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TRANSPORTATION FUELS SALE TRENDS AND THE FUTURE DEMANDS

ARIZONA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PLANNING DIVISION

APRIL 1979

Arizona Transportation Planning Division

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INTRODUCTION

Energy consumption per capita in Arizona has been 16 per cent below the national average /1/. However, the rate at which total energy usage in the state has been growing is about twice that of the nation and most other states in the Rocky Mountain and Pacific regions. Also, the share of total energy devoted to the transportation sector in Arizona is more than 30 per cent above the national average /2/.

Transportation energy demand in Arizona, among other factors, is a function of residential population, population inflow (employment and non-employment migrants), tourism, the economy, winter weather conditions in the State and other parts of the nation, and availability of motor fuels.

In the recent past the nation has faced two fuel shortages. Arizona, being a non-petroleum producer, and therefore, being totally dependent on the flow of energy into the state, has had to bear more than its share of supply shortfall. In order to be able to understand the petroleum demand trends in Arizona better and to help develop measures that can be useful in lessening the impact of existing and possible future shortages, a set of data on past motor fuel sales and potential future fuel needs for each county has been assembled. In order to introduce this material a brief narrative summarizing important trends follows.

PAST FUEL DEMAND

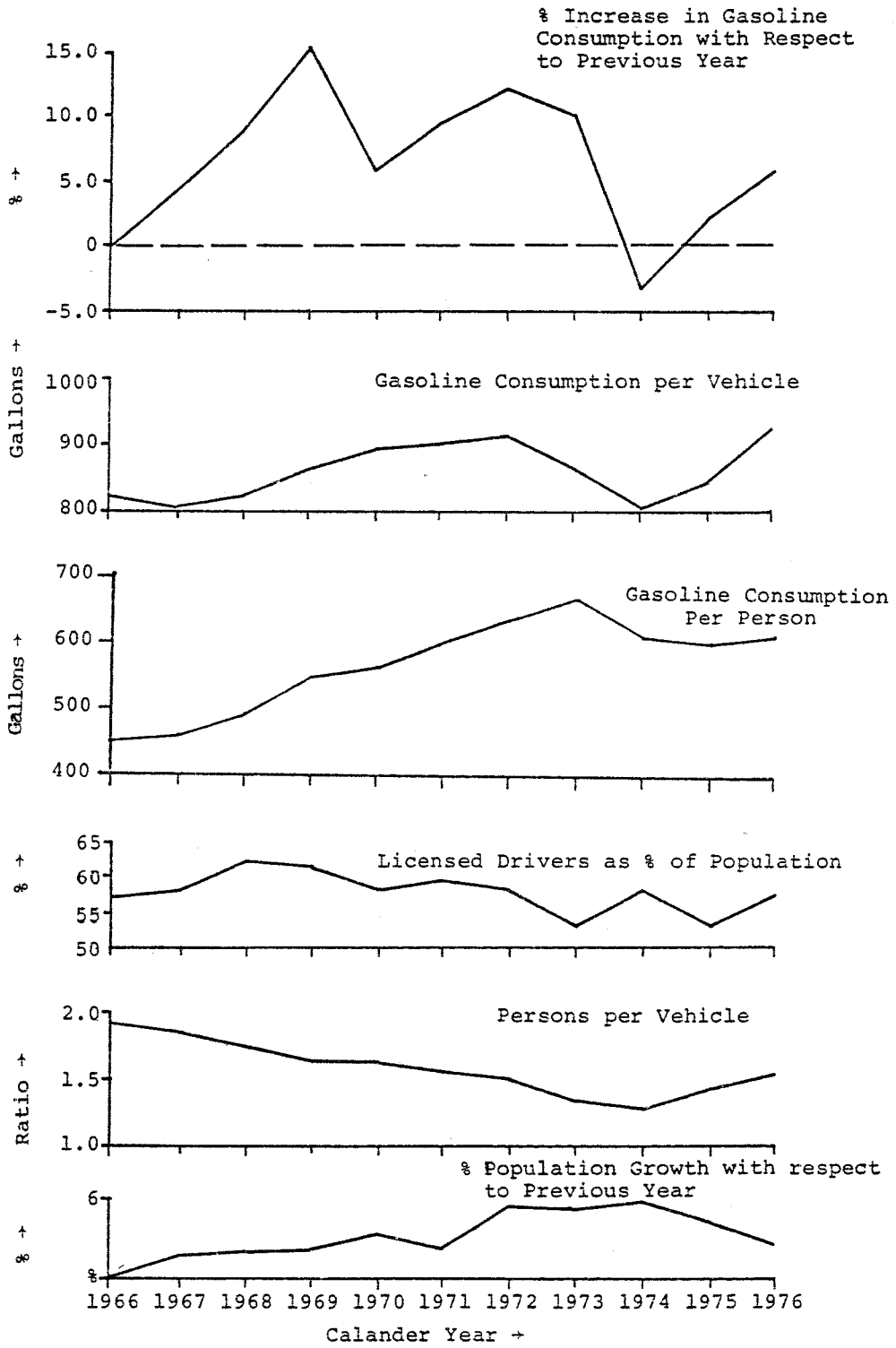
The total petroleum demand in Arizona increased at a rate of about 10 per cent per year between 1960 and 1973. Due to 1973-74 oil embargo, fuel usage declined until 1975; however, usage has increased rapidl y since that time /2/. On a statewide basis, total gasoline demand for transportation increased by about 12 per cent between 1975 and 1978. Total diesel demand for transportation, alone, increased by over 22 per cent during this period. In comparison, nationally total petroleum demand in transportation increased by about 8 per cent between 1975 and 1977.

In spite of increasing fuel prices in 1978, total gasoline and diesel usage in the transportation sector have increased by 5.5 and 6.6 per cent, respectively, in Arizona. This increase in fuel usage is largely due to continued growth in Arizona's economy and population. Illustration 1 depicts gasoline consumption trends in Arizona between 1966 and 1976.

The average consumption of motor fuel by month and the daily seasonal usage in Arizona are significantly different from that of the national average, as shown in Illustration 2. The seasonal variation in this state is almost flat, peaking slightly during the summer. Monthly usage peaks during winter as well as in summer; the later peak being about 9 per cent higher than that of the winter. The nature

ILLUSTRATION 1

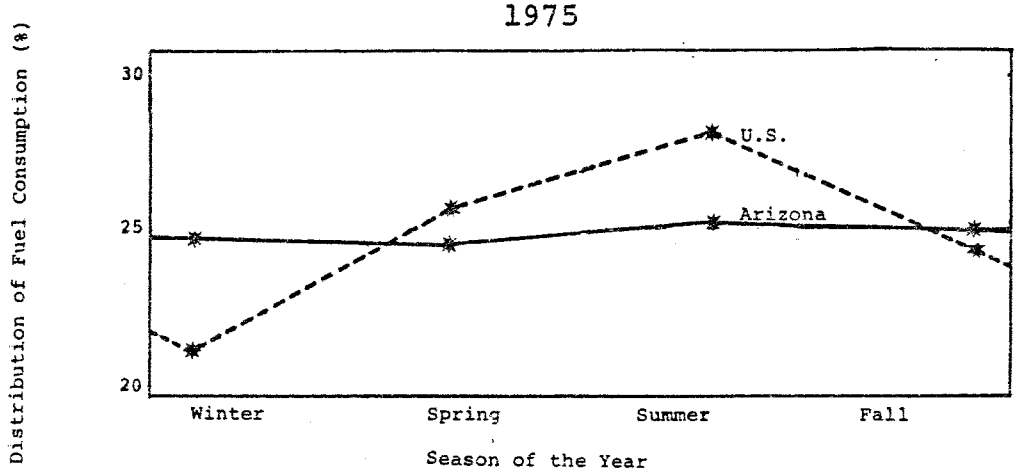
Trends in Arizona Highway Fuel Consumption Characteristics (1966-1976)



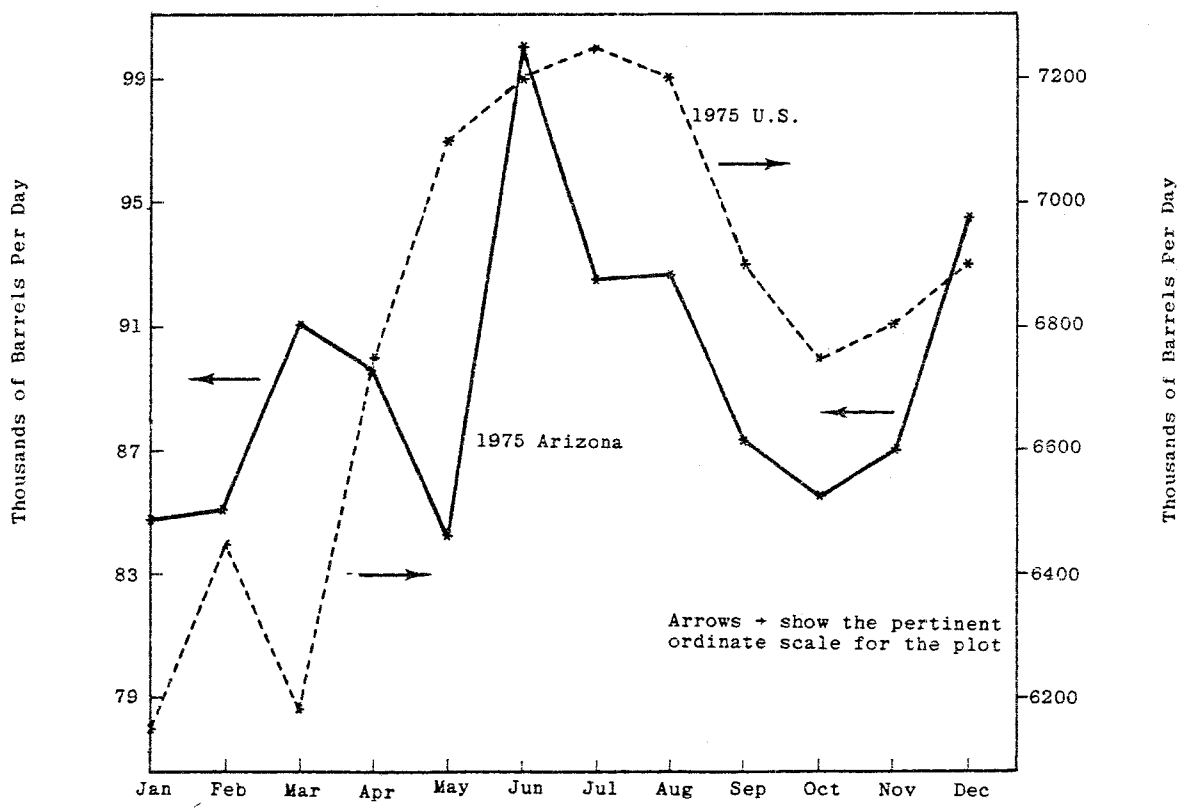
Source: Arizona Transportation Energy: Usage patterns, Arizona Department of Transportation, December 1977

ILLUSTRATION 2

DISTRIBUTION OF FUEL CONSUMPTION BY SEASON OF THE YEAR
1975



DAILY AVERAGE CONSUMPTION OF
MOTOR FUEL BY MONTH



Source: Arizona Transportation Energy: Usage patterns, Arizona Department of Transportation, December 1977

of this fuel consumption distribution is a reflection of the influx of out-of-state tourists during the winter, in addition to vacation activities during the summer.

