

**ECONOMIC SIGNIFICANCE  
OF ALASKA RAILROAD**

PREPARED FOR  
ALASKA RAILROAD CORPORATION

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# Economic Significance of the Alaska Railroad

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Most money the Alaska Railroad spends to operate trains and build facilities stays in Alaska, supporting close to 1,900 jobs and \$83 million in payroll.

As Figure 1 shows, 42 percent of those jobs are railroad jobs and 58 percent are in other Alaska businesses. Of the payroll, 53 percent goes to railroad employees and 47 percent to employees of other Alaska businesses.

Those are the effects of current railroad spending of around \$108 million a year in Alaska. That spending supports jobs and income both directly and indirectly. When railroad employees spend their paychecks, they generate additional jobs and income in Alaska. Likewise, when the railroad buys supplies or services from Alaska businesses, those purchases help support jobs and income throughout the state economy.

The railroad benefits Alaska in other ways, besides spending money, but we can't quantify those other benefits. The railroad helps—or in some cases makes possible—certain economic developments, by providing a cheaper, more efficient way to transport heavy, bulk commodities like gravel and coal.

And by hauling jet fuel from the refinery near Fairbanks to Anchorage, the railroad helps support that refinery and provides Anchorage's international airport with an in-state source of fuel at competitive prices. The railroad also helps Alaska's tourism industry, by offering another way for tourists to travel and see areas not accessible by road.

Such benefits are real, but because we can't measure them in jobs or income generated, the economic effects reported here are just the effects of railroad spending.

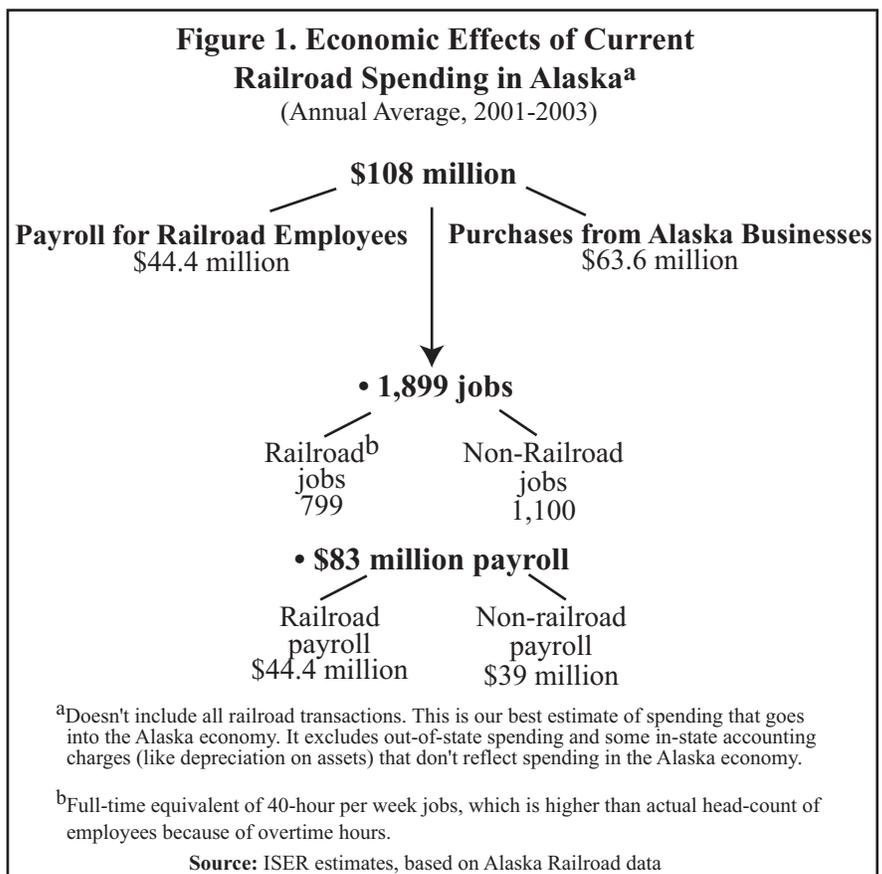
This summary is based on a report by Bradford Tuck and Mary Killorin of ISER; see page S-4.

