5-4.4	100.0	1.81/55	Gas	18.0	6.0	2.6	108	46.8	1,157	2,671
Intercity, Luxury Auto	4.5-6.0	100.0	1.81/55	Gas	13.0	6.0	3.0	72	36	1,736	3,472

[1] Gasoline = 125×10^3 BTU/gallon, Diesel = 138.8×10^3 BTU/gallon

Source: U.S. Department of Transportation/National Aeronautics and Space Administration, Reference Paper: *Transportation Vehicle Energy Intensities*, June 20, 1974.

Table A-2. Energy Intensiveness For Passenger Aircraft, 1974-1980

Mode	Number of Seats	Gross Weight (1000 lbs)	Specific Trip Length (S.M.)	Average Trip Time (Hrs)[1]	Vehicle Statute Mi/Gal.	Energy, Available Seat-Mi. Per Gal.	Stop/Start BTU/Avail. Seat-Mi (x1000)[2]	Fuel Type	Data Provided By
Aircraft[3]									
Helicopter[4]	24-26	19	13	0.15	.58-.71	14-18	6.65-8.87	Kero	NASA ARC
Gen Avia Single Eng. Recip.[5]	4-6	2.3-3.8	100	0.6-0.8	10.5-15.1	42-72	1.49-2.56	Avgas	NASA ARC
Gen Avia Twin Eng. Recip.[5]	6-11	3.6-8.8	250	1.2-1.5	4.8-10.2	40-61	1.75-2.70	Avgas	NASA ARC
Turbo Prop	98	113	250	0.8	.38	37	3.32	Kero	NASA ARC
Turbo Prop	98	113	500	1.3	.47	46	2.68	Kero	NASA ARC
Twin Eng. Turbo Fan (NB)	68-106	77.7-116	250	0.8	.34-.44	30-38	3.22-4.15	Kero	NASA ARC
Twin Eng. Turbo Fan (NB)	68-106	77.7-116	500	1.3	.44-.54	37-47	2.61-3.35	Kero	NASA ARC
Twin Eng. Turbo Fan (NB)	68-106	77.7-116	1000	2.3	.51-.61	41-54	2.30-2.97	Kero	NASA ARC
3 & 4 Eng. Turbo Fan (NB)	131-200	173-150	250	0.8	.15-.22	27-30	4.06-4.62	Kero	NASA ARC
3 & 4 Eng. Turbo Fan (NB)	131-200	173-350	500	1.3	.21-.29	35-41	3.00-3.48	Kero	NASA ARC
3 & 4 Eng. Turbo Fan (NB)	131-200	173-350	1000	2.3	.26-.34	44-51	2.40-2.78	Kero	NASA ARC
3 & 4 Eng. Turbo Fan (WB)	256-385	426-775	250	0.8	.09-.15	33-42	2.96-3.75	Kero	NASA ARC
3 & 4 Eng. Turbo Fan (WB)	256-385	426-775	500	1.3	.11-.19	44-51	2.40-2.80	Kero	NASA ARC
3 & 4 Eng. Turbo Fan (WB)	256-385	426-775	1000	2.3	.14-.22	54-60	2.07-2.30	Kero	NASA ARC
3 Eng. Turbo Fan Charter (WB)	400	426	250	0.8	.14	57	2.18	Kero	NASA ARC
3 Eng. Turbo Fan Charter (WB)	400	426	500	1.3	.17	70	1.77	Kero	NASA ARC
3 Eng. Turbo Fan Charter (WB)	400	426	1000	2.3	.20	79	1.57	Kero	NASA ARC

[1] Commercial Transport Trip Times obtained from "Official Airline Guide," January 15, 1974, schedule times plotted versus trip distance.
[2] Kerosene at 18,400 BTU/lb and 6.7 lb/gallon; Avgas at 18,700 BTU/lb and 5.75 lb/gallon.
[3] With the exception of helicopter and general aviation data, all other fuel consumption data obtained directly from manufacturers.
[4] From CAB "Aircraft Operating Cost and Performance Report," August 1972.
[5] Based on Manufacturer's published performance data for cruise at 75% power, block time and speed estimated at 90% of cruise speed to allow for takeoff and landing.

Source: U.S. Department of Transportation/National Aeronautics and Space Administration, Reference Paper: *Transportation Vehicle Energy Intensities*, June 20, 1974.