A county-level analysis of past motor fuel usage suggests that the seasonal demand fluctuations can play a significant role in future transportation fuel demand. Gasoline and diesel demand between 1975 and 1978 has been plotted for each county in Appendix I. It is clear from these graphs that gasoline demand in various counties peaks at different times of the year. On the other hand, such a peak for diesel demand is not so obvious in most of the counties. Also, the 1978 fuel demand in most cases, is considerably higher than previous years. Santa Cruz County, however, had a significant drop in annual demand for gasoline. Other counties, which also had ups and downs in usage during the last four years are Gila, Greenlee, Mohave, Pinal and Yavapai.

It is also interesting to note from these graphs that the impact of fuel shortages and high costs of the 1973-74 oil embargo were still fresh in 1975 and 1976. Also, the consumers' reaction to sudden increase in oil supplies due to availability of Alaskan oil and drop in retail fuel price (in constant dollars), is also notable in these plots.

FUTURE FUEL DEMAND

The main purpose of the statistical analysis of past data is to provide a basis for projecting future demand.

Because of limited time and data on other variables, the forecasting approach was simplified by assuming that annual fuel demand can be taken as a quantitive dependant variable of time. Thus, a time series model was developed for each county in Arizona, using motor fuel consumption data for the period 1975-78. It should, however, be noted that models so developed only define the demand trend. In order to obtain monthly demand estimates, cyclic and seasonal fluctuations of monthly demand were calculated as an average share of the demand realized over the past years. This over-simplified time series model developed for each county was then used to predict the demand. The resulting motor fuel demand forecasts for 1979 and 1980 are shown in Appendix III for each county. The aggregate gasoline and diesel demand for the State obtained by this method is shown in Illustration 3.

FUEL DISTRIBUTION

Transportation and distribution of motor fuel in Arizona have been discussed on a micro basis in other reports /2,3/. In addition, it is necessary to understand how transportation fuel is distributed in the State and who supplies it. In the final analysis, of course, the fuel distribution depends on demand patterns. Illustrations 4 and 5 show the distribution of gasoline by suppliers, by county to meet civilian demand.

ILLUSTRATION 3

EXPECTED MONTHLY TRANSPORTATION FUEL DEMAND
IN ARIZONA (In Million Gallons)
1979-1980

	1979		1980	
	Gasoline	Diesel	Gasoline	Diesel
January	110	11	115	12
February	123	21	129	23
March	124	18	130	19
April	120	18	126	20
May	126	18	132	20
June	129	20	136	21
July	131	19	137	20
August	125	18	131	19
September	125	18	131	20
October	126	16	132	18
November	122	22	128	24
December	129	19	136	20
Year Total	1490	218	1563	236

NOH: These are rounded off figures. Fuel demand disaggregated by county has been shown in Appendix.

ILLUSTRATION 4

PERCENT SHARE OF 1978-GASOLINE DEMAND BY COUNTIES

DISTRIBUTORS / LOCATIONS	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Total
Arco		1.6	0.8	1.4	0.5	0.5	69.3	1.9	-	10.4	3.4	0.1	0.9	9.1	100%
Armour Oil			0.4	0.5			79.4	13.2	0.2	0.6	4.0	0.8	0.8		100%
Atex	11.8	1.8	7.3						63.0	16.1					100%
R. Bell Oil	0.4	3.3	3.2	3.0	4.6	0.1	6.4	33.1	1.8	2.5	17.4	1.5	19.8	2.9	100%
Caribou	8.3	3.0	17.5	2.1			18.0		8.2	18.0	8.9	7.8	0.6	7.8	100%
Chevron	1.3	5.2	6.8	1.8	0.5	0.7	45.7	2.4	3.4	19.6	4.9	1.1	2.3	4.2	100%
Conoco	1.4		1.0				97.4		0.2						100%
Continental		0.7	0.1				97.9		0.3						100%
Diamond Shamrock							64.0			36.0					100%
E-Z Serve			0.7				37.6			36.1	25.0			0.6	100%
Exxon	1.7	1.6	3.1	5.2	0.6		50.1	3.1	5.5	21.9	2.9	0.4	4.0		100%
Fletcher Oil							100.0								100%
Giant Industry	0.9		10.3	0.9			75.1	0.1	8.0	0.1	-		0.4	4.4	100%
Gulf Oil Corp.		2.4	2.3	1.3	4.2		52.5	4.0	2.3	20.7	2.8	0.2	6.5	0.7	100%
Herbst Supply							57.5	29.8						12.7	100%
Hudson Van Oil							55.5			41.7				2.9	100%
Husky Oil	0.6		0.9				96.7		1.8						100%
Kaibab Industry		4.6	4.0	10.0	5.1		71.4			2.7			2.3		100%
Mobil Oil		2.5	3.0	0.7	0.2	0.1	61.4	2.6	2.1	19.2	0.9	0.9	3.7	3.7	100%
Navajo Refinery				0.2			59.1			40.7					100%
Phillips Petro.	0.6	0.5	6.6	0.1			34.8	2.0	0.9	42.8	8.8		0.1	2.9	100%
Plateau Inc.	38.2	1.8	15.3					4.3	40.4						100%
Powerine							100.0								100%
Shay Oil Co.														100.0	100%
Shell Oil Co.		2.8	0.2		0.3	0.3	64.3	1.7	0.1	24.5	3.2			2.6	100%
Simmons Oil Co.		0.2	0.9	0.1			98.3			0.2			0.3		100%
Texaco Inc.	0.9	5.4	5.7	3.0	1.3	1.8	34.3	6.1	6.4	19.8	2.7	2.2	5.6	5.0	100%
Texas Ind.			4.7				75.1			15.7				4.5	100%
Thrift-Way Co.	37.3		28.7	0.1			1.5		32.5	-					100%
Tasco Co.							99.9			0.1					100%
Union Oil	0.9	2.6	2.8	2.7	2.0	-	60.5	1.3	5.6	12.0	3.0	0.7	2.0	4.0	100%
Whiting Bros.	10.3		22.6					14.8	43.0				9.3		100%
Win Oil			90.8						5.0				4.3		100%
Other Distributors	9.9	5.0	16.4	0.8	1.1	0.3	26.5	8.5	11.2	3.7	0.6	0.9	2.1	13.0	100%
Unlicensed Distributor		64.9			11.0	4.0	(30.7)			(69.3)	6.6		10.0	3.6	0.0
Arizona	2.1	3.6	5.5	1.6	0.9	0.4	52.6	2.9	4.2	16.0	3.0	0.7	2.1	4.5	100%

NOTE:

1. Distributors, which supply less than 0.5 percent of the total State's demand are combined together as "Other Distributors".
2. -means less than 0.1 percent
3. Since all the gasoline to be sold in Arizona comes in Maricopa and Pima County, unlicensed distributors receive their share from these two counties and supply to other six counties as indicated.
4. The table has been prepared using "1978 Motor Vehicle Fuel-Taxable Acquisitions And Refunds" as provided by Motor Vehicle Division, Arizona Department of Transportation.

ILLUSTRATION 5

PERCENT SHARE OF 1978-GASOLINE MARKET BY DISTRIBUTORS

DISTRIBUTORS / LOCATIONS	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Arizona
Arco		1.0	0.4	1.8	1.2	3.0	2.9	0.3	-	1.5	2.5	0.4	0.9	4.4	2.1
Armour			-	0.2			0.9	2.7	-	-	0.8	0.8	0.2		0.6
Atex	0.8	0.1	0.2						2.0	0.1					1.3
R. Bell Oil	0.2	0.7	0.4	1.4	3.7	0.3	0.1	8.4	0.3	0.1	4.3	1.7	6.9	0.5	0.7
Caribou	5.4	1.1	4.4	1.8			0.5		2.7	1.5	4.1	16.4	0.4	2.4	1.4
Chevron	11.0	26.4	22.5	19.8	10.3	35.9	15.8	15.0	15.0	22.3	30.0	31.7	19.9	16.7	18.2
Conoco	0.5		0.1				1.3	-	-						0.7
Continental	0.9		0.2	0.1			2.9		0.1						1.8
Diamond Shamrock							1.8			3.3					1.5
E-Z Serve			0.1				0.8			2.6	9.6			0.2	1.1
Exxon	6.4	3.5	4.4	25.6	5.1		7.5	8.3	10.5	10.8	7.6	4.4	14.8		7.9
Fletcher Oil							1.0								0.5
Giant Indust.	1.0		4.4	1.3			3.4	-	4.5	-	-		0.4	2.3	2.4
Gulf Oil Corp.		1.3	0.8	1.6	9.1		2.0	2.7	1.1	2.6	1.9	0.5	6.1	0.3	2.0
Herbst Supply							0.6	5.5						1.5	0.5
Hudson Van Oil							0.6			1.4				0.4	
Husky Oil	0.4		0.2				2.2		0.5						1.2
Kaibab Industry		3.5	2.0	16.9	15.2		3.7			0.5			3.0		2.7
Mobil Oil		3.6	2.9	2.1	1.4	2.0	6.0	4.6	2.7	6.2	1.5	7.3	9.0	3.2	5.2
Navajo Refinery				0.4			3.9			8.8					3.5
Phillips Petro.	0.4	0.2	1.7	0.1			0.9	1.0	0.3	3.7	4.1		0.1	0.1	1.4
Plateau Inc.	15.4	0.4	2.3					1.2	8.2	-					0.8
Powerine							2.6			-					1.4
Shay Oil Co.														20.5	0.9
Shell Oil Co.		12.1	0.6		5.2	13.4	19.0	9.2	0.4	23.9	16.5			9.0	15.6
Simmons Oil Co.		0.1	0.1	-			1.4				-		0.1		0.8
Texaco Inc.	2.1	7.7	5.3	9.5	7.2	24.1	3.3	10.6	7.7	6.3	4.6	17.3	13.3	5.6	5.1
Texas Ind.			1.4			2.3				1.6				1.6	0.6
Thrift-Way Co.	11.0		3.2	-			-		4.8	-					0.6
Tosco Co.							2.3			-					1.2
Union Oil	3.4	5.8	4.2	13.4	17.7	0.8	9.2	3.7	10.7	6.0	8.2	8.8	7.4	7.0	8.0
Whiting Bros	2.7		2.3					2.8	5.8				2.4		0.6
Win Oil			11.5						0.8				1.4		0.7
Other Distributors	38.4	11.3	24.4	4.0	9.8	5.7	4.1	24.0	21.9	1.9	1.7	10.7	8.2	23.4	6.0
Unlicensed Distributors		21.2			14.1	12.5	(0.7)			(5.1)	2.6		5.5	0.9	0.0
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

NOTE:

1. Distributors, which supply less than 0.5 percent of the total State's demand are combined together as "Other Distributors".
2. -means less than 0.1 percent
3. Since all the gasoline to be sold in Arizona comes in Maricopa and Pima County, unlicensed distributors receive their share from these two counties and supply to other six counties as indicated.
4. The table has been prepared using "1978 Motor Vehicle Fuel-Taxable Acquisitions And Refunds" as provided by Motor Vehicle Division, Arizona Department of Transportation.

Transportation.