More detail about the economic effects of annual railroad spending is in Figure 2 (on page 2), dividing the \$108 million of in-state spending into \$65 million of operations spending and \$43 million of capital spending.

Operations spending—that is, spending to run the railroad—directly generates 677 railroad jobs, \$38 million in railroad payroll, and \$27 million in purchases from Alaska businesses. That spending in turn generates an additional 650 jobs and \$21 million in payroll in Alaska.

Capital spending—for building railroad facilities or infrastructure—supports 122 railroad jobs, \$6.4 million in railroad payroll, and nearly \$37 million in purchases from Alaska businesses. Indirectly, it supports another 450 jobs and \$17.5 million in payroll for Alaska.

And if the railroad were to generate more revenue and therefore put more money into the economy, additional jobs and income would follow.



## Figure 2. Economic Effects of Railroad Spending for Operating Costs and Capital Projects in Alaska

(Annual Average, 2001-2003)

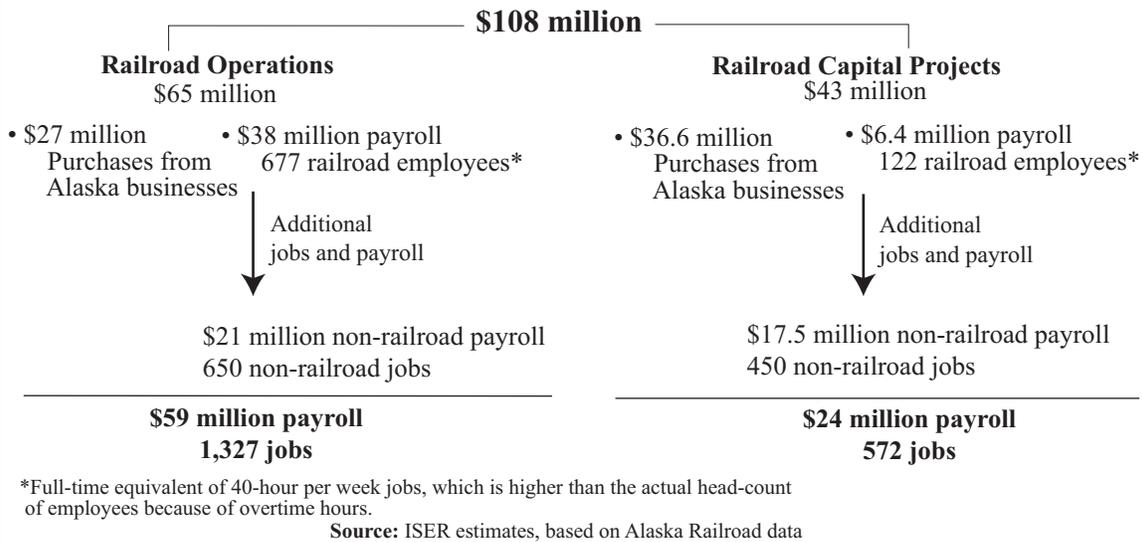


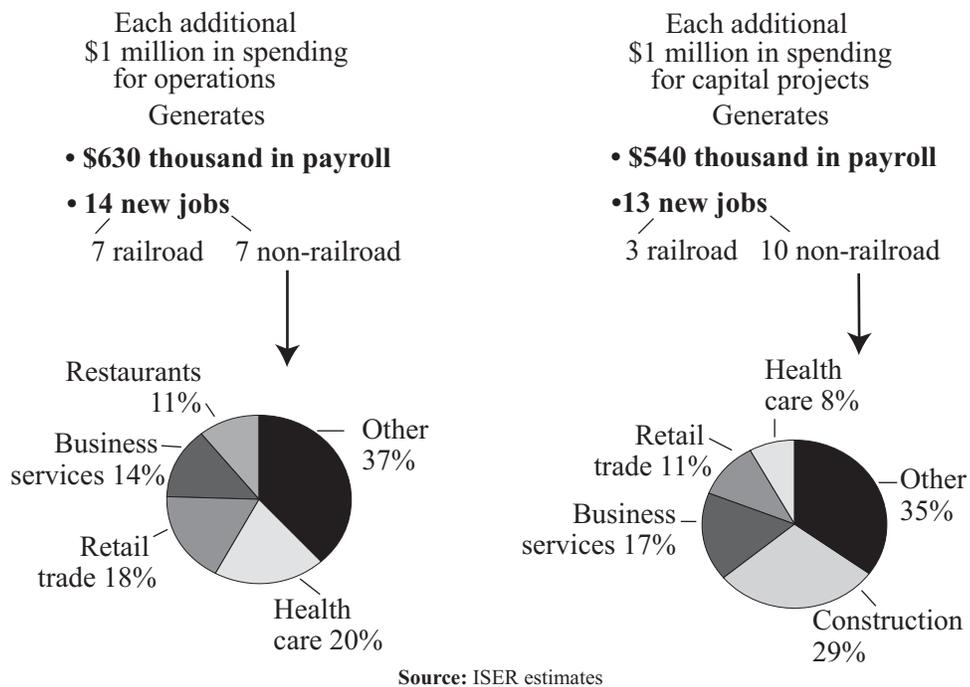
Figure 3 shows how a \$1 million increase in spending for operations or for capital projects would translate into additional Alaska jobs and income.

A \$1 million increase in operations spending would create 14 new jobs—half with the railroad and half in other businesses. A \$1 million increase in capital spending would create about 13 jobs—3 with the railroad and 10 in other Alaska businesses.

Spending for projects creates relatively more non-railroad jobs, because in many cases railroad employees don't build new facilities or infrastructure—the railroad contracts much of that work out to Alaska businesses.

The mix of jobs created by operating or capital spending also differs. As you'd expect, a big share of the non-railroad jobs from new capital spending—nearly a third—would be in construction. By contrast, the biggest shares of non-railroad jobs supported by new operations spending would be in health care (like jobs in medical clinics) or in grocery or department stores or other retail trade places.