Table A-3. Energy Intensiveness for Passenger Trains, 1974-1980

Vehicle Type	Gross Weight (1000 lbs)	Trip Length (Statute Miles)	Average Trip Time (Hrs)	Fuel Type	Vehicle Statute Miles/Gal	Number of Seats	Specific Engery Stop/Start Cycle	
							Seat-Miles Gallon	BTU's/ Seat-Mile
Urban Train	79	.75	.02	Elect.	57,600 BTU/mi	50-60	106	1320
Metroliner	1050	75	1.0	Elect.	0.83	382	318	440
New Tokaido Line	2000	140	1.4	Elect.	0.4	1400	305	427
Std. Diesel	1200	50	0.75	Diesel	0.66	360	240	583

Source: U.S. Department of Transportation/National Aeronautics and Space Administration, Reference Paper: *Transportation Vehicle Energy Intensities*, June 20, 1974.

Table A-4. Energy Intensiveness For Trucks, 1974-1980

Vehicle Type	Cargo Density Lbs/Ft^3	Maximum Payload in Tons	Trip Length (Statute Miles)	Average Trip Time Hrs @ MPH	Type of Fuel	Vehicle Statute Miles/ Gallon	Specific Energy Stop/Start Cycle	
							Ton-Miles Per Gallon	BTU's/Ton Mile
Urban, Truck	20-100	8	10	.4/25	Gas	8	64	1,953
Urban, Truck	20-100	8	10	.4/25	Diesel	12	96	1,446
Urban, Truck	10-30	3.1	10	.4/25	Gas	8	25	5,040
Intercity, Truck	20-100	25	100	1.8/55	Diesel	5	125	1,110
Intercity, Truck	15	14.3	100	1.8/55	Diesel	4.8	69	2,023

Source: U.S. Department of Transportation/National Aeronautics and Space Administration, Reference Paper: *Transportation Vehicle Energy Intensities*, June 20, 1974.

Table A-5. Energy Intensiveness For Freight Aircraft, 1974-1980

Mode	Maximum Payload (Tons)	Payload Gross Density (lb/ft³)	Specific Trip Length (S. Mi.)	Average Trip Time (Hrs)[1]	Vehicle Statute Mi/Gal	Specific Energy, Stop/Start Cycle Ton-Mi Per Gal	Specific Energy, Stop/Start Cycle BTU/Ton Mi (x1000)[2]	Fuel Type	Data Provided By
Aircraft[3]									
Turbofan, Narrow Body	20.6-58.7	8.3-11.6	500	1.3	.19-.44	8.4-11.1	11.1-14.7	Kero	NASA ARC
Turbofan, Narrow Body	20.6-58.7	8.3-11.6	1000	2.3	.22-.53	9.6-12.8	9.6-12.9	Kero	NASA ARC
Turbofan, Narrow Body	46.8-58.7	10.9-11.6	2000	4.4	.23-.27	12.6-13.6	9.1-9.8	Kero	NASA ARC
Turbofan, Wide Body	77.9-126.0	10.0	1000	2.3	.12-.23	13.7-15.0	8.2-9.0	Kero	NASA ARC
Turbofan, Wide Body	77.9-126.0	10.0	2000	4.4	.13-.24	14.2-16.0	7.7-8.7	Kero	NASA ARC

[1] Trip times assumed same as passenger schedules obtained from "Official Airline Guide," January 15, 1974, schedule times plotted against trip distance.
[2] Kerosene at 18,400 BTU/lb and 6.7 lb/gallon.
[3] All fuel consumption data obtained directly from aircraft manufacturers for all-freighter or convertible-freighter aircraft models.

Table A-6. Energy Intensiveness For Freight Trains, 1974-1980

Vehicle Type	Cargo Density #/Ft³	Maximum Payload, Tons	Trip Length, Statute Miles	Average Trip Time, Hrs @ MPH	Type of Fuel	Vehicle Statute Miles/ Gallon	Specific Energy Start/Stop Cycle Ton-Miles Per Gallon	Specific Energy Start/Stop Cycle BTU's Ton-Miles
Intercity Train								
Config I:	25	1000	100	2.26 @ 44	Diesel	0.14	273	550
Config II:	25	7000	100	2.85 @ 35	Diesel	0.17	420	330

[1] Trip times assumed same as passenger schedules obtained from "Official Airline Guide," January 15, 1974, schedule times plotted against trip distance.
[2] Kerosene at 18,400 BTU/lb and 6.7 lb/gallon.
[3] All fuel consumption data obtained directly from aircraft manufacturers for all-freighter or convertible-freighter aircraft models.

Source: U.S. Department of Transportation/National Aeronautics and Space Administration, Reference Paper: *Transportation Vehicle Energy Intensities*, June 20, 1974.

APPENDIX B

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

APPENDIX B

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 C

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

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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 D

Automobile Operating Costs - Bases for Estimates in Tables

APPENDIX D

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

Item	
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.*

APPENDIX D

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).		

APPENDIX D

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.

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