


Economic Impact of the Oil and Gas Industry on Alaska

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AOGA



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I. Executive Summary

The economic engine that is Alaska's oil industry reverberates powerfully throughout the state's economy. From providing the vast majority of funds to operate state and local governments each year, to the millions it spends on charitable giving throughout the state, the oil industry overshadows all other non-governmental entities in its impacts on Alaska's economy.

Though the scope of the economic influence of the industry in Alaska has long been speculated upon, the length and breadth of its importance has not been adequately quantified prior to this study, which was commissioned by the Alaska Oil and Gas Association and the Alaska Support Industry Alliance.

Although divining this information may seem an easy task, it is not; both the state and federal governments tend to blur the industry's reach to the casual eye in their official economic reports. Oil production often is represented as "mining;" oil refining may be folded into "manufacturing" statistics without delineation; and pipeline operations are rolled into the broad category of "Transportation, Communications, and Utilities."

Clearly, it requires a dedicated search to find the oil industry's true economic impacts among such wide characterizations. And in the course of just such a search, what the independent study team members who produced this report found was this: The oil industry provides not only the substantial lease payments, royalties, and, corporate, property, and severance taxes that provide the financial underpinnings for the state and many local governments, but also that its direct payrolls, and its purchases of goods and services through private sector vendors ripple with equally important strength throughout the entire state's economy.

The industry's motivation for funding this study was sparked by a smaller effort a year ago to examine its impact on the Fairbanks economy. That investigation produced surprises -- findings that showed the industry's role in the local economy has a far wider reach than was suspected. And those findings led to an understanding that although most Alaskans have a broad notion of the industry's economic importance statewide, most have little information about the important role it plays in many local communities and regional areas of the state.

The study team based its conclusions on detailed 1999 purchasing and payroll records provided by 13 companies responsible for Alaska oil and gas production, transportation and refining, and on an in-depth survey of purchasing and payroll information from contractors and vendors serving the industry. The findings exclude the impacts of petroleum-funded state spending and Alaska Permanent Fund dividends. The team analyzed regional impacts on Anchorage, Fairbanks, Kenai, Mat-Su and Valdez, and this report examines direct, indirect, and induced economic impacts of the industry in those communities and the regions in which they are situated.

Summary of Findings

Oil and gas is Alaska's largest industry.

- The petroleum industry is Alaska's largest nongovernmental industry. It generates 12 percent of all nonmilitary payroll and 9 percent of all nonmilitary jobs in the state.

- The industry directly spends \$422 million on payroll in Alaska, and \$1.7 billion on goods and services in the state, roughly equal to the State of Alaska's general fund budget spending.

Oil and gas is the largest industry in Anchorage, Fairbanks, Kenai and Valdez.

- Oil and gas generates more payroll than any other nongovernmental industry in the Municipality of Anchorage, the Fairbanks North Star Borough, the Kenai Peninsula Borough, and the City of Valdez. Oil and gas also generates more jobs for Matanuska-Susitna borough residents than any other industry.

Oil and gas activity creates 12 percent of private sector jobs and 20 percent of private sector payroll in Alaska.

- The oil and gas industry generates approximately 33,573 jobs and \$1.4 billion in payroll in Alaska. This represents approximately 12 percent of private sector jobs and 20 percent of private sector payroll in Alaska.
- This employment and payroll includes
 - *Direct impact:* 4,532 jobs, and \$422 million in payroll for the 13 oil and gas companies;
 - *Induced impact:* The impacts resulting when the 4,532 employees spent the money they received in their payroll checks were an estimated 4,703 jobs and \$133 million in payroll;
 - *Indirect impact:* \$1.7 billion in spending in Alaska by the 13 companies generates 24,338 jobs, and \$880 million in payroll through the rest of the Alaska economy. Of this amount, 13,295 jobs, and \$527 million in payroll, is generated in Alaska among the oil company support industry businesses.

The industry gives more than \$10 million to Alaska nonprofit organizations each year.

- Cash contributions to charitable and educational organizations in 1999, excluding contributions to business and oil and gas industry associations, totaled at least \$8.1 million. Beneficiaries included community, university, human service, education, the United Way, and arts and cultural organizations. The value of tangible in-kind contributions adds at least another \$2 million annually.

The oil and gas industry has the highest average wage in Alaska.

- The average producer company pays a monthly wage of \$7,754, which is 2.8 times higher than the statewide average of \$2,798.

Table 1 Total Petroleum Industry Economic Impact by Region

	Total Oil and Gas Industry Generated Jobs	% Total Regional Employment	Total Payroll (\$ millions)	% Total Regional Payroll¹
Anchorage	16,323	13.0%	\$ 740	16.2%
Fairbanks	4,143	12.4	158	16.0
Kenai	4,273	26.0	176	36.0
Mat-Su	4,016	12.2*	158	15.9*
Valdez	809	17.0	46	28.0
Unattributed and Other Alaska	4,009		157	
Total Alaska	33,573	8.3%	\$ 1,435	15.0%

* Percentages estimated due to significant commuter activity

Economic impacts of the industry are significant in each of the study areas.

- In the Municipality of Anchorage, the industry directly employs 2,376 people, pays \$239 million in payroll, and spends \$845 million for goods and services. The industry's total impact is 16,323 jobs and \$740 million in payroll, representing 13 percent of area nonmilitary jobs and 16 percent of area payroll.
- In the Fairbanks North Star Borough, the industry directly employs 565 people, pays \$40 million in payroll, and spends \$190 million for goods and services. The industry's total impact is 4,143 jobs and \$158 million in payroll, representing 12 percent of area nonmilitary jobs and 16 percent of area payroll.
- In the Kenai Peninsula Borough, the industry directly employs 674 people, pays \$63 million in payroll, and spends \$215 million for goods and services. The industry's total impact is 4,273 jobs and \$176 million in payroll, representing 26 percent of area nonmilitary jobs and 35 percent of area payroll.
- In the Valdez-Cordova Census Area, the industry directly employs 313 people, pays \$32 million in payroll, and spends \$17 million for goods and services. The industry's total impact is 809 jobs and \$46 million in payroll, representing 17 percent of area nonmilitary jobs and 28 percent of area payroll.
- The Matanuska-Susitna Borough economy experiences significant benefits from industry spending in the Anchorage area. The industry directly employs 353 people who live in the Mat-Su Borough and pays \$36 million in payroll to individuals living there. The industry's total impact is 4,016 jobs and \$158 million in payroll.

¹ Regional payroll in this chart is based on Alaska Department of Labor and Workforce Development (ADOL) reports, adjusted for Mat-Su Borough commuters. ADOL wage reports exclude military and fishing industry wages.

II. Introduction

In the years since the historic Prudhoe Bay oil strike and the beginning of production once the Trans-Alaska Pipeline was completed in 1977, the petroleum industry clearly has been one of the crucial industries in the Alaska economy. While there is general acceptance of this importance, no one has measured the actual spending of the industry in Alaska and the economic effects of that spending at both statewide and regional levels.

The Alaska Oil and Gas Association (AOGA) and the Alaska Support Industry Alliance (the Alliance) commissioned this study to analyze the effects of oil industry payroll and purchases of goods and services on the state economy, and on the economies of key regions of the state. AOGA and the Alliance retained Information Insights and its economic study partner, the McDowell Group, to examine:

- direct impacts of petroleum industry payroll on the Alaska economy;
- direct impacts of petroleum industry purchasing on the Alaska economy;
- indirect impacts of this spending, through both payroll and purchasing, on the Alaska economy;
- combined impacts of spending on key communities in Alaska with petroleum-related employment – the Municipality of Anchorage, the Fairbanks North Star Borough, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, and the City of Valdez; and
- effects on the Alaska economy of state and local government spending of royalties and taxes received from the petroleum industry.

The study team examined purchasing and payroll records for the major producers, transporters and refiners of oil and gas in Alaska in 1999. For ease of description, we call these the “primary producers” or “producers” in this report. These primary producers provided 1999 payroll totals by community, and purchasing records for nearly all purchases from Alaska-based vendors and contractors. The study team then surveyed the top vendors and contractors doing business with the oil and gas industry to determine the extent of their spending and payroll that was Alaska-based, and where that payroll and purchasing took place.

Thirteen major producers, transporters and refiners participated in the study. They were:

- Agrium, Inc. (formerly Alaska Nitrogen Products)
- Alyeska Pipeline Service Company
- Anadarko Petroleum Corporation
- BP Exploration (Alaska) Inc.
- Chevron U.S.A.
- Cross Timbers Operating Company
- ExxonMobil Production Company
- Marathon Oil Company
- Phillips Alaska Inc.
- PetroStar Inc.
- Tesoro Alaska Company
- Unocal Corporation
- Williams Alaska Petroleum Inc.

This report is broken into five sections.

Direct and Induced Impacts: Presents an overview of the primary producers' employment and payroll, and how these compare to the rest of the Alaska economy, together with the secondary effects of producer payroll.

Indirect Impacts: Summarizes the primary producers' expenditures on goods and services and their effect on the Alaska economy.

Regional Results: Presents a regional analysis of spending for the Municipality of Anchorage, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, the Fairbanks North Star Borough, and the City of Valdez.

Tax and Royalty Payments: Examines the impacts of taxes and royalties paid to the state and local governments on the Alaska economy.

Charitable Contributions: Examines charitable giving by the primary producers to Alaskan organizations.

Sources of Data

The study team gathered information about regional expenditures directly from the primary producers and by means of a survey of businesses that provide goods and services to those producer companies. For each of the regions, the team asked supplier businesses to provide the portion of their payroll, purchases, and tax expenditures that were oil-related. The expenditures reported were then analyzed using the economic modeling software IMPLAN.

In all, the primary producers purchased goods or services from more than 850 Alaska support companies. The total amount spent with these companies by the producers was \$1.7 billion. The amount of goods and services provided to the Alaska oil industry by any one of these support companies ranged from a few hundred dollars to more than \$100 million.

The study team surveyed the 146 companies that provided at least \$1 million worth of goods and services to the primary producers during 1999. Because of the concentration of purchasing noted above, purchasing from these 146 companies represents 94 percent of total industry purchasing in Alaska.