### Figure 3. Effects of Additional Railroad Spending



### WHAT IS THE ALASKA RAILROAD?

The Alaska Railroad runs from the Kenai Peninsula—where it has terminals at both the port of Seward and the port of Whittier—north to Anchorage and then on to Nenana and Fairbanks in the Interior. It has been a state-owned corporation since 1985, when the State of Alaska bought it from the federal government. The U.S. Congress established the railroad in 1914, to help boost economic development in Alaska by providing a way to get gold and other minerals from the Interior to port for shipment south.

Except for about \$12 million from the state legislature to cover start-up costs, the railroad's operations have been self-supporting for the past 20 years.

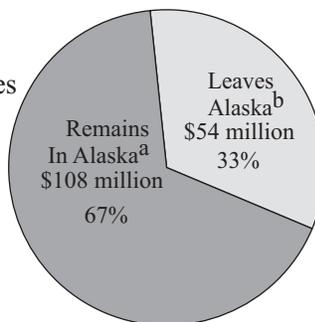
As Figure 4 shows, in-state railroad spending of \$108 million a year makes up around two-thirds of total railroad spending. The other one-third goes largely (1) to barge and rail services outside Alaska, for transporting rail cars and other equipment to and from Alaska, and (2) for purchasing new rail cars and other supplies and equipment not available here.

**Figure 4. Total Alaska Railroad Spending**

(Annual Average, 2001-2003)

**Major Expenses**

- Payroll for employees
- Purchases from Alaska businesses



**Major Expenses**

- Payments for barge, rail, and other services
- Purchases of railroad cars and other major equipment and supplies

<sup>a</sup> Doesn't include all railroad transactions. This is our best estimate of spending that goes into the Alaska economy. It therefore differs from amounts shown in later tables of this report, because it excludes out-of-state spending and some in-state accounting charges (like depreciation on assets) that don't reflect spending in the Alaska economy.