ILLUSTRATION 5

PERCENT SHARE OF 1978-GASOLINE MARKET BY DISTRIBUTORS

DISTRIBUTORS / LOCATIONS	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Arizona
Arco		1.0	0.4	1.8	1.2	3.0	2.9	0.3	-	1.5	2.5	0.4	0.9	4.4	2.1
Armour			-	0.2			0.9	2.7	-	-	0.8	0.8	0.2		0.6
Atex	0.8	0.1	0.2						2.0	0.1					1.3
R. Bell Oil	0.2	0.7	0.4	1.4	3.7	0.3	0.1	8.4	0.3	0.1	4.3	1.7	6.9	0.5	0.7
Caribou	5.4	1.1	4.4	1.8			0.5		2.7	1.5	4.1	16.4	0.4	2.4	1.4
Chevron	11.0	26.4	22.5	19.8	10.3	35.9	15.8	15.0	15.0	22.3	30.0	31.7	19.9	16.7	18.2
Conoco	0.5		0.1				1.3	-	-						0.7
Continental	0.9		0.2	0.1			2.9		0.1						1.8
Diamond Shamrock							1.8			3.3					1.5
E-Z Serve			0.1				0.8			2.6	9.6			0.2	1.1
Exxon	6.4	3.5	4.4	25.6	5.1		7.5	8.3	10.5	10.8	7.6	4.4	14.8		7.9
Fletcher Oil							1.0								0.5
Giant Indust.	1.0		4.4	1.3			3.4	-	4.5	-	-		0.4	2.3	2.4
Gulf Oil Corp.		1.3	0.8	1.6	9.1		2.0	2.7	1.1	2.6	1.9	0.5	6.1	0.3	2.0
Herbst Supply							0.6	5.5						1.5	0.5
Hudson Van Oil							0.6			1.4				0.4	
Husky Oil	0.4		0.2				2.2		0.5						1.2
Kaibab Industry		3.5	2.0	16.9	15.2		3.7			0.5			3.0		2.7
Mobil Oil		3.6	2.9	2.1	1.4	2.0	6.0	4.6	2.7	6.2	1.5	7.3	9.0	3.2	5.2
Navajo Refinery				0.4			3.9			8.8					3.5
Phillips Petro.	0.4	0.2	1.7	0.1			0.9	1.0	0.3	3.7	4.1		0.1	0.1	1.4
Plateau Inc.	15.4	0.4	2.3					1.2	8.2	-					0.8
Powerine							2.6			-					1.4
Shay Oil Co.														20.5	0.9
Shell Oil Co.		12.1	0.6		5.2	13.4	19.0	9.2	0.4	23.9	16.5			9.0	15.6
Simmons Oil Co.		0.1	0.1	-			1.4				-		0.1		0.8
Texaco Inc.	2.1	7.7	5.3	9.5	7.2	24.1	3.3	10.6	7.7	6.3	4.6	17.3	13.3	5.6	5.1
Texas Ind.			1.4			2.3				1.6				1.6	0.6
Thrift-Way Co.	11.0		3.2	-			-		4.8	-					0.6
Tosco Co.							2.3			-					1.2
Union Oil	3.4	5.8	4.2	13.4	17.7	0.8	9.2	3.7	10.7	6.0	8.2	8.8	7.4	7.0	8.0
Whiting Bros	2.7		2.3					2.8	5.8				2.4		0.6
Win Oil			11.5						0.8				1.4		0.7
Other Distributors	38.4	11.3	24.4	4.0	9.8	5.7	4.1	24.0	21.9	1.9	1.7	10.7	8.2	23.4	6.0
Unlicensed Distributors		21.2			14.1	12.5	(0.7)			(5.1)	2.6		5.5	0.9	0.0
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

NOTE:

1. Distributors, which supply less than 0.5 percent of the total State's demand are combined together as "Other Distributors".
2. -means less than 0.1 percent
3. Since all the gasoline to be sold in Arizona comes in Maricopa and Pima County, unlicensed distributors receive their share from these two counties and supply to other six counties as indicated.
4. The table has been prepared using "1978 Motor Vehicle Fuel-Taxable Acquisitions And Refunds" as provided by Motor Vehicle Division, Arizona Department of Transportation.