Completed surveys were obtained from 67 of the supplier companies, a 46 percent response rate. Follow-up telephone interviews were made to respondents as necessary to clarify or confirm reported data. Ultimately, survey data was obtained that showed regional impacts for 54 percent of total expenditures made by the primary producers to Alaska suppliers, approximately \$900 million. The study team estimated remaining expenditures based on the known regional distribution of the respondents' spending.

Alaska Department of Labor and Workforce Development (ADOL) figures for employment and earnings are used for comparative purposes throughout this report. Where oil and gas impacts are presented as percentages of total statewide or regional employment, the totals are those published in ADOL's standard *Employment and Earnings Summary* reports. These reports track employment and earnings for standardized industrial sectors, net of military and self-employed individuals.

In order to make the data as comparable as possible with that reported by industry participants, the study team drew comparisons against the 1999 draft *Employment and Earnings Summary*. It should be noted that figures in this draft summary do not precisely match those in ADOL's published Benchmark Revision (*Alaska Economic Trends, April 2000*). However, the draft figures were used because they provide regional detail not available in the Benchmarks.

Types of Economic Impacts

Economic impacts typically are divided into three categories: direct, indirect and induced. Definitions of these three types of impacts follow.

Direct Impacts

Direct economic impacts consist of the jobs and payroll created by the primary producers.

Indirect Impacts

Indirect impacts consist of the additional jobs and payroll created when the primary oil producing companies purchase goods and services from the many diverse businesses that provide support to the primary producers. These businesses include equipment suppliers, oilfield services, construction services, transportation services, management services, food services, and many other types of support businesses. The indirect impacts include both the payroll of the support businesses themselves, and the additional payroll created when employees of the support businesses spend their wages throughout the local economy.

Induced Impacts

Induced impacts consist of the additional payroll created throughout the economy when the employees of the primary producers spend their personal incomes on consumer goods, other property, services and taxes.

Other Economic Concepts Used to Describe Impacts

Economic Multipliers

Economists typically estimate indirect and induced impacts by using a "multiplier." Multipliers are used to represent the "ripple effects" of money in the economy as it is spent and re-spent. For example, a multiplier of 1.5 would mean that for every dollar of payroll that an industry pays to its own employees, an estimated \$0.50 in additional economic activity is generated in other industries. It is important to remember that multipliers are estimates of the ripple effect. Economists do not always agree on what the multiplier for a specific industry or type of business should be.

Each industry is assigned a different multiplier based on several factors, including the residency of the workforce, the average wages paid, and the "maturity" of the economic sector. For example, a mature support sector (typical of large cities) will stimulate more spending locally and less "leakage" of dollars outside the region. Conversely, an underdeveloped (immature) support sector (typical of smaller communities) will hold dollars locally for a shorter period as residents look outside the immediate community to make many of their purchases.

In this study, the survey of oil industry support businesses provided actual spending data. This data was used in addition to multipliers to develop study estimates of indirect and induced spending.

Value Added

Estimates of what economists call “Value Added” are discussed as part of the regional impact analysis. Value Added is, by definition, equivalent to gross regional product. Gross regional product is the most commonly used measure of a local economy’s productivity. Because it is a measure of productivity, Value Added estimates a region’s *unduplicated* economic activity, meaning that it does not contain every transaction that occurs in the economy as goods and services are bought and re-sold. Rather, Value Added measures only those transactions that represent actual productivity. Value Added therefore consists of:

- Employee payroll
- Proprietor income
- Income from property
- “Indirect” business taxes (those borne by consumers rather than producers).

Because Value Added measures economic productivity, it is a useful measure of the overall economic importance of an industry.

III. Direct and Induced Impacts for Alaska

The direct impact of the oil and gas industry on Alaska’s economy was significant in 1999, even though company activity was reduced somewhat due to lower oil prices and the effects of merger-related activities during the year. In 1999 the industry spent:

- \$422 million in payroll to Alaskans, and
- \$1,664 million in purchases of goods and services from contractors and vendors in Alaska, for a total of
- \$2.1 billion in combined payroll and purchasing in Alaska.

This level of Alaska spending is roughly equal to the State of Alaska’s general fund spending during the same period.

In addition to its direct spending, the petroleum industry paid:

- \$223 million in property taxes to local governments
- \$1.5 billion in taxes and royalties to the State of Alaska

The analysis in Sections III-IV of this report excludes the employment, payroll and value inherent in the added impacts of taxes and royalties paid by the companies, and focuses only on those impacts created by the industry’s direct spending on payroll and purchasing.

As demonstrated below, the economic impact of the industry results in 33,573 jobs, payroll of \$1.4 billion, and value added to the Alaska economy of \$1.8 billion, for total output of \$3.1 billion.

Figures 1 and 2 show the source of this total impact on jobs and payroll.

Figure 1 Alaska Jobs Created by Oil and Gas Industry – By Effect

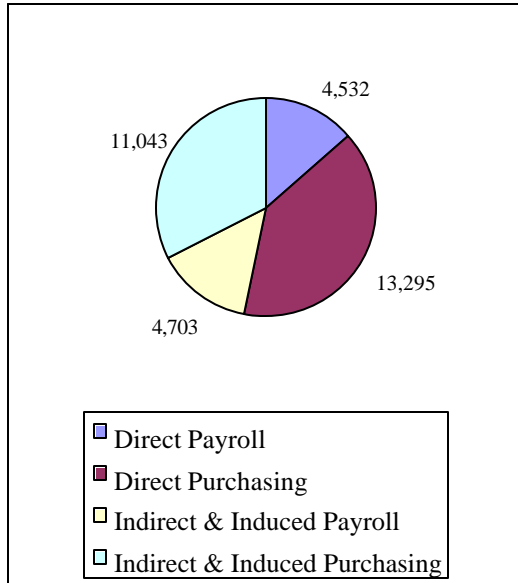
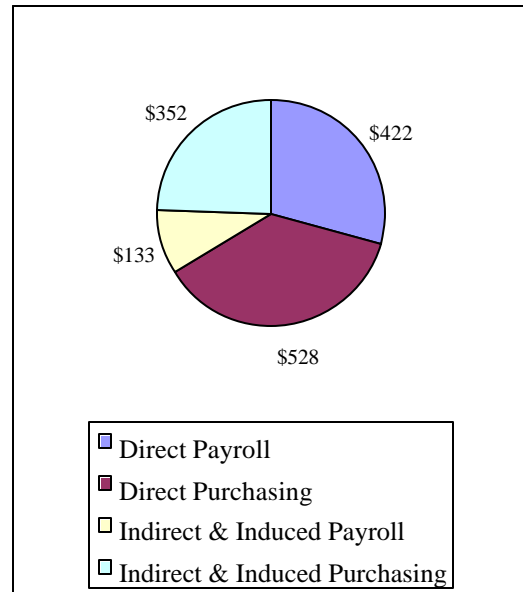


Figure 2 Alaska Payroll Created by Oil and Gas Industry – By Effect



Primary Producers Employment and Payroll

In 1999, direct average annual employment of the primary producers was 4,532 jobs. As seen in Table 2, this represented 1.6 percent of total state employment, which was estimated by the Alaska Department of Labor at 275,000 in 1999. Employment associated with oil contractors and service providers is illustrated in the next section of this report.

The primary producers reported a total payroll to Alaskans of \$422 million in 1999. During the same period, combined earnings for all industries in Alaska, including government but not including fishing and uniformed military, was \$9.2 billion, according to ADOL figures. Direct petroleum industry payroll was five percent of total payroll in the state.

Table 2 Employment and Percent of Total Employment by Sector in 1999 – All Industries

Sector	Employment	% of Total Employment
Total Nonagricultural Wage & Salary	277,600	
Primary Producers	4,532	2%
Construction	13,800	5%
Manufacturing	13,265	5%
Transportation, Communications & Utilities	25,237	9%
Trade	56,926	21%
Finance, Insurance and Real Estate	12,800	5%
Services	70,500	25%
Government	73,600	27%

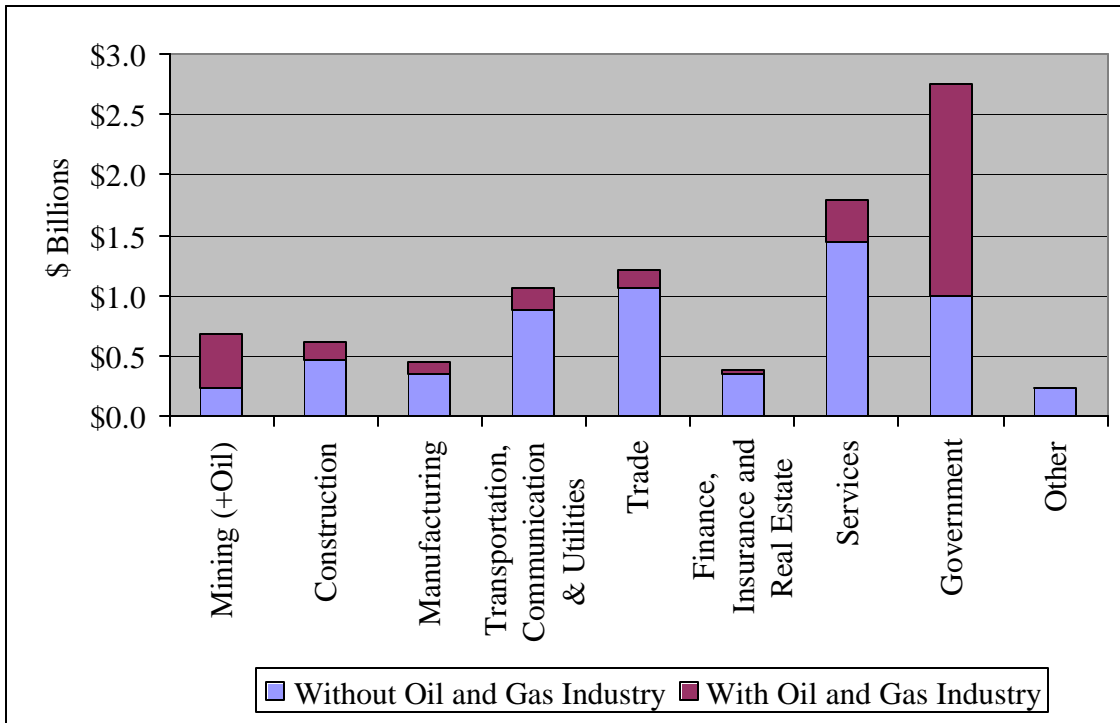
The average monthly wage for the primary producers in 1999 was \$7,754. In comparison, the average monthly wage for Alaska was \$2,798, according to ADOL's 1999 draft *Employment and Earnings Summary* report.. Table 3 summarizes the overall earnings and wages broken out by sector for 1999 in the Alaska economy.