<sup>b</sup> Excludes spending for federal tax withholding and some other transactions. It is our estimate of railroad spending for goods and services purchased outside Alaska, based on railroad vendor reports.

Source: ISER estimates, based on Alaska Railroad data.

**SOURCES OF REVENUE**

Where does the railroad get its money? Figure 5 shows income from railroad activities, with freight accounting for 75 percent. Passenger services generate about 13 percent of the income from activities and real estate holdings another 11 percent. The railroad leases some of its land for commercial and residential uses, and it also issues permits for some uses (like fiber-optic cables) along its right-of-way.

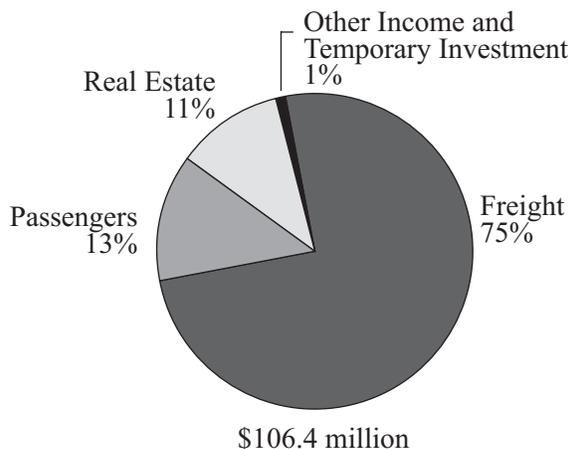
Figure 6 shows the breakdown of freight by the share of revenue generated. Petroleum products (including jet fuel and unleaded gasoline) account for nearly half the revenue from freight. Interline freight makes up nearly a third of freight value. Such freight includes a wide range of products and commodities that either come into or go out of Alaska and travel part way on the Alaska Railroad and part way on barges, other railroads, or trucks.

Figure 7 (page 4) shows where the railroad got the money for a number of major construction projects in recent years, including a new passenger station at Anchorage's airport. Federal grants made up 71 percent of capital funds. The railroad's retained earnings—that is, earnings beyond what the railroad needs for daily operations—made up another 26 percent, with the remaining 3 percent from borrowing.

Since 1996, federal grants have increased sharply, but the railroad doesn't necessarily receive or spend grants the same year they're appropriated. So the federal grant numbers in Figure 8, which differ from those in Figure 7, are mainly intended to show the magnitude of change in recent years. Some federal grants require the railroad to

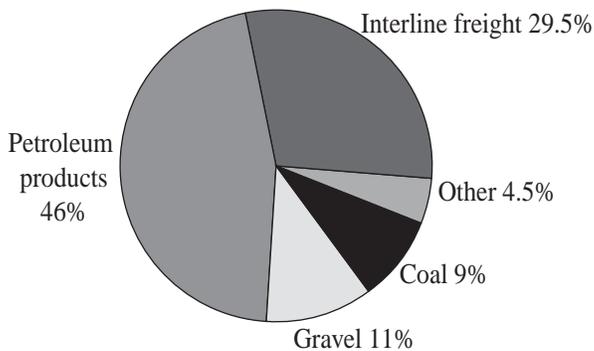
**Figure 5. Alaska Railroad Revenues by Activity**

(Annual Average, 2001-2003)