REFERENCES

1. Frank H. J.; Arizona Energy Inventory: 1977, Office of Economic Planning and Development, 1977.

2. Arizona Transportation Energy: Usage Pattern, Arizona Department of Transportation, 1977.

3. Arizona Transportation Energy: Emergency and Long-Term Conservation, Arizona Department of Transportation, 1978.

APPENDIX I

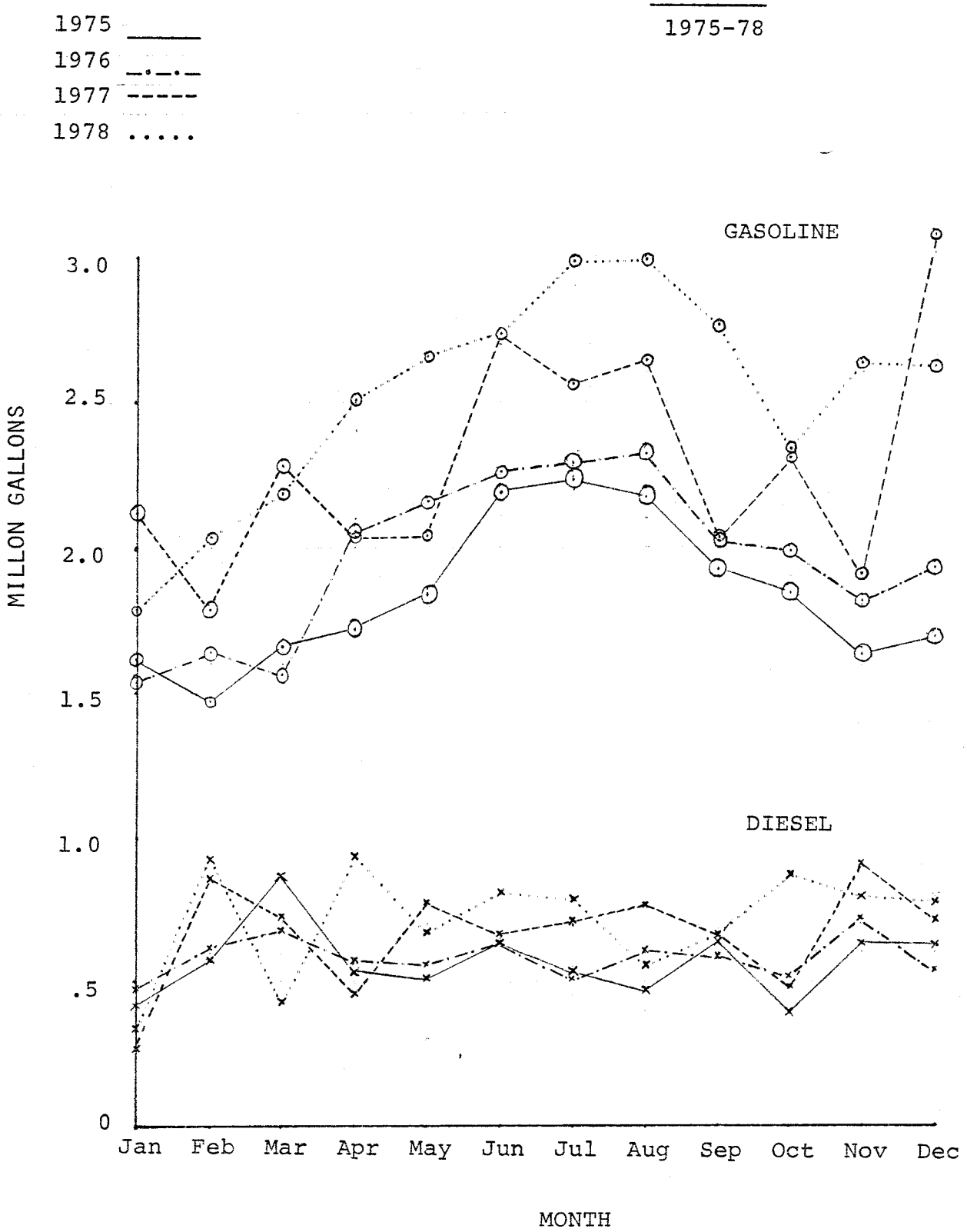
FUEL SOLD IN COUNTIES

1975 - 1978

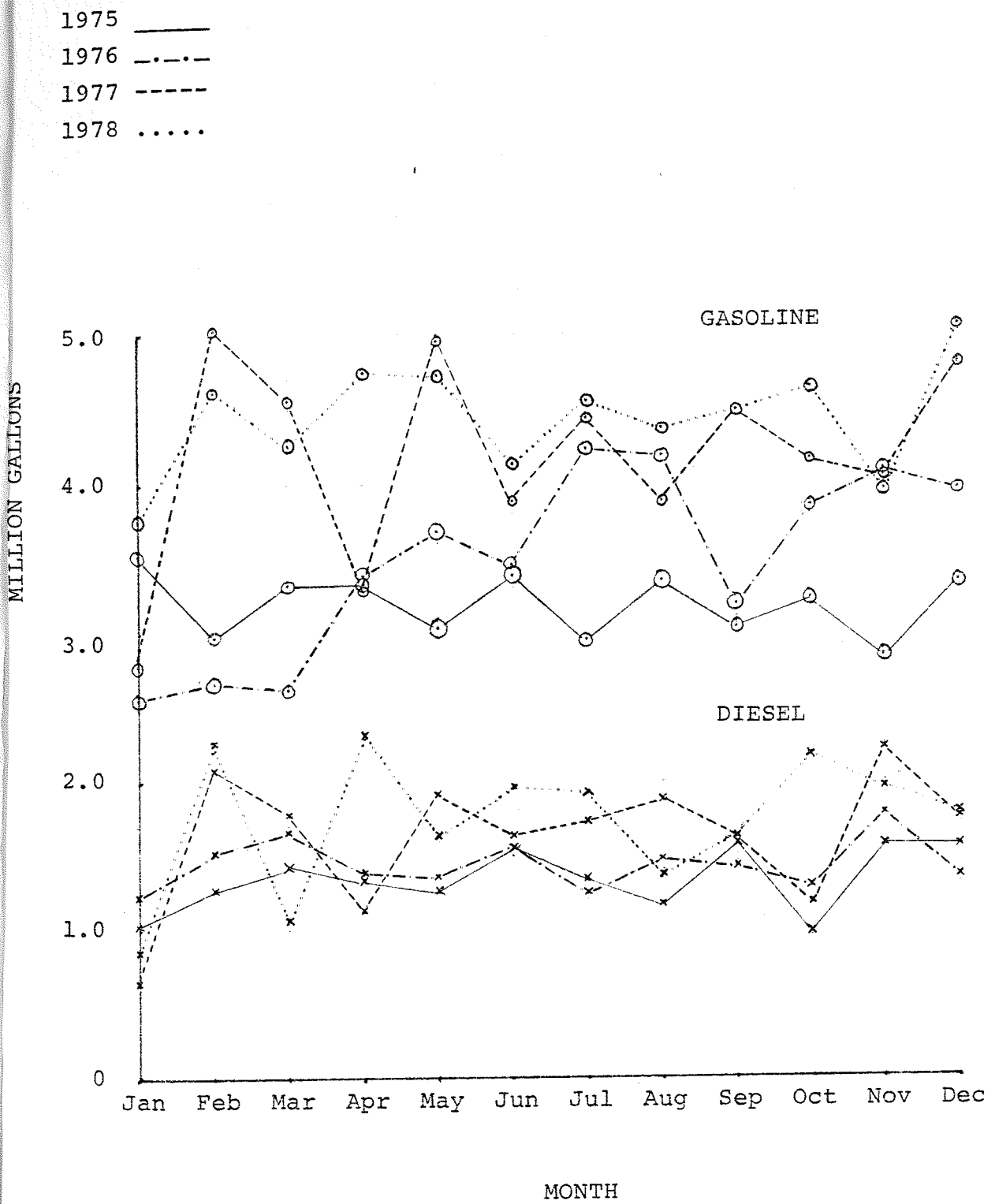