Table 3 Earnings and Wages by Sector in 1999 – All Industries

Sector	Earnings (1999)	Average Mo. Wage
Total Industries	\$9,199,359,894	\$2,789
Primary Producers	\$421,691,047	\$7,754
Construction	\$620,837,892	\$3,852
Manufacturing	\$394,712,481	\$2,629
Transportation, Communication & Utilities	\$982,108,548	\$3,474
Trade	\$1,214,414,235	\$1,839
Finance, Insurance and Real Estate	\$389,587,536	\$2,865
Services	\$1,784,514,865	\$2,218
Government	\$2,750,224,257	\$3,210

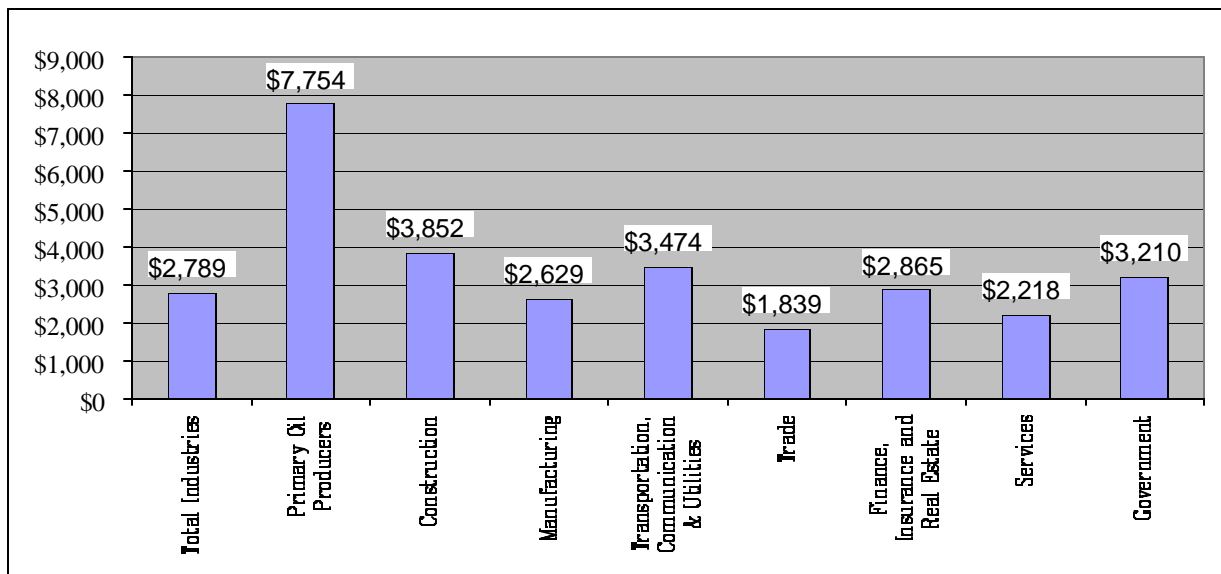
Adjusting these numbers to accommodate the impacts of the oil and gas industry yields a picture of the Alaska economy. Figure 3 shows the portion of each economic sector's activity in Alaska calculated by the effect of the oil and gas industry in Alaska. The government portion has been adjusted to show the portion of government activity in Alaska resulting from the economic impact of oil industry spending and from the portion of government revenues derived from oil and gas industry taxes and royalties.

Figure 3 Oil and Gas Contribution to Alaska Economic Sectors



Oil and gas industry wages are the highest wages in the state, exceeding all other sectors of the economy, as shown in Figure 4.

Figure 4 Average Monthly Wage in Alaska by Sector



Primary Producers Payroll Expenditures

Spending of payroll dollars by oil and gas company employees generates induced economic impacts. In order to determine regional economic impacts from payroll, the following exceptions must be considered: personal tax, non-tax payments, interest paid by persons, personal transfer payments, and personal savings. What remains are personal consumption expenditures. Using Bureau of Economic Analysis data for 1999, overall personal consumption expenditures total approximately 80.5 percent of personal income or payroll. Total payroll for the primary producers was \$422 million in 1999. Taking into account all deductions, personal consumption expenditures available for payroll impact analysis was \$339 million.

Looking first at employment impacts seen in Table 4, the impacts from the primary producers' payroll resulted in an estimated 4,703 jobs. Some of the industries in Alaska that most benefit from oil industry payroll were services and trade, which captured 47 percent and 29 percent, respectively, of all job-related benefits from oil industry payroll. The spending of payroll dollars by oil and gas company employees thus creates an additional \$133 million in payroll in other industries.

Table 4 Oil and Gas Company Payroll Impacts on Alaska

Sector	Employment	Payroll (\$ millions)	Value Added (\$ millions)	Total Output (\$ millions)
Agriculture	12	\$0.2	\$0.4	\$0.6
Mining	13	1.1	3.4	5.6
Construction	53	2.9	3.3	6.4
Manufacturing	262	9.3	14.9	49.9
Transportation, Communications & Utilities	209	10.0	21.5	37.5
Trade	1,371	30.8	49.1	68.3
Finance, Insurance & Real Estate	395	10.7	65.9	86.6
Services	2,206	59.8	70.1	121.9
Government	164	8.1	10.3	11.1
Other	18	0.2	0.3	0.3
Total	4,703	\$133.2	\$239.2	\$388.3

Results from the value added analysis in Table 4 above show the initial payroll expenditures by the primary producers are linked to \$239 million in value added in the Alaska economy. Industries that enjoyed the largest value added effects were services, finance, insurance and real estate, and trade.

Just as the primary producers' spending impacts state and local taxes, primary producer payroll also impacts state and local tax collections. Table 5 below shows estimated payments from businesses and households to the state government and local governments of \$31.8 million. The largest share of these payments comes from indirect business expenses in the form of non-tax payments, which include rents, royalties, special assessments, fines, and settlements. Other indirect business expenses paid to state and local governments include severance, property, corporate profit and sales tax. Some of the largest payments from households to the state and local government include fines, motor vehicle licenses, fishing and hunting licenses, and property taxes. The impacts in Table 5 do not show royalties and taxes paid directly by the oil and gas industry, only those resulting when employees spend their payroll.

Table 5 State and Local Taxes from Oil and Gas Companies' Payroll

State/Local Government	Tax Impacts (\$ Millions)
Corporate Profits Tax	\$ 3.8
Dividends	1.4
Indirect Business Tax: Motor Vehicle Licenses	0.1
Indirect Business Tax: Other Taxes	0.3
Indirect Business Tax: Property Tax	4.2
Indirect Business Tax: S/L Non Taxes	9.6
Indirect Business Tax: Sales Tax	1.0
Indirect Business Tax: Severance Tax	6.4
Personal Tax: Motor Vehicle License	0.2
Personal Tax: Non Taxes (Fines- Fees	0.5
Personal Tax: Other Tax (Fish/Hunt)	0.3
Personal Tax: Property Taxes	0.1
Social Ins Tax- Employee Contribution	1.2
Social Ins Tax- Employer Contribution	2.8
State/Local Government Total	\$ 31.8

IV. Indirect Impacts for Alaska

Primary Producers Expenditures on Goods and Services

To measure the full impacts of the primary producers on the Alaska economy, the study team utilized IMPLAN software and its associated databases. The U.S. Forest Service, in cooperation with the Federal Emergency Management Agency and the Bureau of Land Management, developed IMPLAN (Implan Analysis for Planning) to help with land resource planning issues. It was later refined by the Minnesota IMPLAN Group. The IMPLAN system has been in use since 1979 and enjoys a reputation for reliability among economists throughout the U.S. Current clients include academia, federal, state, and local government, and the private sector. The study team used data obtained from the Alaska oil and gas industry as inputs to the model.

The Alaska oil producers, transporters and refiners provided the study team with records of Alaska purchasing of goods and services for 1999. These primary producers spent \$1.66 billion for purchases of goods and services from Alaska vendors and contractors during 1999.

The study team aggregated the records of the primary companies, producing a list of more than 850 vendors and contractors in Alaska from which the petroleum industry purchased goods and services in 1999. The total value of industry spending is concentrated, with three-quarters of total spending going to 61 companies receiving total oil industry receipts in excess of \$5 million, as shown in figure 5 and table 6.

Figure 5 Volume of Oil and Gas Purchasing by Size of Purchase

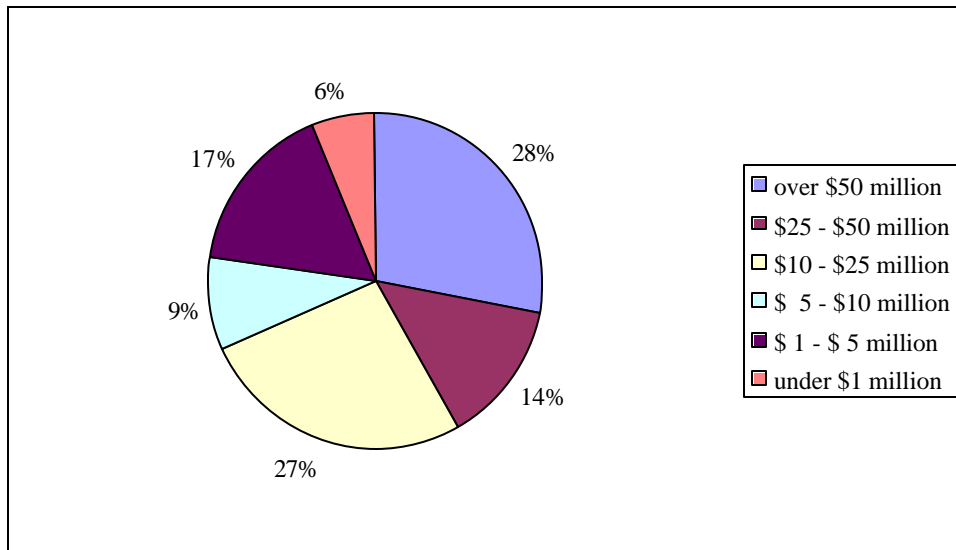


Table 6 Petroleum Industry Purchasing by Size

Aggregate Receipts from Primary Producers	Number of Companies	Value of Purchasing	% of Total
more than \$50 million	5	\$ 467 million	28.1 %
\$25 million - \$50 million	7	228 million	13.7 %
\$10 million - \$25 million	29	442 million	26.6 %
\$ 5 million - \$10 million	20	146 million	8.8 %
\$ 1 million - \$ 5 million	122	281 million	16.9 %
\$ 500,000 - \$1 million	60	45 million	2.7 %
\$ 250,000 - \$500,000	63	22 million	1.3 %
\$ 100,000 - \$250,000	159	27 million	1.6 %
less than \$100,000	379	6 million	0.4 %

The study team identified the companies listed in the primary petroleum industry purchasing records by Standard Classification Code (SIC) to determine expenditures by industry type. The team then analyzed this purchasing using the IMPLAN software and databases to demonstrate how industry purchasing impacts the state economy.