Source: Alaska Railroad data

**Figure 6. Composition of Freight**  
(By Share of Revenue Generated)



Source: Alaska Railroad data

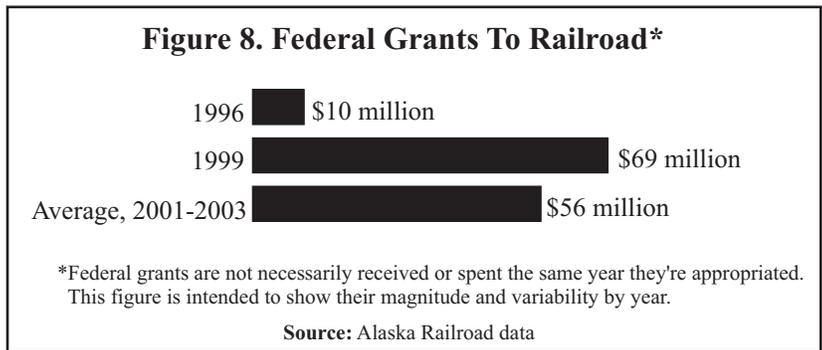
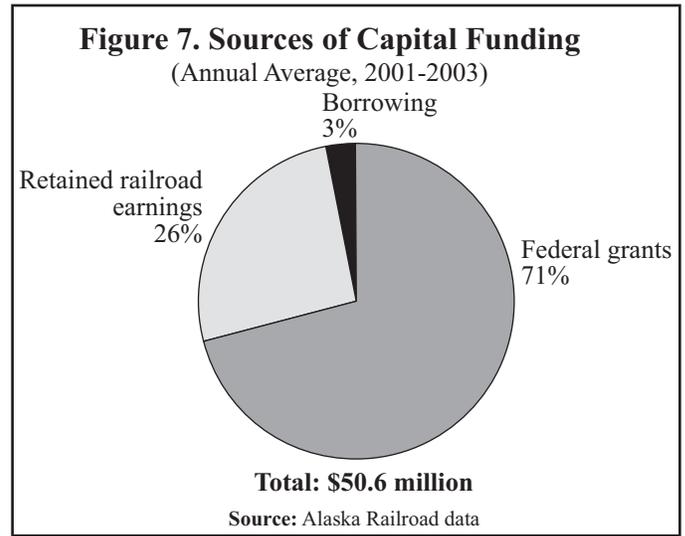
match funds—for example, grants from the Federal Transit Administration currently require the railroad to put up 9 cents for every dollar of federal money.

**CONCLUSIONS**

Our estimates of the economic effects of railroad spending in Alaska are based on annual average spending of \$108 million from 2001 through 2003. If railroad spending increased, it would support more jobs and income; if spending dropped, it would cost the state jobs and income.

Also, the economic effects would change if the mix of spending for operations and for capital projects changed. Railroad operations require relatively more railroad employees, and many of the non-railroad jobs that rely on operations spending are in health care and retail trade. Capital projects create relatively more non-railroad jobs, about a third of which are in construction.

Finally, it's impossible to predict future capital spending. About 40 percent of the railroad's in-state spending in recent years was for capital projects, which it pays for almost entirely through a combination of retained earnings and federal grants. We know that federal grants can vary a lot from year to year, and that the railroad's retained earnings depend on how much money it makes on its operations and its real estate development.



*Linda Leask, ISER's editor, wrote this summary and Clemencia Merrill, graphic artist, designed it.*

The 45-page report summarized here, *Economic Significance of the Alaska Railroad*, was prepared by Bradford Tuck and Mary Killorin of ISER for the Alaska Railroad. The report is available from ISER for costs of copying and mailing (if required); call 907-786-7710. It is also available on ISER's Web site at [www.iser.uaa.alaska.edu](http://www.iser.uaa.alaska.edu).