FUEL SOLD IN APACHE COUNTY

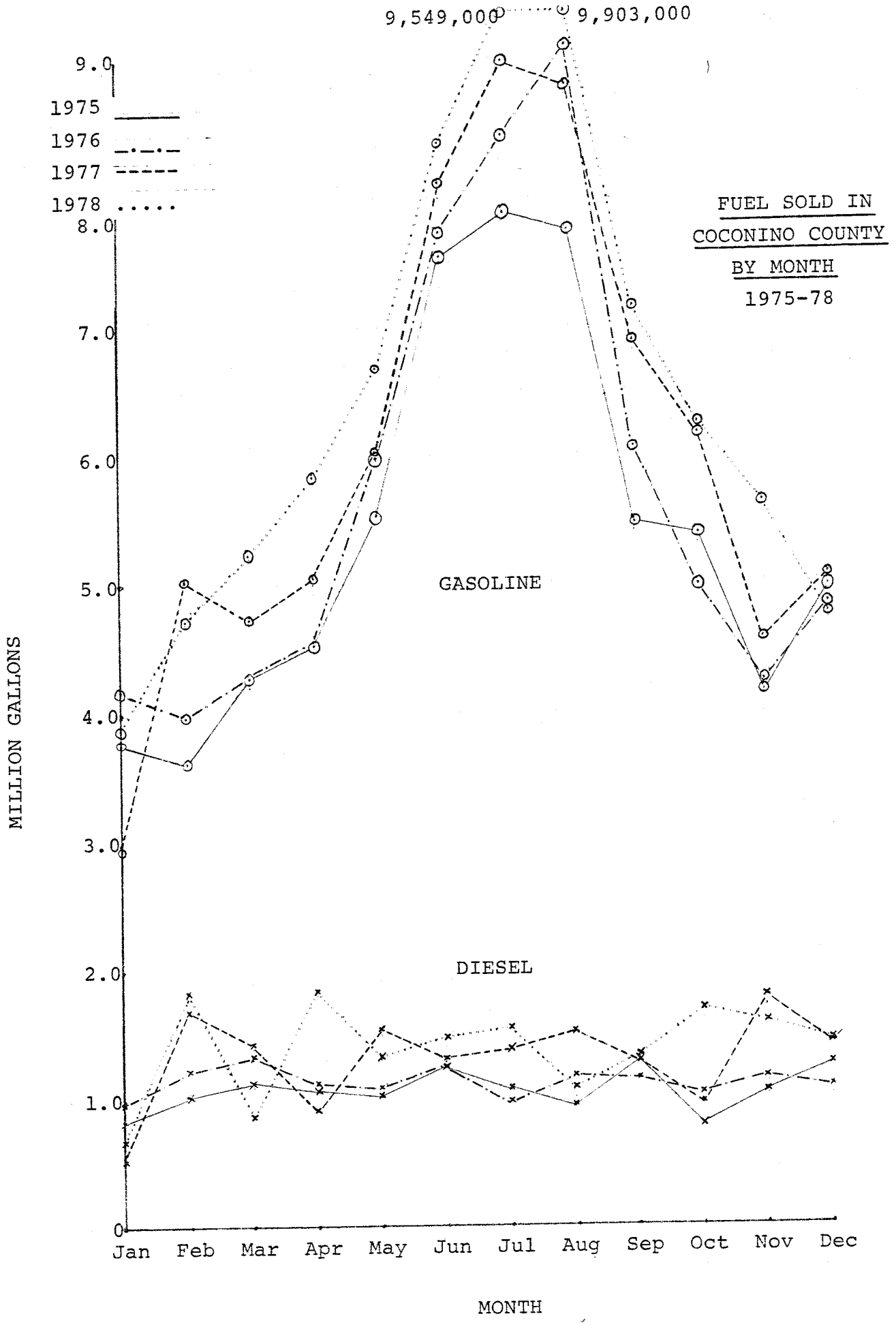
BY MONTH

1975-78



FUEL SOLD IN COCHISE
COUNTY BY MONTH
1975-78

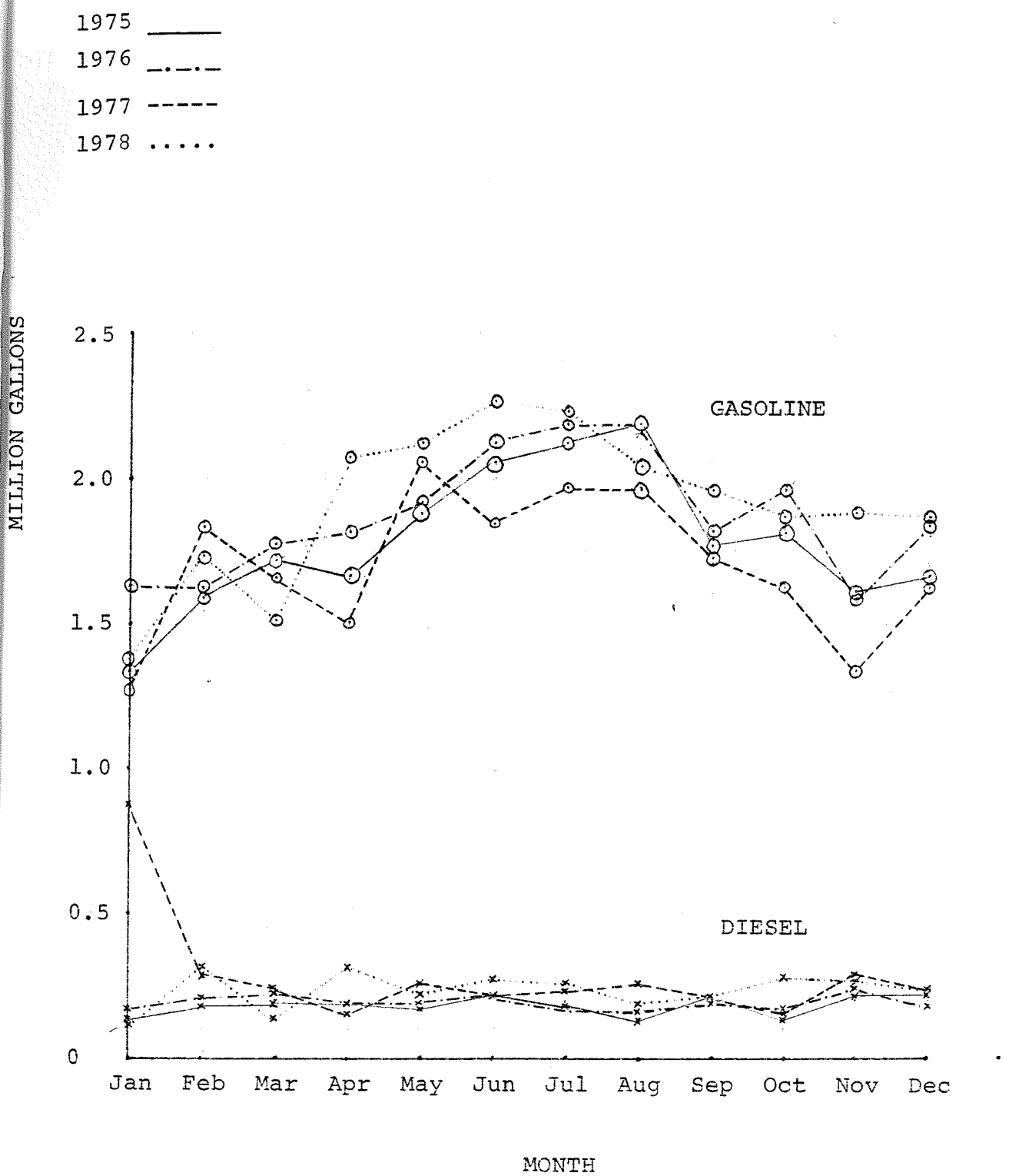


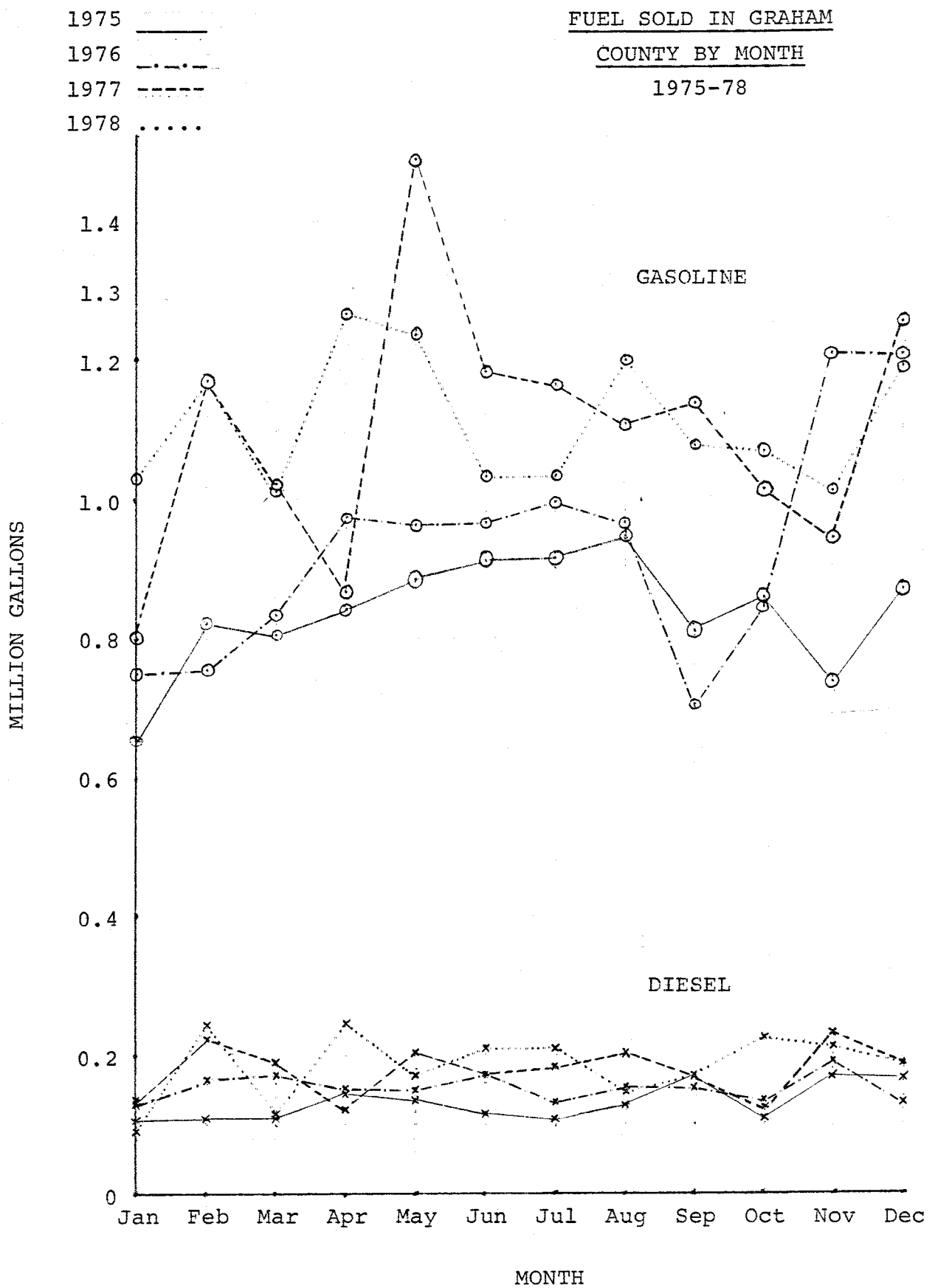

9,549,000
9,903,000
9.0
1975
1976
1977
1978
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0
MILLION GALLONS
FUEL SOLD IN
COCONINO COUNTY
BY MONTH
1975-78
GASOLINE
DIESEL
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MONTH

