



An Evaluation of the Economic Impacts of the September 2001 *Kodiak Star* Launch

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Summary of Findings:

The *Kodiak Star* launch:

- Brought \$4.4 million dollars of new money into the Alaska economy.
- Increased the size of the Alaska economy by \$6.8 million.
- Increased Kodiak payroll by about \$1.3 million.
- Also increased the Anchorage payroll by about \$1.3 million.
- Generated jobs in a wide range of industries from food service and hotels to business and health services.

Introduction

This summary describes the economic impacts on Kodiak and Alaska of the launch of the *Kodiak Star* (four satellites) on September 29th, 2001 launch from the Alaska Aerospace Development Corporation's Kodiak Launch Complex at Narrow Cape on Kodiak Island. The launch facility is a basic high-tech industry, bringing money into Alaska that otherwise would be spent elsewhere. This contrasts with support industries (such as retail trade), which largely re-spend money already in the state.

The September 2001 launch brought about \$4.4 million of new money into the state, to be spent in industries ranging from food and drink to communications to business services. Re-spending of this money ultimately increased the size of the Alaska economy by almost **\$6.8 million**.

Expenditure Assumptions

Since economic impacts result from expenditures, assumptions about expenditures are the starting point for our impact analysis. We drew our expenditure assumptions from Alaska Aerospace Development

Corporation (AADC) compilations of expenditures by Lockheed Martin, by NASA, and by AADC itself. We distributed the expenditures across 36 industries, based in part on information developed for earlier reports, to estimate the "final demand" these expenditures would place on those industries. That final demand became the input to the Alaska Input-Output model, which calculated how the money would flow through the economy.



Table 1. Expenditures Associated with 29 September '01 Launch

Lockheed Martin	Contract with AADC (\$450,000) for use of KLC plus Additional costs due to launch date changes (\$250,000)	700,000
Lockheed Martin	Materials, Subcontracts, Other Direct Charges	800,000
Lockheed Martin	Additional contract for launch-specific facility changes	1,800,000
Lockheed Martin	Food, Lodging and Incidentals for launch employees	1,209,600
NASA	Food, Lodging and Incidentals for launch employees	403,160
Individuals	Recreation, tours, souvenirs, personal expenditures	91,711
Total		\$5,002,919

Initial Estimates

Table 1 shows the total expenditures that were our starting point. Lockheed Martin paid AADC \$700,000 for use of the Kodiak Launch Complex (KLC). AADC in turn spent this money to pay ongoing expenses associated with operating the launch facility. Lockheed directly paid \$800,000 for communications, security, and other expenses associated with the launch. The company also paid AADC an additional \$1.8 million to modify the launch facilities to support this launch. Lockheed and NASA reported the approximate totals they spent for food, lodging and incidentals for their employees traveling to Kodiak. We used standard per diem rates to refine those totals in order to estimate how much visiting workers would spend beyond their per diem for entertainment and recreation.

We didn't include all the expenses that affected the Alaska economy. We excluded all the airfare for out-of-state employees flying to Alaska for the launch

campaign. Those expenditures did support some Alaska jobs and payroll, but most were made out of state and the money stayed there. We excluded the cost of barging equipment to Kodiak from the Lower 48, even though we know that some portion of that money supports barge terminal workers in Kodiak. Also, we excluded all the costs of bringing visitors to watch the first launch attempt (for example, airplane charter, hospitality), because those expenses are not typical of most launches.

Launch Expenditures

We needed to further define launch expenditures by the industries they affected and by where the expenditures occurred, in order to use the data in the I-O model. AADC provided information on where money paid directly to AADC by NASA and Lockheed was spent, allowing us to develop Table 2, which shows how much was spent in Kodiak, Anchorage, and outside the state.

Table 2. Launch Expenditures by Category

	Kodiak	Other Alaska	Outside Alaska	Total
Business Services, Insurance	46,728	12,538	0	59,266
Construction, Maintenance, Repair	173,068	0	0	173,068
Environmental Monitoring	0	118,000	0	118,000
Equipment, Supplies	127,200	107,086	61,050	295,336
Food, Hospitality	50,850	80	0	50,930
Labor	413,869	227,762	0	641,631
Professional Services	76,943	585,442	98,704	761,089
Transp., Communication, Utilities	562,460	638,220	0	1,200,680
Total	1,451,118	1,689,128	159,754	3,300,000

Expenditures For and By Visiting Launch Personnel

Lockheed Martin and NASA initially estimated that they spent \$1,200,000 and \$400,000 respectively for the expenses associated with feeding, housing, and locally transporting their employees on Kodiak during the launch campaign. Some of these employees were on Kodiak from June through mid-October. A typical commercial customer with a 90-day launch campaign will bring about 5400 visitor person-days (one person day is one person visiting Kodiak for one day). Because this launch was delayed by 30 days, we added one-third to that estimate, for a total of 7,200 visitor days for Lockheed Martin, and one-third that number, or 2,400 visitor days, for NASA. When we applied government per diem rates and modest costs for transportation on Kodiak, these visitor day estimates produced numbers quite close to the original contractor estimates: \$1,209,600 and \$403,160 respectively.