## CONTENTS

I. Introduction	1
II. Brief History and Overview of Railroad Operations	3
History of the Railroad	
Annual Summary of Operations and Capital Activities	
Table II-1. Summary of Income and Expenses, 1985-2003	
Figure II-1. Revenue Shares, By Activity	
Table II-2. Annual Operating Revenues, 2001-2003	
Figure II-2. Railroad Expenses by Type, 2001-2003	
Table II-3. Railroad Expenses by Type, 1994-2003	
Table II-4. Computed Gross and Net Annual Investment, 1985-2003	
III. Direct Economic Effects of Railroad Operations and Capital Activities	15
Table III-1. Estimated Purchased Goods and Services	
Table III-2. Average In-State Non-Capital Expenditures, 2001-2003	
Figure III-1. Average In-State Non-Capital Expenditures, 2001-2003	
Table III-3. Fixed Asset Additions, 2001-2003	
Table III-4. Total In-State Spending, Capital in Progress, 2001-2003	
Table III-5. Wage and Salary and Benefits by Region, 2001-2003 Averages	
Table III-6. Railroad Employee Person-Hours by Region, 2001-2003 Averages	
Table III-7. Wages and Employment among Railroad Employees, For Selected Places, 2001-2003 Averages	
Table III-8. Railroad Purchases by Region, 2001-2003 Averages	
IV. Economic Significance of Railroad Spending	27
Table IV-1. Statewide Alaska Railroad Multipliers	
Table IV-2. Statewide Impacts of \$1 Million Increase in Spending	
Table IV-3. Regional Direct Effects: Employment and Payroll Multipliers	
V. Broad Economic Impacts of the Alaska Railroad	33
VI. Summary and Conclusions	35



## I. INTRODUCTION

This report estimates the economic effects of Alaska Railroad spending in Alaska, for both operations and capital projects.

The Alaska Railroad is a major part of the transportation network in Alaska and also between Alaska and the Lower 48. It connects with rail service from the rest of the U. S. and Canada via its port facilities in Whittier and ships coal and naphtha to Asia via the port of Seward.

The railroad carries both passengers and freight, but it is freight that accounts for most of the railroad's operating revenue. It carries large volumes of a variety of freight. In recent years, petroleum products the railroad hauls from the North Pole refinery to the Anchorage area have made up much of its freight volume. For many years it carried several hundred thousand tons of coal per year between Healy and Seward, for export to Korea, and it continues to haul coal from Healy to Fairbanks. It also hauls a significant portion of the gravel used in the Anchorage bowl from the Mat-Su Valley. The railroad is able to carry these large volumes of freight more efficiently and at lower cost than trucks—and so it facilitates current economic activity and can help make future developments feasible.

The railroad is a major employer, in Anchorage and all along the railbelt, and it also makes significant purchases from a broad spectrum of Alaska businesses.

To estimate the railroad's economic effects, we looked at a broad range of railroad data. First, in Section II of this report we provide a brief history and overview of the railroad and look at where it is today. Section III looks at the economic dimensions of railroad activity. We review direct expenditures for labor and purchased goods and services for both operations and capital improvements. Our review considers both statewide and regional spending effects. Section IV then explores how railroad expenditures for labor and purchased goods and services affect other sectors of the Alaska economy—the “multiplier” effects of railroad spending. Section V describes the broad economic impacts of the railroad that are difficult to quantify such as boosting tourism and preventing wear and tear on Alaska's highways. We conclude with a brief summary and conclusions. Supporting materials are included in an appendix.



## II. BRIEF HISTORY AND OVERVIEW OF ALASKA RAILROAD OPERATIONS

### History of the Railroad

The Alaska Railroad has served Alaska—first as a territory and now as a state—for almost 90 years. It is North America’s last full-service railroad, providing both year-round freight and passenger services.

The roots of the Alaska Railroad go back to 1903 and the construction of the privately financed Alaska Central Railway. The original investors envisioned a route from Seward, on the Kenai Peninsula, to the coal mines of the Matanuska Valley and the gold mines near Fairbanks. Although they overcame many engineering challenges, they were less successful at paying the bills and Alaska Central was bankrupt by 1908. In 1910 investors tried again and the Alaska Central Railway became the Alaska Northern Railway. However, the new venture also failed, and in 1914 Congress came to the rescue by purchasing the Alaska Northern Railway for \$16,000 per mile.

Congress established the Alaska Railroad to facilitate economic development and provide access to mineral deposits in the Territory of Alaska. In 1915, construction began on the railroad from Seward to Fairbanks. The railroad moved its headquarters from Seward to Anchorage—a railroad construction town along Ship Creek. In 1917, the Alaska Railroad purchased the Tanana Valley Railroad and obtained its Fairbanks terminal facilities. The Alaska Railroad was officially completed in Nenana on July 15, 1923, when President Warren G. Harding drove in the final “golden” spike.