FUEL SOLD IN GILA COUNTY

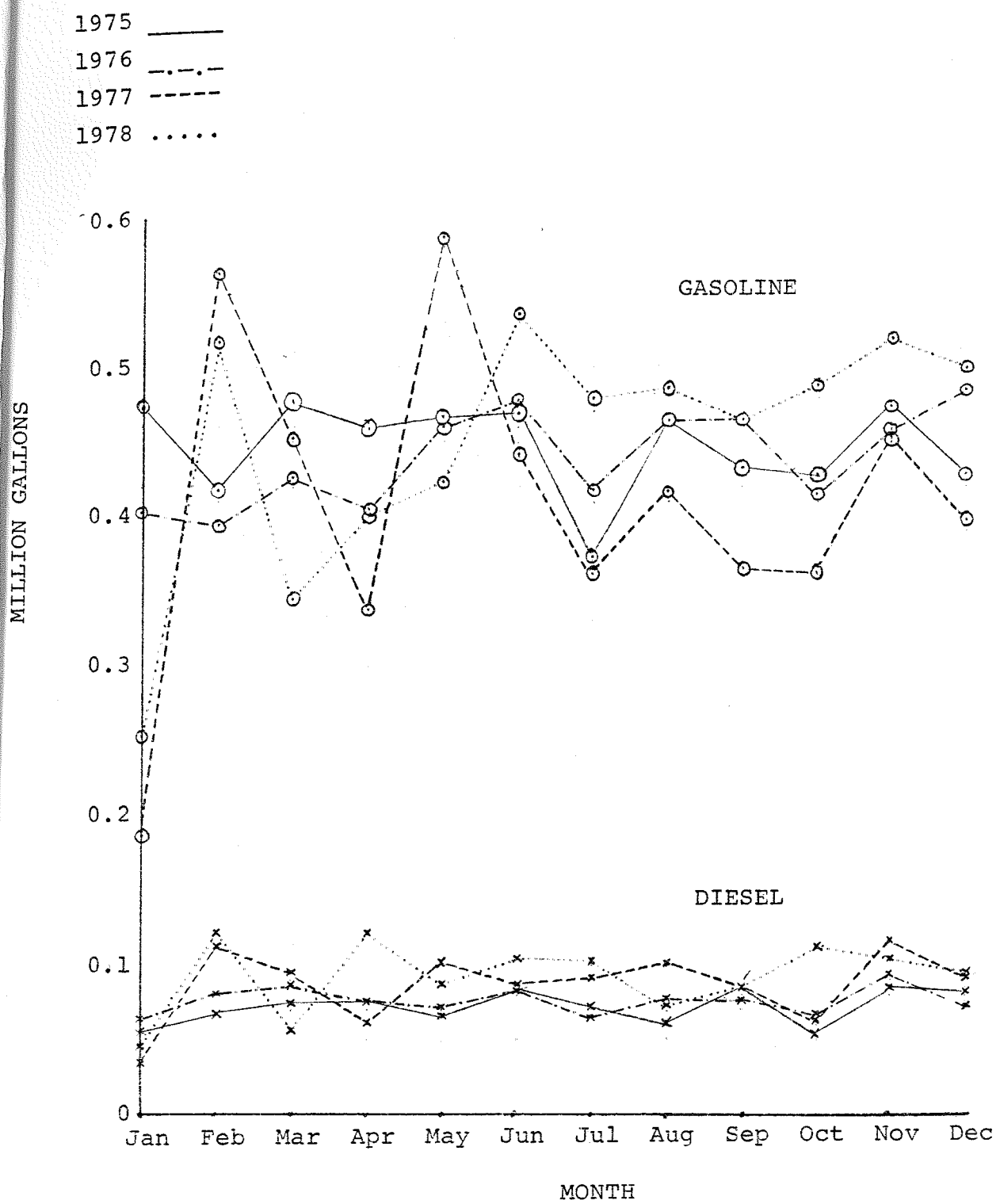
BY MONTH

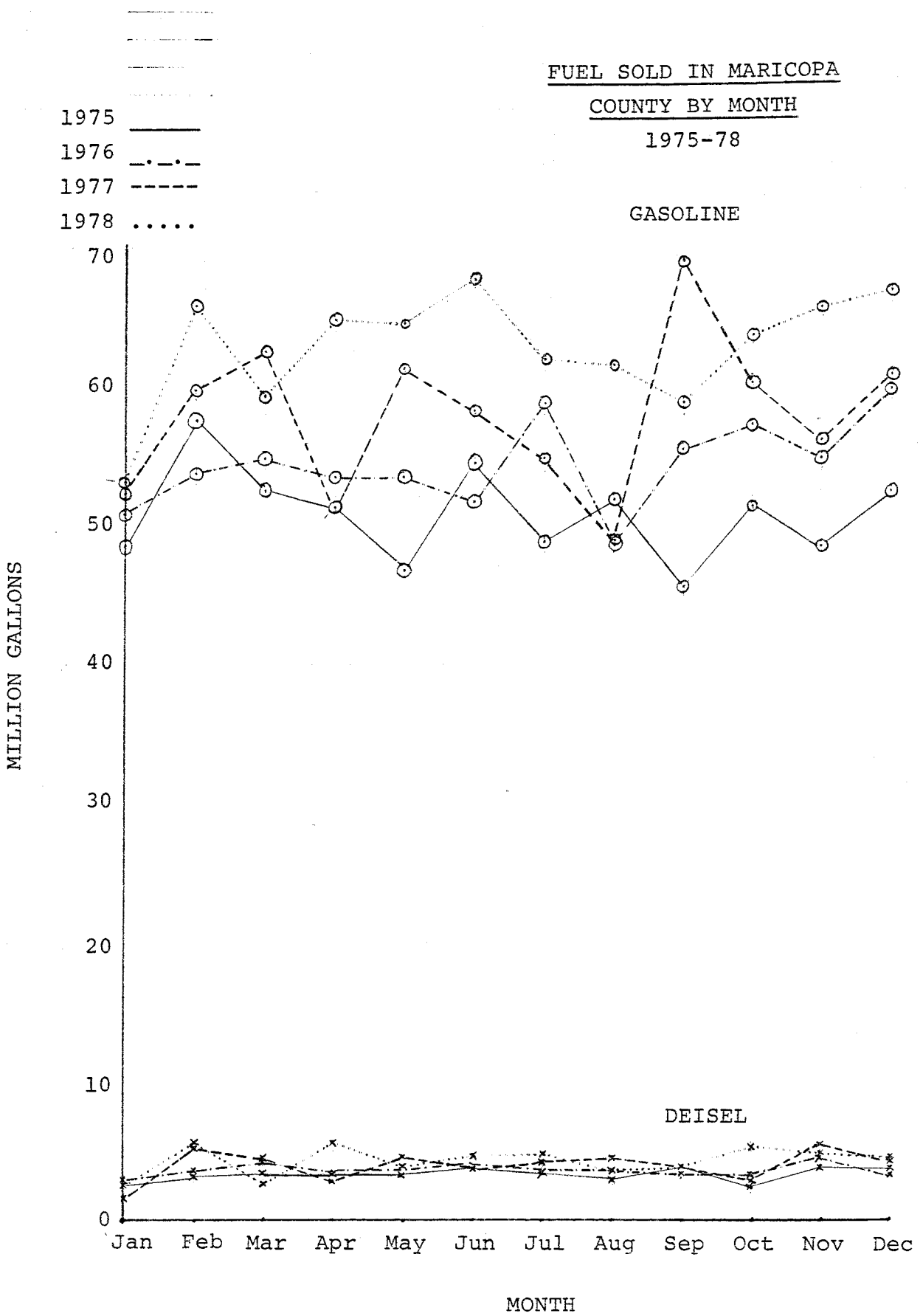
1975-78

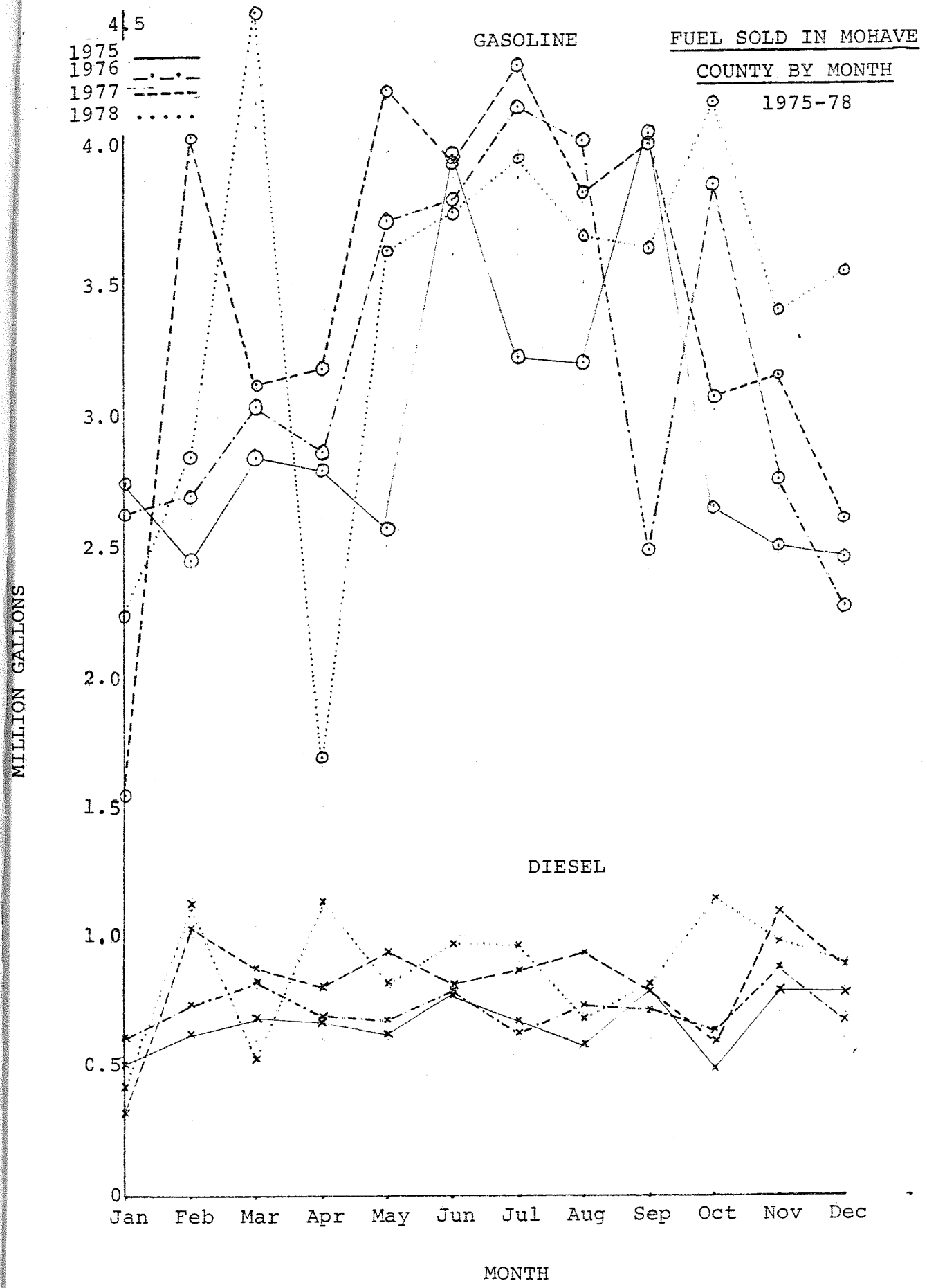


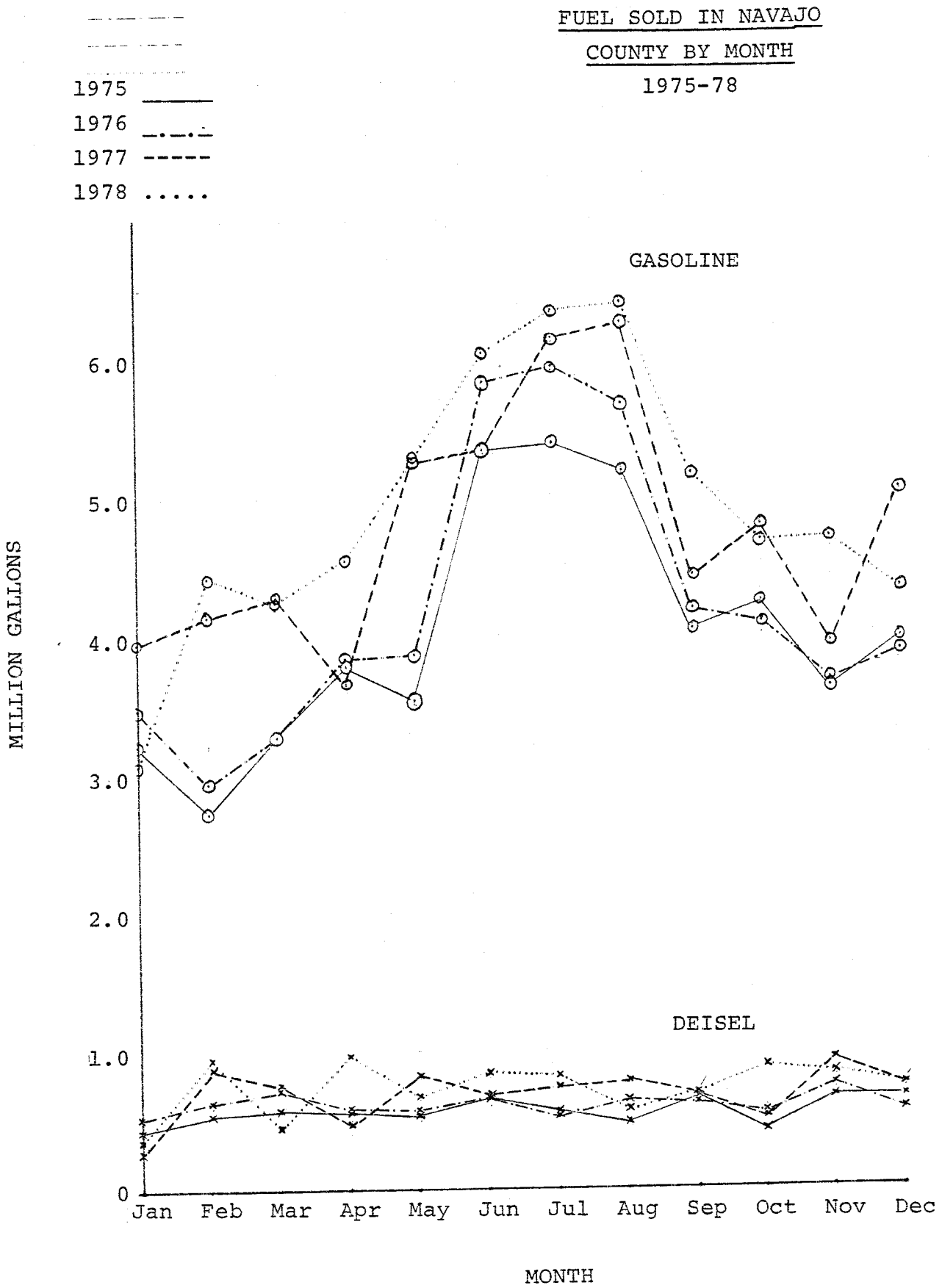

1975
1976
1977
1978
FUEL SOLD IN GRAHAM
COUNTY BY MONTH
1975-78
GASOLINE
DIESEL
MILLION GALLONS
1.4
1.3
1.2
1.0
0.8
0.6
0.4
0.2
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MONTH

FUEL SOLD IN GREENLEE
COUNTY BY MONTH
1975-78

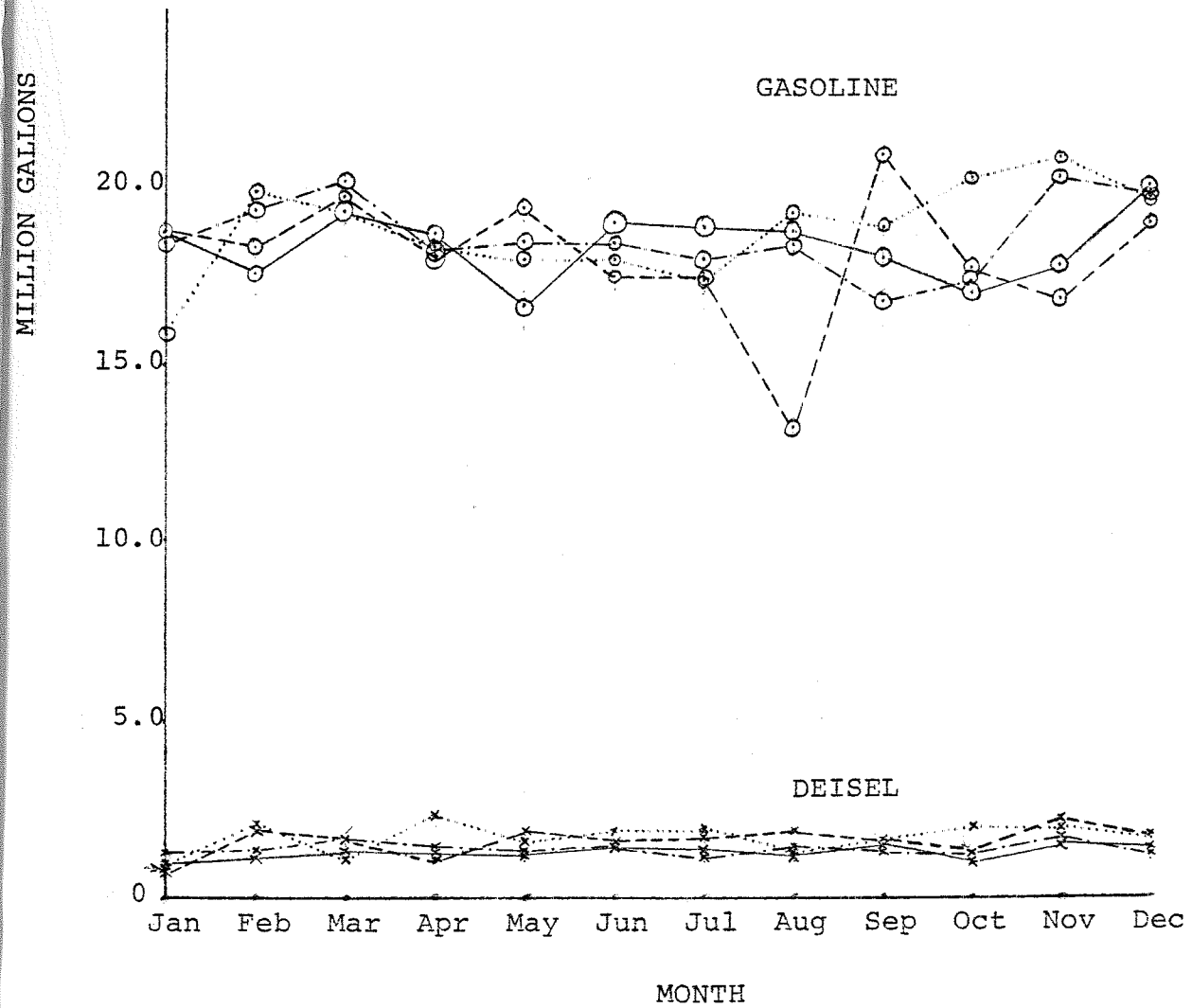



FUEL SOLD IN MARICOPA
COUNTY BY MONTH
1975-78
1975
1976
1977
1978
GASOLINE
DEISEL
MILLION GALLONS
70
60
50
40
30
20
10
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MONTH