Type of Expenditure	Amount
Food	\$ 564,969
Lodging	941,615
Transportation	104,624
Tours & Recreation	59,991
Gifts, Souvenirs	24,824
Clothing	6,896
Total	\$ 1,702,919

In addition, business travelers will typically spend money beyond their per diem allowances on tourism activities. Most business visitors combine their visit with some amount of tourism. For some, it becomes an important component of their visit. For the vast majority of the *Kodiak Star* contractor personnel, this was their first visit to Alaska. Kodiak is a unique place, very different from the areas where the KLC customers live. We assume that these business visitors will actively engage in tourist activities. Their spending patterns will be much like those of business visitors to other parts of Alaska who are combining their visit with tourism. Table 3 shows the combined expenditures for per diem and personal recreation.

Net Expenditures In-State

As Tables 2 and 3 show, part of all the monies spent flows directly out of state, leaving in-state expenditures lower than the initial total of about \$5 million. Table 4 summarizes these outflows and shows the total dollars spent in Alaska for this launch were about \$4.4 million. This \$4.4 million is the input for the Alaska I-O model, which calculates how this money is likely to flow

through the economy as it is spent and re-spent. At each stage, some money flows out of the Alaska economy, usually into the larger U.S. economy. Some types of expenditures have higher out-flows than others. Money spent on clothing is much more likely to leave the Alaska economy immediately, since many of the clothes available for sale here were manufactured out-of-state; money spent on services will stay in Alaska longer as it goes largely to pay the wages of the service provider.

Category	Amount
Lockheed Additional Launch Costs	\$800,000
AADC Contract	700,000
Lockheed Change Orders	1,800,000
Food, lodging, trans, tourism	1,702,919
Total Spending	\$5,002,919
Immediate Out-Of-State Flows	559,036
Net Spending In Alaska	\$4,443,883

Economic Impacts

Tables 5 and 6 summarize the economic impact of the *Kodiak Star* launch on the Kodiak and Alaska economies. Re-spending in the Alaska economy expands the initial in-state expenditures by over 50 percent. Kodiak's multiplier is much lower—adding 22 percent to expenditures—because much of the spending on Kodiak that stays in Alaska flows out to Anchorage.

- The \$4.4 million spent in-state became \$6.8 million of total economic effect on Alaska.
- Of this \$6.8 million, about half benefited the Kodiak economy, and the other half flowed through the Anchorage economy.
- Spending associated with this launch supported \$1.35 million of payroll in Kodiak.
- In Anchorage, the Business Services payroll grew the most—over \$600,000, followed by communications and trade.
- Business Services (\$471,148) and Lodging, Food and Amusements (\$440,114) together accounted for about two thirds of the payroll growth in Kodiak.
- Although many of the jobs generated both in Kodiak and elsewhere in Alaska are low-wage jobs (such as retail clerks and restaurant wait staff), others (such as some of the Business Services, Transportation, and Health Services jobs) are relatively high wage jobs.

Table 5. Economic Impact of 29 September '01 Launch Summary			
	Alaska	Southcentral (Anchorage)	Southwest (Kodiak)
Output	\$6,777,206	\$3,388,648	\$3,388,558
Payroll	\$2,631,724	1,278,205	1,353,519
Employment	85.3	40.6	44.7

Table 6. Operations Impacts: Effects of September '01 Launch Payroll by Industry			
Industry	Alaska	Southcentral (Anchorage)	Southwest (Kodiak)
Business Services	\$1,084,862	\$613,714	\$471,148
Lodging, Food, Amusements	499,624	59,510	440,114
Retail and Wholesale Trade	219,643	132,712	86,931
Transportation	170,348	74,779	95,569
Communication	166,625	144,928	21,697
Health Services	112,600	60,866	51,734
Construction and Maintenance	105,317	32,780	72,537
Other Services	96,091	53,567	42,524
Finance, Insurance, Real Estate	83,391	54,538	28,853
Utilities	30,236	9,669	20,567
All Other	62,988	41,141	21,847
Total	\$2,631,725	\$1,278,204	\$1,353,521