Table 7 summarizes the primary producers' purchases of goods and services in Alaska by industry. The largest purchase of goods and services was from the oil and gas extraction industry (classified under the mining sector) at \$736 million, or nearly half of total purchases. Other sectors receiving significant petroleum industry spending in Alaska in 1999 were services, construction, transportation, communications and utilities, and trade.

Table 7 Oil and Gas Companies' Expenditures on Goods and Services in Alaska

Sector	Primary Producer Expenditures (\$ millions)
Mining (including Oil and Gas)	\$ 735.6
Services	309.3
Construction	225.8
Transportation, Communications & Utilities	224.1
Trade	142.3
Other	18.2
Total	\$ 1,655.3

This purchasing of goods and services creates direct impacts in the Alaska economy as shown in Table 8. This spending creates 24,338 jobs, concentrated in the services and trade sectors. Earnings from the direct purchases of goods and services by the primary producers in Alaska totaled \$880 million in 1999. This is equivalent to nearly ten percent of total 1999 Alaska wages (\$9.2 billion excluding fishing and uniformed military). Industries with the highest total earnings generated by petroleum industry purchasing were services, and oil and gas, at \$286 million and \$168 million, respectively. This purchasing creates \$1.6 billion in value added to Alaska's economy.

The sector that enjoyed the greatest indirect impact was services at 10,564 workers and \$286 million in payroll. Other sectors with significant indirect impact were trade, at 5,261 jobs and \$118 million in payroll, and construction, at 2,588 workers and \$144 million in payroll.

Table 8 Indirect Impacts from Oil Companies' Purchases of Goods and Services

Sector	Employment	Payroll (\$ millions)	Value Added (\$ millions)
Agriculture	32	\$ 1	\$ 1
Mining	1,930	168	499
Construction	2,588	144	163
Manufacturing	843	30	48
Transportation, Communications & Utilities	1,907	91	196
Trade	5,261	118	188
Finance, Insurance & Real Estate	760	21	127
Services	10,564	286	336
Government	406	20	26
Other	46	1	702
Total	24,338	\$ 880	\$ 1,585

Table 9 Summary of Petroleum Industry Economic Impacts by Region

	Oil Company Jobs	Direct Pay \$millions	Induced Jobs	Induced Pay \$millions	Indirect Jobs	Indirect Payroll \$millions	Total Jobs	Total Payroll \$millions
Anchorage	2,376	\$ 239	2,327	\$ 69	11,620	\$431	16,323	\$740
Fairbanks	565	40	446	12	3,132	105	4,143	158
Kenai	674	63	777	20	2,822	94	4,273	177
Mat-Su	353	36	399	10	3,264	112	4,016	158
Valdez	313	32	291	7	205	6	809	47
Other Alaska	251	12	463	15	3,295	130	4,009	157
Total Alaska	4,532	\$ 422	4,703	\$ 133	24,338	\$ 880	33,573	\$1,435

Estimated payments from businesses and households to the state government and local governments in the form of taxes totaled \$153 million. The largest share of these payments comes from indirect business expenses in the form of non-tax payments, which include rents, royalties, special assessments, fines and settlements. Other indirect business expenses paid to state and local governments include severance, property, corporate profit and sales taxes. Some of the largest payments from households to the state and local governments include fines, motor vehicle licenses, fishing and hunting licenses, and property taxes.

Table 10 State and Local Taxes Generated by Oil and Gas Companies' Purchases

State/Local Government	Taxes Generated (\$ millions)
Indirect Business Tax: Motor Vehicle License	\$ 0.4
Indirect Business Tax: Other Taxes	1.6
Indirect Business Tax: Property Tax	23.0
Indirect Business Tax: S/L Non Taxes	52.7
Indirect Business Tax: Sales Tax	5.7
Indirect Business Tax: Severance Tax	35.5
Personal Tax: Estate and Gift Tax	0.1
Personal Tax: Motor Vehicle License	1.1
Personal Tax: Non Taxes (Fines- Fees)	3.3
Personal Tax: Other Tax (Fish/Hunt)	2.1
Personal Tax: Property Taxes	0.6
Social Ins Tax- Employee Contribution	7.8
Social Ins Tax- Employer Contribution	19.0
State/Local Government Total	\$ 152.9

Table 11 shows totals for Alaska in 1999. In all, the petroleum industry accounted for an estimated 33,573 jobs and \$1.4 billion in payroll in Alaska in 1999. This was 12 percent of Alaska employment and 16 percent of payroll, as reported by ADOL. This payroll, together with other economic activity, generated \$1.8 billion in value added in the local economy.

Table 11 Total Impacts on Alaska

	Employment	Payroll (\$ millions)	Value Added (\$ millions)
Primary Producers Employment and Payroll	4,532	\$422	
Induced Impacts	4,703	\$133	\$239
Indirect Impact	24,338	\$880	\$1,585
Total Impacts	33,573	\$1,435	\$1,824

This estimate of value is based on industry operations. It does not include effects from the Permanent Fund, royalties, severance taxes, or local property taxes. An estimate of the oil and gas industry's total role in Alaska's gross state product is calculated periodically by the Institute for Social and Economic Research (ISER) at the University of Alaska Anchorage. ISER estimates that in 1998 oil and gas activities were responsible for \$7 billion, 32 percent of Alaska's gross state product.

V. Regional Results

The regional analyses that follow examine the impacts of the Alaska oil and gas industry upon different areas of the state. The following regions are addressed:

- the Municipality of Anchorage,
- the Kenai Peninsula Borough,
- the Matanuska-Susitna Borough,
- the Fairbanks North Star Borough, and
- the Valdez area (Valdez-Cordova census area).

In most regions, the study found a strong economic relationship between the oil industry and regional supporting industries. These supporting industries significantly expand the regional economic impacts of the direct employment and earnings created by the oil producing companies alone. Further, as with other major industries, the effects of oil industry spending “ripple” through every sector of Alaska’s regional economies. The individual regional reports describe the relationship between the oil industry and its supporting industries using data obtained directly from both primary producers and support businesses. Induced (ripple) effects are estimated using the economic modeling software IMPLAN.

Figure 6 Oil and Gas Industry Jobs by Employee Residence

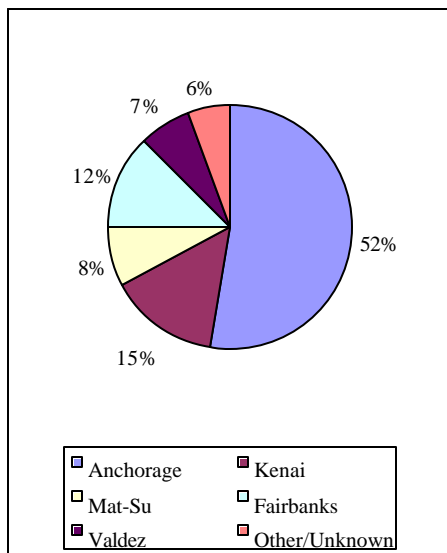
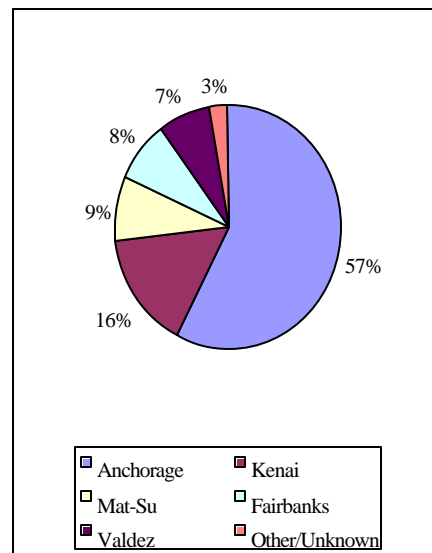


Figure 7 Oil and Gas Industry Payroll by Employee Residence



Municipality of Anchorage

Summary of Impacts

- All 13 of the primary producers are directly involved in the Anchorage economy. In 1999, they employed 2,376 people with \$239 million in payroll, for an average monthly wage of \$8,370. They also spent another \$845 million on goods and services in the Anchorage economy.
- That \$845 million in local purchases of goods and services created an additional 6,700 jobs and \$275 million in payroll in Anchorage among support industry businesses and another 4,900 in jobs and \$156 million in payroll throughout the rest of the Anchorage economy. This makes a total indirect impact of 11,600 jobs and \$431 million in payroll.
- The induced impacts (the impacts resulting when the 2,376 employees spent their payroll) totaled 2,320 jobs and \$69 million in payroll.
- Altogether, the petroleum industry accounted for approximately 16,300 jobs and \$740 million in payroll in Anchorage.
- The industry is the largest in Anchorage, accounting for 13 percent of area employment and more than 16 percent of area payroll.

Role of the Oil and Gas Industry in the Anchorage

With 42 percent of the state's population and 47 percent of its employment, Anchorage is the core of Alaska's economy. Anchorage serves as a center for transportation, communication, trade, services, and financial activities. Table 12 shows nine of the ten largest Alaska businesses had headquarters in the Anchorage area in 1999.