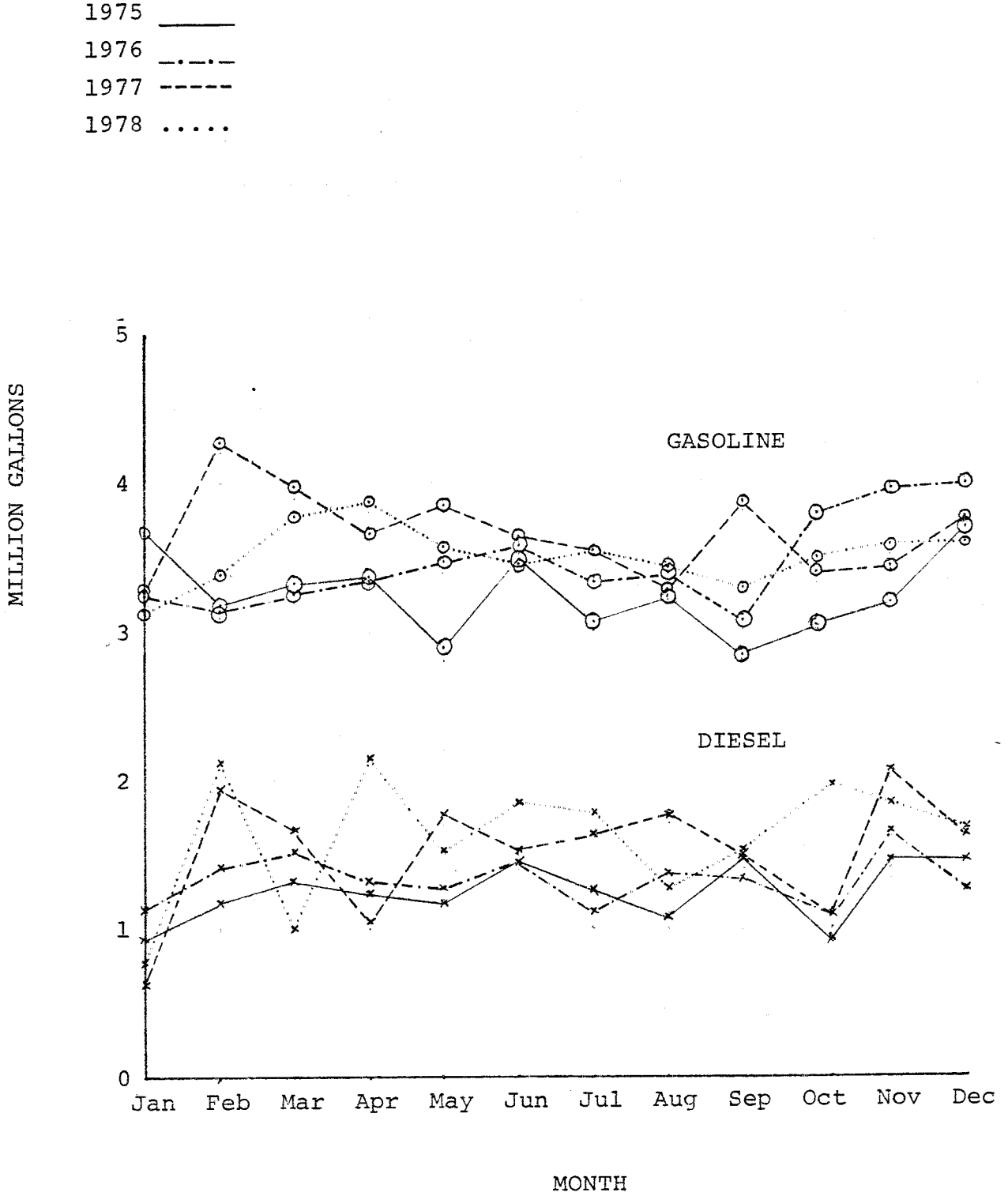

FUEL SOLD IN MOHAVE
COUNTY BY MONTH
1975-78
GASOLINE
DIESEL
1975
1976
1977
1978
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0
MILLION GALLONS
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MONTH


FUEL SOLD IN NAVAJO
COUNTY BY MONTH
1975-78
1975
1976
1977
1978
GASOLINE
DEISEL
MILLION GALLONS
6.0
5.0
4.0
3.0
2.0
1.0
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MONTH

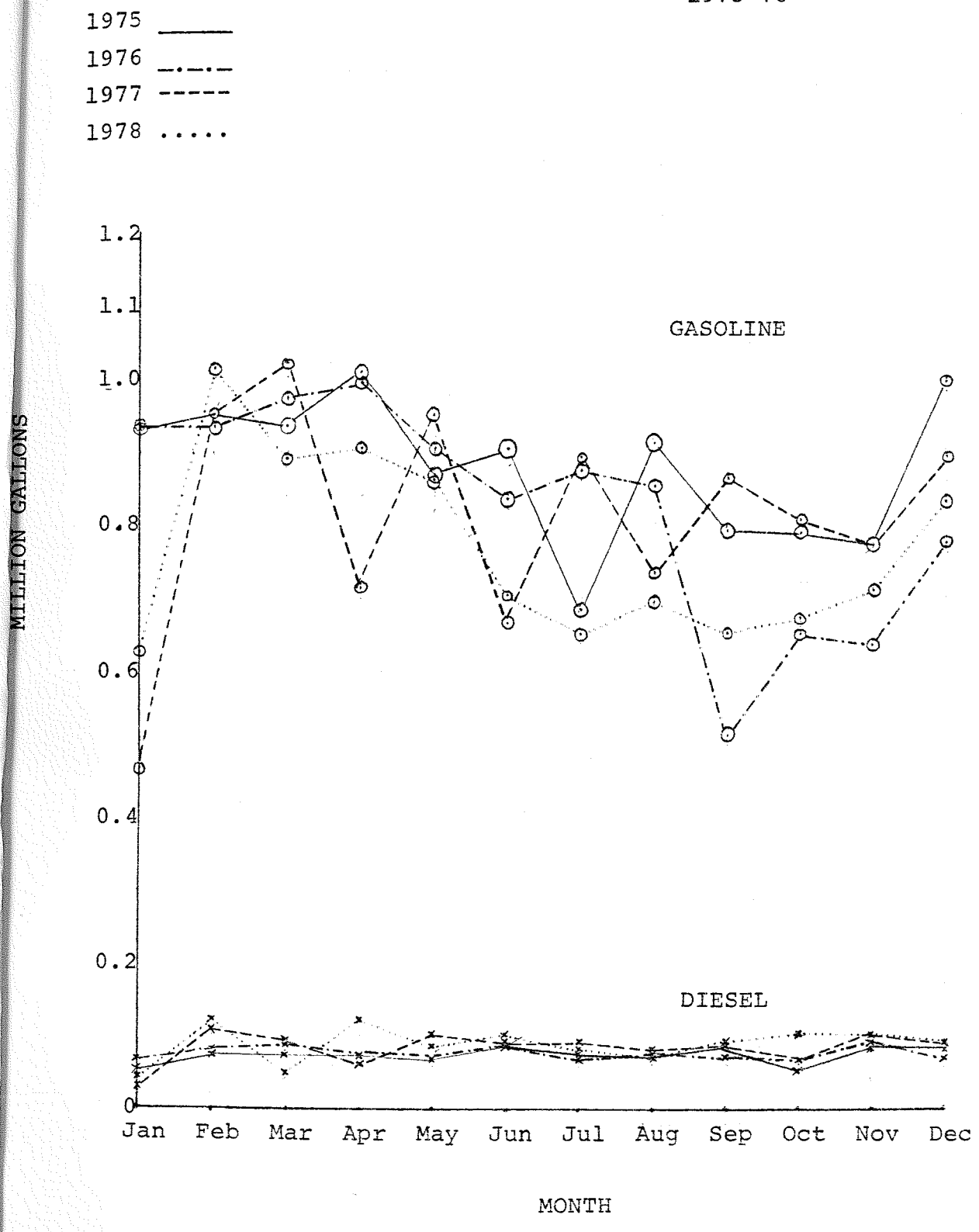
FUEL SOLD IN PIMA
COUNTY BY MONTH
1975-78



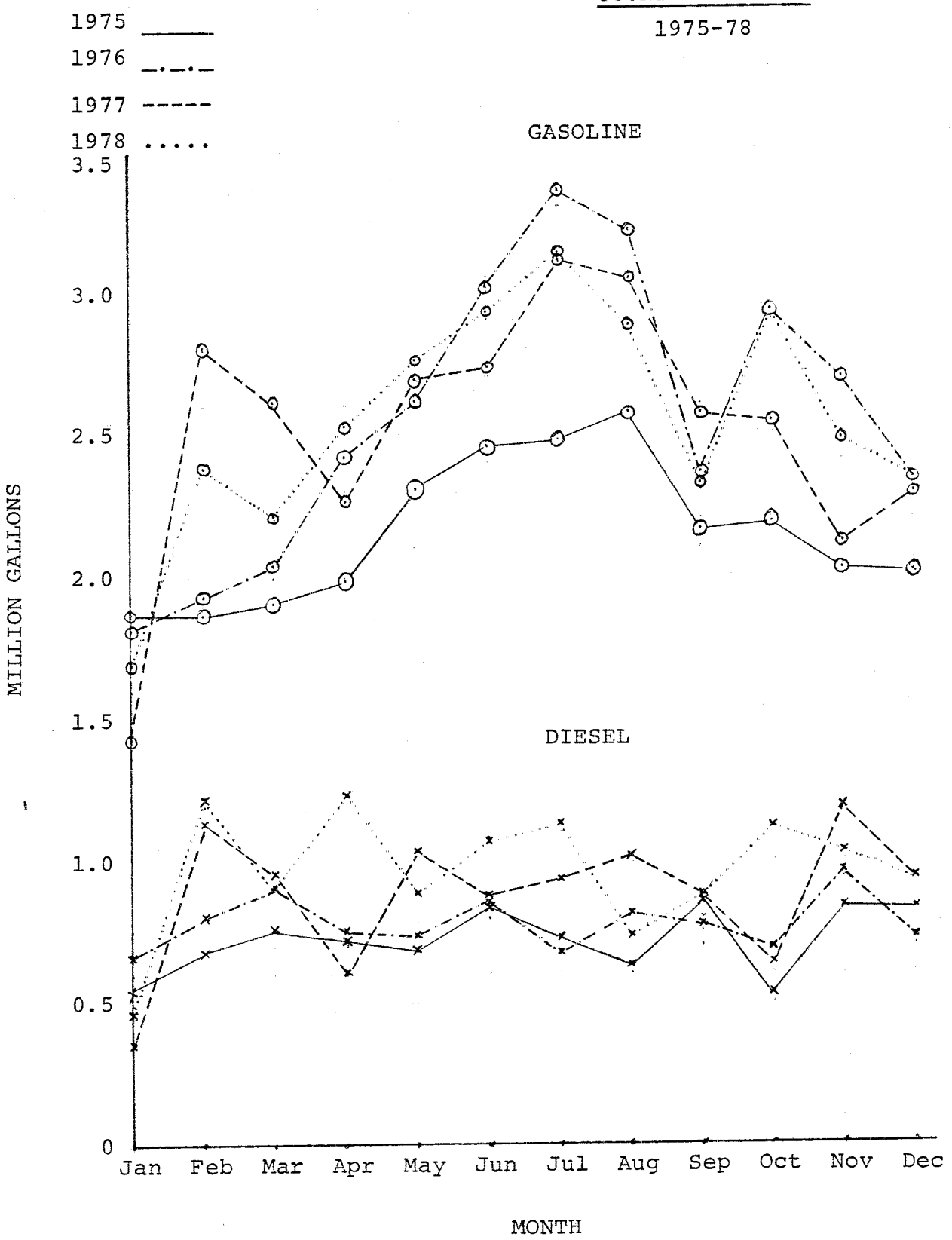
FUEL SOLD IN PINAL
COUNTY BY MONTH
1975-78