It was difficult for the railroad to generate enough business to make a profit until World War II brought it large profits from hauling military and civilian supplies and materials. World War II also brought expansion. In 1940, the railroad built two tunnels through the Chugach Mountains to allow rail access to Whittier. In addition, a new Anchorage passenger depot was completed that year.

The war years brought profits to the Alaska Railroad, but the increased freight hauls took a toll on the aging railroad infrastructure. As a result, Congress approved a \$100 million rehabilitation program after the war. Freight service continued, but passenger numbers declined when competition from roads resulted in the end of passenger service from Seward to Anchorage in 1953.

In 1962, the first car-barge service was established at Whittier, and two years later train-ship service began. These services made it possible for rail cars from the Lower 48 to be shipped to any point along the Alaska Railroad. Although the railroad played an important role in the Alaska economy, it was never a profitable business and there was continuous talk in Washington about selling it. However, the Alaska Railroad enjoyed a period of unexpected prosperity in the mid-1970s during construction of the trans-Alaska oil pipeline, and so it wasn’t until December 1982, that federal legislation was passed authorizing the sale of the railroad to the State of Alaska.

On January 14, 1983, President Reagan signed the Alaska Railroad Transfer Act of 1982 (ARTA). It authorized transfer of the railroad to the state of Alaska, subject to several conditions, including the requirement that the federal government be compensated for all rail properties.

ARTA also established a process for state consideration of the transfer offer. Within six months, an Alaska Railroad transfer report had to be prepared by the governor and the U.S. Secretary of Transportation and submitted to the Alaska State Legislature and the U.S. Congress. That document provided detailed descriptions of the rail properties, assets and liabilities of the railroad.

In addition, ARTA required the United States Railway Association (USRA) to determine the fair market value of the Alaska Railroad within nine months. On September 22, 1983, the USRA's board of directors set the price for the railroad at \$22.3 million.

ARTA also addressed the issue of land claims by Native corporations against railroad lands, created by the Alaska Native Claims Settlement Act of 1971 (ANCSA). During the 10-month period following the enactment of ARTA, the state, the Department of the Interior, and all affected Native village corporations were directed to make a good faith effort to negotiate settlements for as many outstanding claims as possible. Any claims not settled were to be adjudicated by the Secretary of the Interior within two years of the date ARTA was enacted.

When Alaska was given the opportunity to purchase the railroad from the federal government, the legislature saw the railroad as a development tool—a way to move timber resources located along the railbelt to market. State leaders also thought the railroad could expand into areas of large mineral deposits and “jump start” long-range projects where private enterprise would not have the financial ability to build the transportation network. Ideas for expansion included: an extension to the North Slope; a link to the Canadian rail network in British Columbia; extending the railroad to Fire Island, offshore from Anchorage; and from Houston to Point MacKenzie; and a non-contiguous expansion of the railroad along the western coast of Alaska to open year-round deep-water ports in Norton Sound.

In 1984, the Alaska Legislature passed the Alaska Railroad Corporation Act (ARCA). When ARCA was passed, one of the primary goals of the legislature was selling the railroad to the private sector. However, the legislature realized that a privately owned railroad might discontinue unprofitable passenger service to rural communities along the railbelt. In addition, the state might lose its ability to influence the direction the railroad might take regarding future economic development in Alaska. In order to balance these interests, the legislature chose to create a quasi-public corporation as an entity separate from state government, with a mandate to conduct its operations on a self-sustaining basis and to provide safe, efficient, economical levels of transportation.

On July 5, 1984, Governor Sheffield signed legislation establishing the Alaska Railroad Corporation (ARRC) as a state-owned corporation. The corporation was to act as an independent entity; to own and to operate the railroad; and to manage railroad property after the transfer. The railroad has a seven-member board of directors appointed by the governor. The board includes the state commissioners of Transportation and Economic Development and one employee from a union bargaining unit. The remainder of the board members must have business experience, and one member must have management or executive experience on a U.S. railroad.