Table 12 Largest Alaska Businesses

Firm	Employees	Headquarters
Safeway Stores/Carr Gottstein Foods	3,902	Anchorage
Providence Alaska Medical Center	3,027	Anchorage
Fred Meyer	2,015	Anchorage
Wal-Mart/Sam's Club	1,706	Anchorage
Alaska Airlines	1,640	Anchorage
ARCO Alaska (Phillips)	1,440	Anchorage
National Bank of Alaska	1,181	Anchorage
Lutheran Health Systems	1,090	Fairbanks
Federal Express	1,071	Anchorage
AK Petroleum Contractors	1,039	Anchorage

Source: Alaska Department of Labor and Workforce Development

Although more diversified than many of the regions of Alaska, Anchorage is dependent on several key industries. Industries that contribute significantly to the Anchorage economy are air transportation, health care, and federal, state, and local government. The largest private employer in Anchorage, however, is the oil and gas industry.

In a study by the Institute of Social and Economic Research entitled “Anchorage International Airport 1998, Economic Significance,” direct employment and payroll related to airport activity at the Ted Stevens Anchorage International Airport was estimated at 8,163 and \$316 million, respectively.

In the health care industry, Anchorage is home to four large hospitals and is the primary source for advance medical care for Western, South Central, and Interior Alaska. Growth in the Anchorage service sector is in part due to growth in the health care industry, which increased from 3,000 workers in 1980 to more than 8,000 in 1999. Payroll during 1999 is estimated to have been \$280 million based on Alaska Department of Labor annual wage data.

In the public sector, the combination of local, state, and federal government contributes significantly to the economic health of Anchorage. Combined employment in 1999 was 27,300, with an estimated payroll of \$1.2 billion. The military accounted for 10,710 jobs (active duty and civilian on-base) and \$486 million payroll in Anchorage, based on reports by the Municipality of Anchorage.

By comparison, Anchorage serves as the primary headquarters for the Alaska oil and gas industry. The primary producers employed 2,376 workers with \$239 million in payroll in Anchorage in 1999. The average monthly wage for employees of the primary producers was \$8,382.

Induced impacts consist of the additional jobs and income created in Anchorage when employees of the primary oil producer companies make purchases of local goods and services. Analysis using the IMPLAN economic model indicates that the 2,327 induced jobs are distributed across Anchorage industries as described in Table 13.

Table 13 Induced Impacts for Primary Producers Payroll in Anchorage

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	5	\$60	\$110
Mining	5	\$472	\$1,528
Construction	26	\$1,543	\$1,695
Manufacturing	37	\$1,155	\$1,842
Transportation, Communications & Utilities	107	\$5,370	\$10,826
Trade	670	\$15,819	\$25,373
Finance, Insurance & Real Estate	215	\$6,812	\$36,241
Services	1,176	\$33,856	\$39,361
Government	75	\$3,969	\$5,011
Other	11	\$144	\$188
Total	2,327	\$69,201	\$122,175

There is an extremely broad network of oil industry support businesses. Information from the primary producers and surveys of oil industry vendors shows approximately \$845 million was spent on goods and service in the Anchorage economy. Table 14 summarizes these purchases by economic sector. The largest purchase of goods and services was from the oil and gas extraction industry (classified under the mining sector) at \$360 million. This was followed by the services industry at \$218 million. The largest portion of the purchases of services was business or management and professional services. Some examples of service companies used by the key participants include Chugach North Technical Services, NANA Management Services, and LGL Alaska Research Associates.

Construction and transportation, communication, and utilities services (TCPU) followed at \$133 million and \$100 million, respectively. Purchases from the trade industry by the key participants totaled \$32 million. Finally, the key participants purchased approximately \$3 million from the manufacturing industry.

Table 14 Oil Producer Expenditures for Goods and Services in Anchorage by Sector

Oil Producer Expenditures	
Sector	(\$ thousands)
Mining	\$359,566
Construction	\$132,561
Manufacturing	\$3,359
Transportation, Communications & Utilities	\$99,597
Trade	\$31,616
Services	\$218,166
Total	\$844,865

The \$845 million in purchases of goods and services by the primary producers creates an estimated 11,620 jobs in Anchorage, as shown in Table 15. This is equivalent to 9 percent of Anchorage's total employment at 128,261 for 1999. Industries with the highest employment were services and trade at 6,246 jobs and 1,639 jobs, respectively. A large share of the services purchased by the key participants concentrated in the professional area. For example, research, engineering, management, and business services.

Earnings from the purchases of goods and services by the key participants in Anchorage totaled an estimated \$431 million in 1999. This is equivalent to roughly 9 percent of the total Anchorage earnings of \$4.6 billion, not including fishing and active duty military, according to ADOL's draft 1999 *Employment and Earnings Summary*. Industries with the highest total earnings were services and construction at \$172 million and \$79 million, respectively. Following closely was oil and gas (mining) at \$77 million.

Value added results show an estimated \$757 million in Anchorage from the purchases of goods and services. Industries that enjoyed the largest value added were oil and gas (mining), and services at \$250 million and \$199 million, respectively.

Table 15 Indirect Impacts from Purchases of Goods and Services in Anchorage by Sector

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	10	\$122	\$224
Mining	743	\$77,166	\$249,827
Construction	1,425	\$79,215	\$87,018
Manufacturing	130	\$3,968	\$6,328
Transportation, Communications & Utilities	869	\$41,873	\$84,411
Trade	1,639	\$37,724	\$60,506
Finance, Insurance & Real Estate	362	\$10,861	\$57,783
Services	6,246	\$171,517	\$199,404
Government	171	\$8,695	\$10,978
Other	25	\$300	\$390
Total	11,620	\$431,440	\$756,868

Table 16 shows total impacts for Anchorage in 1999. In all, the petroleum industry accounted for 16,300 jobs and \$739 million in payroll in Anchorage in 1999. This was 13 percent of local employment and 16 percent of payroll. This payroll, together with other economic activity, generated \$879 million in value added in the local economy.

Table 16 Total Impacts for Anchorage

	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Primary Producers Employment & Payroll	2,376	\$239,000	
Induced Impacts	2,327	\$69,201	\$122,175
Indirect Impact	11,620	\$431,440	\$756,868
Total Impacts	16,323	\$739,641	\$879,043

Kenai Peninsula Borough

Summary of Impacts

- Seven of the 13 primary producers and refiners are directly involved in the Kenai Peninsula Borough economy. In 1999, they employed 674 people with \$63 million in payroll, for an average monthly wage of \$7,789. They also spent \$215 million on goods and services in the Kenai economy.
- That \$215 million in local purchases of goods and services created an additional 1,412 jobs and \$54 million in payroll in Kenai among support industry businesses and another 1,411 in jobs and \$40 million in payroll throughout the rest of the Kenai economy. That makes a total indirect impact of 2,822 jobs and \$94 million in payroll.
- The induced impacts (the impacts resulting when the 674 employees spent their payroll) were 777 jobs and \$20 million in payroll.
- Altogether, the petroleum industry accounted for approximately 4,273 jobs and \$177 million in payroll.
- The industry is the largest in Kenai Peninsula Borough, accounting for 26 percent of area employment and 36 percent of area payroll.

The Role of the Oil Industry in the Kenai Peninsula Borough

The Kenai Peninsula Borough's economy is diverse. Draft 1999 data from the Alaska Department of Labor shows total employment for the borough was 16,343, with the biggest sectors being government, trade and services. Industries that contribute significantly to the Kenai Peninsula Borough economy are commercial fishing, tourism, government, and oil and gas.

Commercial fishing historically has been a major economic force in the Kenai Peninsula Borough. Resident fishers target salmon, herring, halibut, sablefish, and a host of other groundfish and shellfish. In 1999, the state's Commercial Fisheries Entry Commission reported that Peninsula residents grossed \$62 million in earnings from commercial fishing and created 1,094 jobs in the fishing industry. In addition, the seafood processing industry in the Peninsula area employed 641 workers with a payroll of \$14 million.

The tourism industry in the Kenai Peninsula region has grown dramatically in the past decade. One of the biggest attractions on the Peninsula is sport fishing. About 1,200 charter boats operate from the Peninsula, the single largest charter boat fleet in the state. According to the University of Alaska Anchorage, anglers spent an estimated \$34 million on sport fishing in the local economy. Other types of tourism come from individuals visiting Kenai Fjords and cruise ship passengers disembarking in Seward.

In the public sector, the combination of local, state, and federal government contributes significantly to the economic health of the Kenai Peninsula Borough. Combined, public

employment in 1999 was 4,246 with an estimated payroll of \$151 million, not including active duty military.

The oil industry has been a significant economic force in the Kenai Peninsula Borough for more than 40 years and is the single largest source of well-paying jobs in the region. Many residents are employed in oil industry services associated with exploration and production activities in Cook Inlet. These companies include Anadarko Petroleum Corporation, Cross Timbers, and Forcenergy.

The Kenai Peninsula region also is home to a number of facilities that refine oil and gas products, including Tesoro's oil refinery, Unocal's urea/ammonia plant (now owned by Agrium, Inc.) and Phillips Petroleum's LNG plant.

In addition, Alaska Petroleum Contractors and Natchiq Inc. have a large facility in Nikiski, where oil field modules are built. In 1998, a \$30 million module was built at the Nikiski facility for the new Alpine oil field. During the life of the construction project, approximately 320 people were employed to complete the module.

Five of the top ten employers in the Kenai area are directly linked to the oil industry. These companies include: Unocal (now Agrium, Inc.), Peak Oilfield Service Company, Alaska Petroleum Contractors, Tesoro Alaska, and Baker Hughes Oilfield Services. Table 17 shows the top ten largest employers in the Kenai/Soldotna area and their employment during 1998.

Table 17 Ten Largest Employers in Kenai/Soldotna

Firm	Employees
Kenai Peninsula Bor. School District	944
Union Oil Co. of California (Unocal – now Agrium, Inc.)	416
Peak Oilfield Services	333
Kenai Peninsula Borough	327
Central Peninsula General Hospital	276
Fred Meyer	232
Alaska Petroleum Contractors	182
Tesoro Alaska	168
Kmart	160
Baker Hughes Oilfield Services	139

Source: Alaska Department of Labor and Workforce Development

Seven of the study's primary producers and refiners employed 674 residents in the Kenai Peninsula Borough, which was more than four percent of the Borough's total employment of 16,600. Total earnings for the primary producers and refiners was \$63 million. Average monthly wages for the primary producers was \$7,840, more than three times the Kenai Peninsula Borough average of \$2,500.