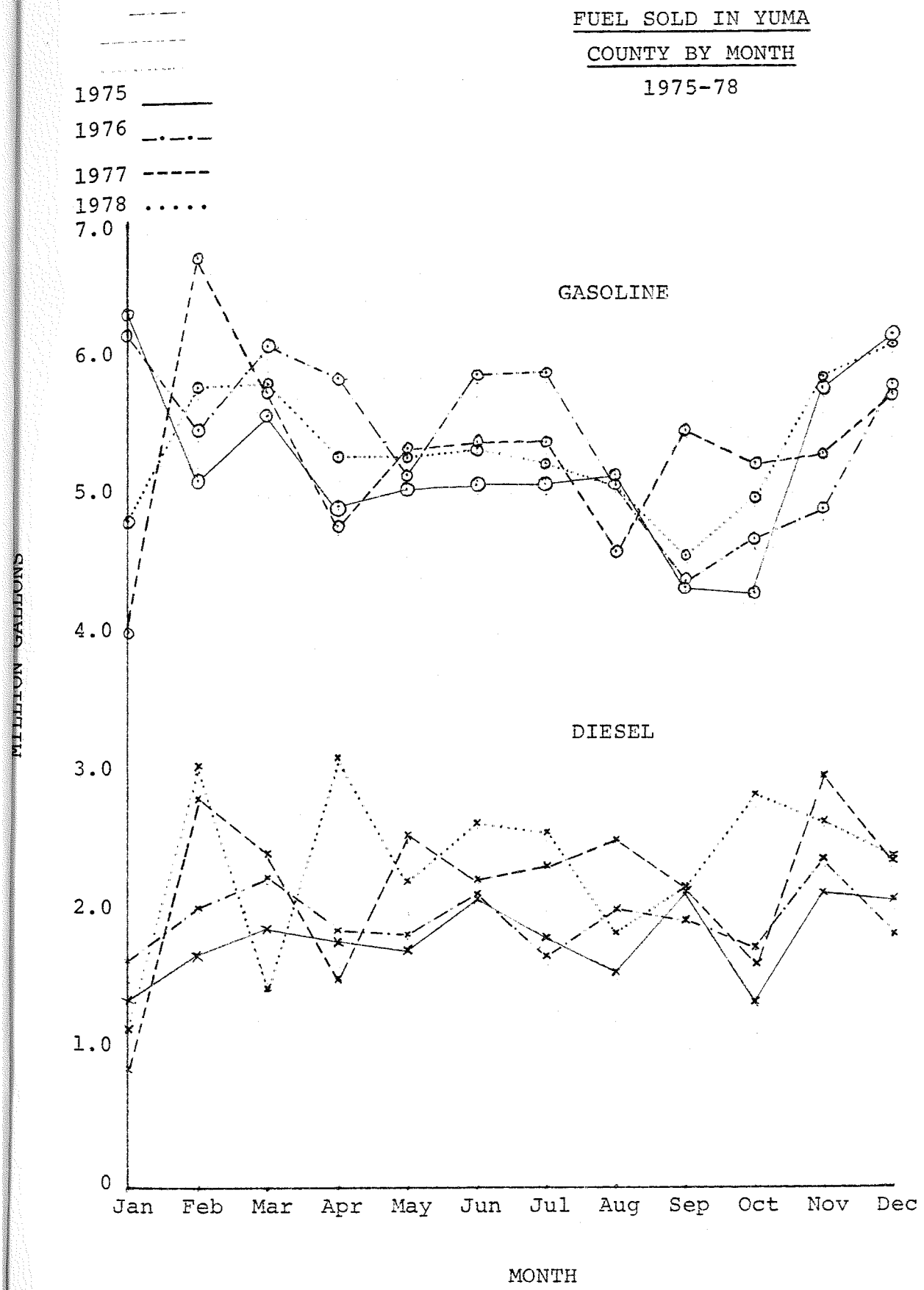


FUEL SOLD IN SANTA CRUZ
COUNTY BY MONTH
1975-78



FUEL SOLD IN YAVAPAI
COUNTY BY MONTH
1975-78




FUEL SOLD IN YUMA
COUNTY BY MONTH
1975-78
1975
1976
1977
1978
GASOLINE
DIESEL
MILLION GALLONS MONTHLY
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MONTH

APPENDIX II

PREDICTED GASOLINE AND DIESEL DEMAND IN COUNTIES

1979 - 1980

EXPECTED MONTHLY GASOLINE DEMAND
(In Million Gallons)
1979

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
January	2.195	3.949	4.374	1.491	0.986	0.349	60.325	2.509	4.036	18.346	3.468	0.698	1.861	5.361
February	2.191	4.782	5.122	1.809	1.205	0.501	67.786	3.299	4.175	19.088	3.636	0.910	2.426	5.843
March	2.424	4.598	5.466	1.723	1.118	0.452	67.469	3.738	4.421	19.989	3.736	0.902	2.400	5.873
April	2.625	4.633	6.054	1.876	1.189	0.426	65.088	2.878	4.641	18.686	3.710	0.864	2.506	5.245
May	2.744	5.133	7.153	2.121	1.369	0.516	66.437	3.884	5.253	18.503	3.576	0.864	2.819	5.226
June	3.129	4.650	9.387	2.218	1.231	0.511	66.119	4.262	6.596	18.526	3.658	0.733	3.004	5.445
July	3.161	5.058	10.352	2.260	1.246	0.433	66.040	4.305	6.962	18.166	3.498	0.734	3.281	5.419
August	3.197	4.955	10.554	2.223	1.263	0.487	61.595	4.047	6.880	17.670	3.455	0.754	3.182	4.995
September	2.757	4.753	7.540	1.934	1.134	0.458	67.389	4.038	5.202	18.841	3.390	0.666	2.560	4.692
October	2.673	4.955	6.708	1.931	1.178	0.449	68.421	3.772	5.202	18.278	3.559	0.684	2.882	4.789
November	2.479	4.661	5.474	1.707	1.199	0.506	66.278	3.252	4.654	19.111	3.671	0.685	2.544	5.470
December	2.751	5.351	5.785	1.860	1.382	0.482	70.644	2.973	5.032	19.921	3.883	8.22	2.458	5.965
YEAR TOTAL	32.326	57.478	83.969	23.153	14.500	5.570	793.591	42.957	63.054	225.122	43.231	8.912	31.923	64.287

EXPECTED MONTHLY GASOLINE DEMAND
(In Million Gallons)
1980

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
January	2.377	4.242	4.690	1.511	1.068	0.361	63.970	2.618	4.288	18.403	3.564	0.717	1.941	5.378
February	2.373	5.137	5.491	1.832	1.305	0.518	71.882	3.443	4.435	19.148	3.737	0.934	2.531	5.861
March	2.625	4.939	5.860	1.745	1.210	0.468	71.545	3.900	4.697	20.051	3.840	0.926	2.504	5.885
April	2.842	4.976	6.490	1.900	1.287	0.441	69.020	3.004	4.931	18,741	3.804	0.887	2.614	5.262
May	2.972	5.514	7.669	2.149	1.482	0.533	70.451	4,053	5.581	18,561	3.675	0.869	2.940	5.242
June	3.3880	4.995	10.063	2.247	1.333	0.528	70.114	4.447	7.008	18.583	3.760	0.753	3.134	5.461
July	3.4230	5.433	11.098	2.290	1.349	0.448	70.030	4,492	7.397	18.222	3.595	0.753	3.423	5.436
August	3.462	5.322	11.314	2.252	1.367	0.503	65.317	4.223	7.310	17.725	3.551	0.775	3.320	5.010
September	2.986	5.106	8.083	1.959	1.228	0.474	71.461	4.214	5.528	18.899	3.484	0.684	2.671	4.707
October	2.895	5.322	7.192	1.956	1.275	0.465	72.555	3.936	5.528	18.335	3.657	0.702	3.007	4.804
November	2.685	5.007	5.869	1.729	1.298	0.523	70.283	3.394	4.945	19.170	3.773	0.704	2.654	5.487
December	2.979	5.748	6.202	1.884	1.496	0.498	74.912	3.102	5.347	19.983	3.991	0.844	2.564	5.984
YEAR TOTAL	35.007	61.741	90.021	23.454	15.698	5.760	841.540	44.826	66.995	225.821	44.431	9.548	33.303	64.487

EXPECTED MONTHLY DIESEL DEMAND
(In Million Gallons)
1979

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
January	0.469	1.145	0.920	0.154	0.123	0.061	2.786	0.569	0.483	1.085	1.198	0.061	0.620	1.543
February	0.896	2.185	1.755	0.294	0.235	0.116	5.314	1.085	0.922	2.070	2.037	0.116	1.182	2.944
March	0.745	1.815	1.458	0.244	0.195	0.097	4.415	0.902	0.766	1.720	1.692	0.096	0.982	2.445
April	0.772	1.883	1.513	0.254	0.202	0.100	4.579	0.935	0.795	1.784	1.755	0.100	1.019	2.537
May	0.775	1.889	1.518	0.254	0.203	0.100	4.596	0.939	0.798	1.790	1.761	0.100	1.021	2.546
June	0.845	2.058	1.654	0.277	0.221	0.110	5.007	1.023	0.869	1.951	1.919	0.110	1.114	2.774
July	0.783	1.907	1.533	0.257	0.204	0.101	4.639	0.948	0.805	1.808	1.778	0.101	1.032	2.570
August	0.74	1.804	1.449	0.242	0.194	0.096	4.387	0.896	0.762	1.709	1.682	0.096	0.976	2.430
September	0.782	1.905	1.531	0.256	0.204	0.102	4.634	0.946	0.804	1.805	1.776	0.102	1.031	2.567
October	0.697	1.698	1.364	0.229	0.182	0.090	4.129	0.843	0.718	1.609	1.583	0.090	0.920	2.287
November	0.944	2.293	1.842	0.309	0.246	0.122	5.577	1.139	0.968	2.173	2.138	0.122	1.241	3.089
December	0.807	1.966	1.580	0.265	0.211	0.105	4.782	0.977	0.830	1.863	1.833	.105	1.064	2.649
YEAR TOTAL	9.255	22.548	18.117	3.035	2.420	1.200	54.845	11.202	9.520	21.367	21.152	1.199	12.202	30.381

EXPECTED MONTHLY DIESEL DEMAND
(In Million Gallons)
1980

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
January	0.504	1.231	0.989	0.166	0.132	0.065	2.995	0.612	0.519	1.167	1.146	0.065	0.666	1.659
February	0.963	2.349	1.887	0.316	0.252	0.125	5.713	1.167	0.991	2.226	2.190	0.125	1.271	3.165
March	0.800	1.951	1.568	0.263	0.209	0.104	4.746	0.969	0.824	1.849	1.819	0.104	1.056	2.629
April	0.830	2.024	1.626	0.273	0.217	0.108	4.923	1.005	0.854	1.918	1.887	0.108	1.095	2.727
May	0.833	2.031	1.632	0.273	0.218	0.108	4.941	1.009	0.857	1.925	1.894	0.108	1.098	2.737
June	0.908	2.213	1.778	0.297	0.237	0.118	5.383	1.099	0.934	2.097	2.063	0.118	1.198	2.982
July	0.841	2.051	1.648	0.276	0.220	0.109	4.988	1.019	0.866	1.943	1.912	0.109	1.110	2.763
August	0.795	1.939	1.558	0.261	0.208	0.103	4.717	0.963	0.818	1.838	1.808	0.103	1.049	2.613
September	0.84	2.048	1.646	0.276	0.220	0.109	4.982	1.017	0.865	1.941	1.910	0.109	1.108	2.760
October	0.749	1.825	1.467	0.246	0.196	0.097	4.440	0.907	0.771	1.730	1.702	0.097	0.989	2.459
November	1.014	2.465	1.981	0.332	0.265	0.131	5.996	1.224	1.040	2.336	2.298	0.131	1.334	3.322
December	0.867	2.114	1.698	0.284	0.227	0.113	5.141	1.050	0.892	2.003	1.971	0.113	1.144	2.848
YEAR TOTAL	9.944	24.241	19.478	3.263	2.601	1.290	58.965	12.041	10.231	22.973	22.600	1.290	13.118	32.664