Induced impacts consist of the additional jobs and income created in Kenai when employees of the primary producers and refiners make purchases of local goods and services. Analysis using the IMPLAN economic model shows that 777 induced jobs are distributed across Kenai industries as show in Table 18. Additional payroll generated from induced impacts was \$19 million and value added was \$38 million.

Table 18 Induced Impacts for Primary Producers/Refiners Payroll in Kenai Peninsula Borough

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	4	\$57	\$123
Mining	2	\$169	\$552
Construction	9	\$414	\$490
Manufacturing	47	\$1,985	\$3,575
Transportation, Communications & Utilities	36	\$1,611	\$3,955
Trade	239	\$4,951	\$7,861
Finance, Insurance & Real Estate	58	\$1,417	\$10,423
Services	352	\$7,736	\$9,395
Government	26	\$1,221	\$1,399
Other	3	\$24	\$32
Total	777	\$19,587	\$37,806

Based on survey responses from primary producers and refiners, approximately 13 percent or \$215 million of the total primary producers' Alaska expenditures for goods and services occurred in the Kenai Peninsula Borough. Table 19 summarizes these purchases by economic sector. The largest purchase of goods and services was from the oil and gas extraction industry (classified under the mining sector) at \$130 million. This was followed by the transportation, communications and utilities, and trade industries at \$32 million and \$31 million, respectively.

Table 19 Oil Producer/Refiner Expenditures for Goods and Services in Kenai, by Sector

Sector	Oil Producer Expenditures (\$ thousands)
Mining	\$130,260
Construction	\$14,637
Transportation, Communications & Utilities	\$32,089
Trade	\$31,136
Services	\$6,566
Total	\$214,689

Indirect impacts from this \$215 million in purchases in goods and services by the oil producers and refiners created an estimated 2,822 jobs as shown in Table 20. Industries with the highest employment were services and trade at 709 and 1,026 jobs, respectively. Other industries include oil and gas (mining) at 320 jobs, transportation, communications and utilities at 262 workers, and construction at 249 jobs.

Earnings from purchases of goods and services by the primary producers and refiners in Kenai Peninsula Borough totaled an estimated \$94 million in 1999. This is equivalent to roughly 19 percent of the total Kenai Peninsula Borough earnings of \$499 million not including fishing and active duty military. Industries with the highest total earnings were oil and gas and trade at \$28 million and \$21 million, respectively.

The contribution to gross regional product or value added from purchases of goods and services by the primary producers and refiners in Kenai was an estimated \$207 million. This is equal to five percent of the total \$1.4 billion in Gross Regional Product for the Kenai Peninsula Borough. Industries that enjoyed the largest value added effects were mining at \$90 million, trade at \$33 million, and transportation, communications and utilities, at \$27 million.

Table 20 Indirect Impacts from Purchases of Goods and Services in Kenai by Sector

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	9	\$110	\$236
Mining	320	\$27,681	\$90,467
Construction	249	\$10,657	\$12,610
Manufacturing	107	\$4,650	\$8,376
Transportation, Communications & Utilities	262	\$11,197	\$27,494
Trade	1,026	\$20,680	\$32,833
Finance, Insurance & Real Estate	86	\$1,957	\$14,392
Services	709	\$14,766	\$17,928
Government	48	\$2,149	\$2,464
Other	6	\$50	\$67
Total	2,822	\$93,897	\$206,866

Table 21 shows the total for the Kenai Peninsula Borough in 1999. In all, the petroleum industry accounted for 4,273 jobs and \$176 million in payroll for Kenai in 1999. This was 26 percent of local employment and 36 percent of payroll. This payroll, together with other economic activity, generated \$245 million in value added in the local economy.

Table 21 Total Impacts for Kenai Peninsula Borough

	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Primary Producers Employment and Payroll	674	\$63,000	
Induced Impacts	777	\$19,587	\$37,806
Indirect Impact	2,822	\$93,897	\$206,866
Total Impacts	4,273	\$176,484	\$244,672

Fairbanks North Star Borough

Summary of Impacts

- Five of the 13 primary producers (including refiners and transporters) are directly involved in the Fairbanks economy. In 1999, they employed 565 people with \$40 million in payroll, for an average monthly wage of \$5,855. They also spent \$190 million on goods and services in the Fairbanks economy.
- That \$190 million in local purchases of goods and services created an additional 1,547 jobs and \$60 million in payroll in Fairbanks among support industry businesses and another 1,585 jobs and \$48 million in payroll throughout the rest of the Alaska economy. That translates to a total indirect impact of 3,132 jobs and \$105 million in payroll.
- The induced impacts (the impacts resulting when the 565 employees spent their payroll) were 446 jobs and \$12 million in payroll.
- Altogether, the petroleum industry accounted for approximately 4,143 jobs and \$158 million in payroll.
- The industry is the largest in the Fairbanks North Star Borough, accounting for 12.4 percent of area employment and 16 percent of area payroll (not including active duty military payroll).

The Oil Industry's Role in the Fairbanks North Star Borough

Alaska Department of Labor records show total 1999 employment in the Fairbanks North Star Borough as 32,500, not including active duty military. The three largest sectors in the borough in 1999 were government at 10,400 jobs, services at 8,400 and trade at 6,600. Active duty military and civilian on-base employment in the Fairbanks North Star Borough was 9,462 in 1999, based on information from the Fairbanks North Star Borough. Table 22 shows the top ten private sector employers in the Fairbanks North Star Borough in 1999.

Table 22 Ten Largest Private Employers in Fairbanks North Star Borough

Firm	Employees
Lutheran Health Systems	1,005
Tanana Chiefs Conference Inc	609
Fred Meyer Inc	569
Houston/NANA JV	379
Safeway Stores/Carr Gottstein Foods	379
Fairbanks Native Association Inc	300
Fairbanks Gold Mining Inc	266
Westours Motorcoaches Inc	256
Fountainhead Development Inc	233
Kmart Corporation	224

Source: Alaska Department of Labor and Workforce Development

Industries particularly important to Fairbanks include health care and the public sector. Lutheran Health Systems is the largest private employer in Fairbanks, with 1,005 workers in 1999. Historically, Fairbanks has been a health care center that draws its clientele from smaller interior communities.

In the public sector, the Fairbanks North Star School District and the University of Alaska Fairbanks employ more than 1,800 workers each. The 9,462 active duty military and civilian defense workers also have a significant impact on Fairbanks.

A cornerstone of the Fairbanks economy, however, is the oil and gas industry. Alyeska Pipeline Service Company's pipeline operations unit is headquartered in Fairbanks, and although it was not among the top ten employers, Alyeska employed 205 workers in 1999. Houston/NANA JV was the largest oil industry employer and the third largest employer overall in the Fairbanks North Star Borough, employing 379 workers. Fairbanks also is home to Williams Alaska Petroleum's refining operation with 144 workers.

Five of the primary producers, refiners and transporters were directly involved in the Fairbanks North Star Borough economy. In 1999, they employed 565 people with \$40 million in payroll, for an average monthly wage of \$5,855. In addition, the primary producers spent \$190 million on goods and services in Fairbanks during 1999. That \$190 million in Fairbanks purchases created 1,547 jobs and \$60 million in payroll among support industry businesses.

Induced impacts consist of the additional jobs and income created in the Fairbanks North Star Borough when employees of the primary oil producer companies make purchases of local goods and services. After deducting taxes, savings, and payments on interest, \$32 million in personal consumption expenditures generated an additional 446 jobs across Fairbanks North Star Borough industries as described in Table 23. The largest number of jobs linked to the payroll was in services and trade industries at 204 and 141 workers, respectively.

Table 23 Induced Impacts for Primary Producers Payroll in Fairbanks

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	0	\$5	\$12
Mining	3	\$135	\$199
Construction	6	\$299	\$324
Manufacturing	12	\$419	\$961
Transportation, Communications & Utilities	22	\$903	\$1,922
Trade	141	\$3,018	\$4,755
Finance, Insurance & Real Estate	35	\$857	\$6,047
Services	204	\$5,410	\$6,385
Government	21	\$1,085	\$1,496
Other	3	\$28	\$35
Total	446	\$12,158	\$22,137

There is an extremely broad network of oil industry support businesses. According to information from the primary producers and surveys of the oil industry vendors, approximately 12 percent of statewide producer spending, \$190 million, went toward goods and services in Fairbanks in 1999. Table 24 summarizes these purchases by economic sector. The largest purchases were transportation, communications and utilities at \$71 million, oil and gas (mining) at \$49 million, and construction at \$41 million.

Table 24 Oil Producer Expenditures for Goods and Services in Fairbanks, by Sector

Sector	Oil Producer Expenditures (\$ thousands)
Mining	\$48,514
Construction	\$40,898
Transportation, Communications & Utilities	\$71,461
Manufacturing	\$2,861
Trade	\$6,828
Finance, Insurance & Real Estate	\$5,290
Services	\$14,002
Total	\$189,854

That \$190 million in purchases of goods and services created an estimated 3,132 indirect jobs in the Fairbanks North Star Borough. Table 25 shows indirect impacts to employment, payroll, and value added from these purchases. Indirect employment from purchases accounts for 10 percent of Fairbanks North Star Borough total employment at 32,548 in 1999, not including fishing and active duty military. Industries with the highest employment were services and transportation, communications and utilities at 874 and 615 workers, respectively.

Indirect impacts to payroll totaled \$105 million. Sectors with the highest total earnings were construction and transportation, communications and utilities, each at \$24 million, followed closely by services at \$22 million.

Value added results show an estimated \$170 million from indirect impacts. Contributing the largest share to total value added was transportation, communications and utilities at \$48 million. Services and construction followed each contributing \$26 million to value added.

Table 25 Indirect Impacts from Purchases of Goods and Services in Fairbanks, by Sector

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	2	\$24	\$54
Mining	405	\$15,872	\$23,577
Construction	478	\$24,017	\$26,013
Manufacturing	64	\$2,536	\$5,830
Transportation, Communications & Utilities	615	\$23,652	\$48,357
Trade	489	\$10,300	\$16,241
Finance, Insurance & Real Estate	108	\$2,546	\$17,834
Services	874	\$22,304	\$26,320
Government	85	\$4,125	\$5,704
Other	12	\$124	\$158
Total	3,132	\$105,498	\$170,086

Table 26 shows the total for the Fairbanks North Star Borough in 1999. In all, the petroleum industry accounted for 4,143 jobs and \$158 million in payroll in Fairbanks in 1999. This was 12 percent of local employment and 16 percent of payroll. This payroll, together with other economic activity, \$192 million in value added in the local economy.

Table 26 Total Impacts for Fairbanks North Star Borough

	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Primary Producers Employment and Payroll	565	\$40,000	
Induced Impacts	446	\$12,158	\$22,137
Indirect Impact	3,132	\$105,498	\$170,086
Total Impacts	4,143	\$157,656	\$192,224

Matanuska-Susitna Borough

Summary of Impacts

- Six of the 13 primary producers employ 353 Mat-Su residents with \$36 million in payroll, for an average monthly wage of \$8,382. These residents live in the Mat-Su Borough, but work elsewhere, primarily in Anchorage. Oil industry purchases created jobs for another 2,105 Mat-Su residents who commute to Anchorage or other state locations to work for contractors and vendors supporting the primary producers. Payroll associated with these jobs was \$84 million.
- The induced impacts (the impacts resulting when the 353 oil company employees and the 2,105 vendor and contractor employees spent their payroll) were 1,558 jobs and \$38 million in payroll.
- Altogether, the petroleum industry accounted for approximately 4,016 jobs and \$158 million in payroll in the Matanuska-Susitna Borough in 1999.
- Primarily because of the large number of highly paid oil and gas industry and support industry employees living in the Matanuska-Susitna Borough, the industry is the largest in the borough. It creates the equivalent of 12 percent of commuter-adjusted area population and 16 percent of commuter-adjusted total payroll.

Role of Oil Industry in Matanuska-Susitna Borough

The Matanuska-Susitna Borough is the fastest growing region in the state. As of 1999, the borough was home to 55,694 residents, representing the third largest population center in the state behind Anchorage and the Fairbanks North Star Borough. During the past decade, employment in the Mat-Su Borough grew 5.8 percent per year, three times faster than the rest of the state. Approximately two-thirds of the growth came from the service and retail sectors. Among the service industries growth in health care has been especially strong. Retail employment has seen growth from new Fred Meyer and Wal-Mart stores. Table 27 lists the top ten private sector employers in the Mat-Su Borough in 1999.

Table 27 Ten Largest Private Employers in Matanuska-Susitna Borough

Firm	Employees
Valley Hospital	418
Safeway\Carrs	416
Wal-Mart	353
Matanuska Telephone Association	275
Mat-Su Community Counseling Center	121
Wolverine Supply	120
Mat-Su Services for Children and Adults	118
Nye Frontier Ford	117
Fred Meyer	125
Fishers Fuel	95

Source: Alaska Department of Labor and Workforce Development

Underlying this strong growth in Mat-Su population has been a growing economic interrelationship between Anchorage and the borough. Anchorage, the state's largest city, lies less than one hour's drive from Mat-Su, and many of its residents commute to Anchorage for employment; a 1998 study, referenced in the *Alaska Economic Trends, July 2000* issue on the Matanuska-Susitna Borough, found that approximately 38 percent of Mat-Su residents commute to Anchorage. As a result, unlike other regions across the state, large portions of the economic activity in the Mat-Su region originate when residents working in Anchorage spend their income in the local economy. The resulting effect is that most of the employment actually located in the Mat-Su Borough exists to provide support services for the area population.

Information from the primary producers and data collected from surveys of oil industry vendors indicates the oil industry has a dramatic impact on the Mat-Su Borough economy through payroll expenditures. In 1999, the primary producers and their contractors and vendors generated \$120 million in payroll and employed 2,458 Mat-Su residents. This is equivalent to seven percent of the estimated total employment of 32,889, taking into account Mat-Su commuters, ranking the oil industry as the largest single contributor to the Mat-Su economy.

Induced impacts consist of the additional jobs and income created in Mat-Su when employees of the primary oil producers and vendors make purchases of local goods and services. Analysis using the IMPLAN economic model indicates that 1,558 induced jobs are distributed across Mat-Su industries as described in Table 28. Industries benefiting from induced impacts included services at 749 workers and trade at 541. Total payroll from induced impacts was \$38 million.

Table 28 Induced Impacts for Primary Producers and Vendors Payroll in Mat-Su Borough

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	13	\$192	\$345
Mining	2	\$110	\$144
Construction	19	\$768	\$822
Manufacturing	6	\$162	\$244
Transportation, Communications & Utilities	53	\$2,616	\$6,699
Trade	541	\$11,115	\$17,501
Finance, Insurance & Real Estate	123	\$2,792	\$20,913
Services	749	\$18,355	\$21,913
Government	44	\$1,998	\$2,252
Other	7	\$57	\$70
Total	1,558	\$38,165	\$70,903

Table 29 shows total impacts for the Matanuska-Susitna Borough in 1999. In all, the petroleum industry accounted for 4,016 jobs and \$158 million in payroll in Mat-Su in 1999. This was the equivalent of 12 percent of commuter adjusted area employment and 16 percent of commuter adjusted total payroll. This payroll, together with other economic activity, generated \$71 million in value added in the local economy.

Table 29 Total Impacts for Matanuska-Susitna Borough

	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Primary Producers and Vendors Employment and Payroll	2,458	\$120,000	
Induced Impacts	1,558	\$38,165	\$70,903
Total Impacts	4,016	\$158,165	\$70,903

Valdez Area

Summary of Impacts

- Five of the 13 primary oil and gas producers (including refiners and transporters) have activities in the Valdez region (the Valdez-Cordova Census Area). In 1999, they employed 313 people with \$32 million in payroll, for an average monthly wage of \$8,520. They also spent \$17 million on goods and services in the Valdez economy.
- That \$17 million in local purchases of goods and services created an additional 123 jobs and \$4 million in payroll in the Valdez region among support industry businesses and another 82 jobs and \$2 million in payroll throughout the rest of the Valdez economy. That makes a total indirect impact of 205 jobs and \$6 million in payroll.
- The induced impacts (the impacts resulting when the 313 employees spent their payroll) were 291 jobs and \$7 million in payroll.
- Altogether, the petroleum industry accounted for approximately 809 jobs and \$46 million in payroll.
- The industry is the largest in Valdez and in the entire Valdez-Cordova Census Area, accounting for 17 percent of census area employment and 28 percent of census area payroll.

Role of Oil in the Valdez Economy

Valdez is one of the more diversified economies in Prince William Sound. Alaska Department of Labor statistics show government employed 1,152 workers in the Valdez-Cordova census area in 1999, followed by services at 1,048, and the transportation, communication, and utilities sector at 874 jobs. Although there are few Valdez jobs associated with oil and gas extraction, the oil industry accounts for most of the transportation sector employment. Many of Valdez's service jobs directly support the industry as well. Table 30 shows the top ten Valdez private sector employers in 1997. Of these, four are oil-related.

Table 30 Ten Largest Private Employers in Valdez

Firm	Employees
Alyeska Pipeline Service Company	296
Valdez City Schools	150
City of Valdez	134
Tidewater Marine	121
TCC LLC	119
Peter Pan Seafoods	88
Seahawk Seafoods Inc.	70
Houston Contracting	64
AK Dep't of Health & Social Services	55
University of Alaska	47

Source: Alaska Department of Labor and Workforce Development

Oil has played a fundamental role in the Valdez economy since construction of the Trans-Alaska Pipeline began in the mid-1970s. Today, as the terminus of the pipeline, the Port of Valdez handles more crude oil than any other port in North America. There were 640 tanker landings in the past year. Nearly one-third of the Valdez workforce is employed in the transportation sector, and the workers are primarily involved in the transportation of oil. Four of the top ten employers in Valdez are directly associated with the oil terminus: Alyeska Pipeline Services Company, Tidewater Marine, TCC LLC, and Houston Contracting.

Most of the remaining transportation jobs are associated with the cruise and cargo industries. In 1999, there were 70 large cruise ship landings in Valdez.

Alyeska Pipeline Service Company, the largest employer in Valdez, manages the pipeline system and the off-loading facility at the Port of Valdez. In addition to these activities, Alyeska's Ship Escort/Response Vessel System (SERVS) is based in Valdez. The mission of SERVS is to prevent oil spills by assisting tankers in safe navigation through Prince William Sound, and to protect the environment by providing oil spill response services to the Valdez Marine Terminal and Alaska crude oil shippers.

During the past decade, hundreds of millions of dollars have been spent on maintenance and improvements to the terminus, the pipeline and its ancillary systems, and oil spill response capabilities in Valdez. The \$100 million oil terminal tanker vapor control project completed in 1999 is a recent example.

In recent years, the visitor industry in Valdez also has grown substantially. Visitors consist of cruise passengers, highway traffic and ferry travelers. Valdez has 500 hotel/bed-and-breakfast rooms. A significant economic impact of the added visitors has been growth of the charter fishing industry. Relatively few commercial fishing vessels are home-ported in Valdez, but the community has three seafood processors, including two of the town's ten largest employers.

Five of the study's primary producers are directly involved in the Valdez region economy. They employ 313 workers, seven percent of the area's total employment of 4,633. Total earnings for the primary producers were \$32 million. Average monthly wages for the primary producers was \$8,520, nearly three times the Valdez average of \$3,000.

Induced impacts consist of additional jobs and income created in the Valdez-Cordova area when employees of the primary producers make purchases of local goods and services. Analysis using the IMPLAN economic model indicates that 291 induced jobs are distributed across Valdez area industries as show in Table 31. Services and trade showed the largest induced employment and payroll.

Table 31 Induced Impacts for Primary Producers Payroll in Valdez-Cordova Census Area

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	2	\$20	\$43
Mining	0	\$3	\$5
Construction	3	\$197	\$217
Manufacturing	24	\$906	\$1,510
Transportation, Communications & Utilities	10	\$801	\$2,785
Trade	95	\$1,897	\$3,009
Finance, Insurance & Real Estate	16	\$257	\$4,959
Services	130	\$2,756	\$3,423
Government	10	\$457	\$540
Total	291	\$7,295	\$16,493

The primary producers also purchased goods and services in the Valdez area. Information from the primary producers and surveys of the oil industry vendors indicate approximately \$17 million went for goods and services in Valdez in 1999. Table 32 summarizes these purchases by economic sector. The largest purchases were in the transportation, communications and utilities sector, primarily for support to Alyeska Pipeline Service Company.

Table 32 Oil Producer Expenditures for Goods and Services in Valdez by Sector

Sector	Oil Producer Expenditures (\$ thousands)
Construction	\$362
Transportation, Communications & Utilities	\$12,872
Trade	\$849
Services	\$3,297
Total	\$17,379

This \$17 million in purchasing created approximately 205 jobs in area businesses that provide goods and services directly to the primary producers. Table 33 shows indirect impacts to employment, payroll, and value added from the \$17 million in purchases. This is equivalent to four percent of Valdez-Cordova Census Area total employment at 4,633 in 1999. Industries with the highest employment were services at 113 workers and transportation, communications and utilities, and trade each at 36 workers, respectively.

Total payroll associated with the 205 support industry jobs was \$6 million in 1999 not including active duty military and fishing. As a percent of area-wide total payroll, indirect payroll was equal to four percent. Industries with the highest total payroll were transportation, communications and utilities, at \$3 million and services at \$2 million.

Value added results show an estimated \$15 million in the Valdez-Cordova Census Area. Industries that benefited from the purchases of goods and services by the primary producers were transportation, communications and utilities, at \$9 million and services at \$3 million.

Table 33 Indirect Impacts from Purchases of Goods and Services in Valdez, by Sector

Sector	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Agriculture	0	\$5	\$11
Mining	0	\$4	\$6
Construction	6	\$347	\$382
Manufacturing	8	\$287	\$479
Transportation, Communications & Utilities	36	\$2,605	\$9,052
Trade	36	\$695	\$1,102
Finance, Insurance & Real Estate	3	\$47	\$912
Services	113	\$2,280	\$2,832
Government	3	\$143	\$169
Total	205	\$6,414	\$14,946

Table 34 shows totals for Valdez-Cordova Census Area in 1999. In all, the petroleum industry accounted for 809 jobs and \$46 million in payroll in 1999. This is equivalent to 17 percent of the workforce and 28 percent of the total payroll. This payroll, together with other economic activity, generated \$31 million in value added in the local economy.

Table 34 Total Impacts in Valdez-Cordova Census Area

	Employment	Payroll (\$ thousands)	Value Added (\$ thousands)
Primary Producers Employment and Payroll	313	\$32,000	
Induced Impacts	291	\$7,295	\$16,493
Indirect Impact	205	\$6,414	\$14,946
Total Impacts	809	\$45,709	\$31,440

VI. Tax and Royalty Payments to Local and State Governments

In addition to oil industry impacts relating to purchases of goods and services and oil industry payroll, the oil industry makes payments in the form of taxes and royalties to state and local governments. Through state and local government spending of oil revenues, Alaska's oil industry has significant indirect economic impacts on the Alaska economy generally in addition to its impacts on specific communities. In calendar year 1999, 71 percent of state General Fund revenues came from royalties and taxes paid by the oil industry. These oil revenues, totaling \$1.5 billion in 1999, were spent over a wide range of areas throughout the state. These areas included capital projects, expenditures in support of basic government operations (including payroll for state government employees), revenue sharing and municipal assistance (pass-through money to local governments), education (including Foundation Funding for K-12 and the University of Alaska), Longevity Bonus payments, and grants for a diverse assortment of programs. Alaska's Permanent Fund also is funded with oil revenues, and therefore Permanent Fund dividends represent another form of indirect yet clearly substantial economic impact of the oil industry.

State Government Personnel

According to Alaska Department of Labor data, state government employed an average of 21,500 workers in Alaska during 1999. Using earnings data reported from "Employee and Earnings Summary" reports for 1998 and taking into consideration changes in prices, 1999 earnings for state employees were \$803 million. Funds for state payroll come from a combination of both unrestricted and restricted funds.

Based on information from a study by Information Insights and McDowell Group on December 15, 1999, entitled *Economic Impact of the Petroleum Industry on the Fairbanks North Star Borough*, approximately 65 percent of non-university state government employment can be attributed to General Fund money, while 40 percent of university payroll is from General Fund money. When combined in the Fairbanks study, approximately 50 percent of \$143 million in state employee earnings came from the General Fund.

Utilizing this methodology, approximately 50 percent of the \$803 million state government employee earnings, or \$402 million, came from the General Fund. Finally, with 71 percent of General Fund revenue originating from oil taxes and royalties, approximately \$285 million of state government employee earnings can be attributed to the petroleum industry. This is equivalent to an estimated employment of 7,633 workers for state government.

To quantify the relationship between the state government payroll that can be attributed to the oil industry, the original \$229 million, after deducting expenditures for taxes, savings, and payments on interest, resulted in an estimated 3,142 jobs linked to the oil-related state payroll. As seen in Table 35, the largest share of jobs generated from the payroll was in services and trade industries, which would be expected.

Table 35 Employment in Alaska from Oil Funded State Government Payroll

Sector	Total Impacts (# of jobs)
Agriculture	9
Mining	9
Construction	34
Manufacturing	176
Transportation, Communications & Utilities	143
Trade	898
Finance, Insurance & Real Estate	249
Services	1,510
Government	103
Other	12
Total	3,142

State Government Non-Personnel Expenditures

Non-personnel expenditures for state government operations were not included in the analysis because of the difficulty in identifying money actually spent in the Alaska economy. Research beyond the scope of this study would be required to dissect each program budget and accurately measure non-personnel spending in Alaska.

Local Government

According to the *Alaska Taxable* for 1999, local property taxes paid by the oil and gas industry amounted to \$223 million, about one-third of all property taxes statewide. Most of this amount, \$196 million, was collected in the North Slope Borough. This constituted 93 percent of the North Slope Borough's property taxes. Valdez received the second largest share of property taxes from oil and gas, \$14 million, or 75 percent of total Valdez property taxes collected. Property taxes collected in other regions included \$6 million (17 percent) in the Kenai Peninsula Borough, \$4.5 million (8 percent) in the Fairbanks North Star Borough, \$2 million (1 percent) in Anchorage, and just under \$100,000 in the Matanuska-susitna Borough.

Permanent Fund Dividend

In 1999, Alaska residents qualified for the Permanent Fund Dividend program received approximately \$1.05 billion in dividend payments. After deducting expenditures for taxes, savings, and payments on interest, dividend payments resulted in an estimated 11,407 jobs linked to the oil-related state payroll. Most of the jobs generated from the payroll were in services and trade industries, which would be expected. Although the study team provides an estimate on the impacts of the 1999 dividend payment on the Alaska economy, readers are

cautioned that this analysis is only a brief look at the interrelationships and that the subject is worthy of a more exhaustive analysis.

Table 36 Employment in Alaska from 1999 Permanent Fund Dividend

Sector	Direct Impact (# of jobs)
Agriculture	33
Mining	33
Construction	124
Manufacturing	673
Transportation, Communications & Utilities	544
Trade	3,468
Finance, Insurance & Real Estate	877
Services	5,211
Government	398
Other	46
Total	11,407

VII. Charitable Contributions

The Alaska oil and gas industry makes substantial charitable contributions to Alaska nonprofit organizations. In 1999, cash contributions from the primary producers to charitable nonprofits, totaled \$8.1 million. These numbers exclude oil industry contributions to business and oil industry associations.

Noncash contributions of tangible goods, such as computer equipment, vehicles, furniture, etc., to charitable organizations totaled more than \$1.9 million. In addition, most of the companies made additional donations of staff time, use of space and equipment, and other intangible contributions that the study team was unable to accurately quantify, but which were of substantial value to the recipient organizations.

The study team was able to determine the type of organization for most of the charitable contributions made by the industry in 1999. Table 37 lists the cash contributions by organization type. This table excludes in-kind contributions.

Table 37 Charitable Contributions by Type of Organization

Type	Amount	Percentage of Total
Arts & Culture	\$ 788,794	9.6 %
Education	\$ 1,233,695	15.2 %
Environment	\$ 205,625	2.5 %
Human Services	\$ 1,370,048	16.9 %
Community	\$ 1,552,688	19.2 %
Sports	\$ 213,455	2.6 %
Other	\$ 61,300	0.8 %
United Way	\$ 1,377,975	17.0 %
University	\$ 1,301,264	16.1 %
Total	\$ 8,094,844	

Contributions by the industry are spread throughout Alaska, with the largest proportion going to organizations that are statewide in focus as shown in Table 38 and Figure 8.

Figure 8 Regional Distribution of Charitable Contributions

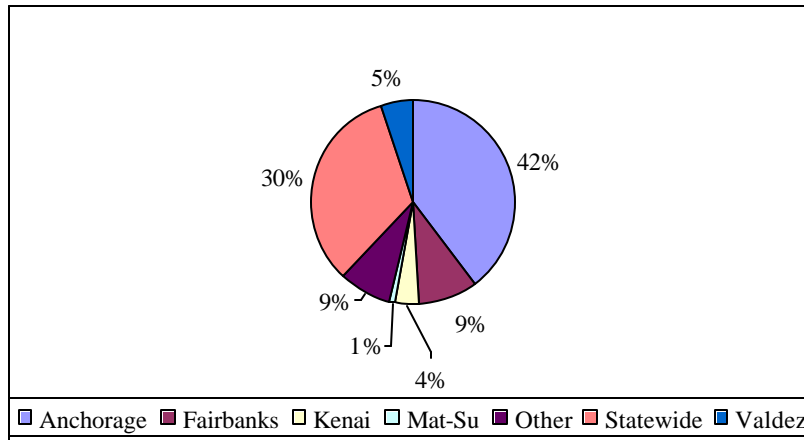


Table 38 Regional Distribution of Charitable Contributions

Region	Amount	Percentage of Total
Anchorage	\$ 3,372,584	41.7 %
Fairbanks	\$ 762,722	9.4 %
Kenai	\$ 331,435	4.1 %
Mat-Su	\$ 52,673	0.7 %
Valdez	\$ 402,861	5.0 %
Other Communities	\$ 719,303	8.9 %
Other Statewide	\$ 2,453,266	30.3 %
Total	\$ 8,094,844	

Not included in these amounts are industry support to business and petroleum-related nonprofit organizations, including community chambers of commerce, professional staff organizations, and oil and gas industry associations (including AOGA and the Alliance). Also not included in these amounts are in-kind contributions of equipment and other tangible items totaling more than \$1.9 million, or in-kind contributions of employee time, for which the study team was unable to obtain a reliable estimate.