ARRC's statutory mandate is to be a self-sustaining corporation that conducts its business without operating subsidies from the state. Unlike other independent state-owned corporations, ARRC's enabling statute requires that all revenue earned by the railroad be

retained by the railroad. This insures that there are funds available to adequately maintain and improve the railroad.

In 1985, the legislature appropriated \$11.9 million to the new corporation for start-up costs. Since that time, ARRC has received no operating subsidies from the state. It has met all its operating and capital expenses through revenues, retained earnings, and federal grants. ARRC currently owns 36,000 acres and uses about half of that for right-of-way and operations; the rest is available for leases or permits to help generate revenues.

### **Annual Summary of Operations and Capital Activities**

The Alaska Railroad's main track covers 466 miles from Fairbanks, in the Interior of Alaska, to the ports of Whittier and Seward. There are 611 total miles of track including spurs, industrial, and yard track. Maintenance and operations centers are located in Seward, Whittier, Anchorage, Healy and Fairbanks. In 2003, the railroad employed 722 full-time employees with an additional 100 seasonal employees from May through September. Over 95 percent of railroad employees are Alaska hires.

The Alaska Railroad connects with the Lower 48 and Canada through its marine barge service to the ports of Anchorage, Seward, and Whittier. Intermodal freight—trailers-on-flat-cars (TOFC) and containers-on-flat-cars (COFC)—comes from Seattle and Prince Rupert. The railroad carries coal from the Usibelli Mine in Healy to Seward for export to South Korea, and to power plants in the Interior operated by private industry, the University of Alaska Fairbanks, and three military installations. It also hauls gravel from the Matanuska-Susitna Valley to distribution centers in Anchorage. Petroleum products are the biggest revenue producer for the railroad. These products—including gasoline, diesel, and several types of jet fuel—are hauled in tank cars between Anchorage and Fairbanks.

Table II-1 provides a summary of ARRC income and expenses from 1985 through 2003. The data provide an overall picture of the size of the railroad and a description of its activities. As can be seen, freight, passenger service, and real estate income are the three primary revenue sources. To some extent, railroad activity reflects overall economic conditions. The economic decline of the late 1980s, caused by falling oil prices, is clearly evident in freight revenues over the same period. On the other hand, freight has been, and continues to be, the main revenue source.

Passenger service and other revenue (primarily from hauling tourist-industry-owned passenger cars) is also a significant contributor. Real estate income has increased in importance in recent years and is now comparable to passenger service as a revenue producer (see Figure II-1), but with a considerably higher profit margin. The increase in real estate income is due to an increased effort by the railroad to market its holdings. For example, the railroad for compensation provides its right-of-way to several communications and power companies for power and fiber optic cables between Anchorage and Fairbanks and Anchorage and Whittier.

A more detailed look at current revenues just from railroad operations—carrying passengers and freight—is shown in Table II-2. Note that this table, unlike Figure II-1, excludes real estate revenues. Petroleum products, gravel, and coal account for about fifty-six percent of freight revenues. Overall, freight accounts for about eighty-five percent of operating revenues. Passenger service accounts for the balance. About thirty-

six percent of passenger revenue is derived from pulling tour cars for other owners, and the balance is from the railroad's own passenger service.

In Table II-1, operating expenses are grouped by activity, including transportation, ways and structures (engineering), equipment, general administration, and (until recently) depreciation. While these categories provide some insight into the operation of the railroad, the expenditure categories set out in Table II-3 are more useful for analyzing the economic impact of the railroad.

Table II-3 provides a summary of expenses for the years 1994–2003. Broad expense groups include labor costs, services and contracts, utilities, and fuel. The relative shares for the 2001–2003 averages are shown in Figure II-2. Costs related to labor are the single largest expense. Services and contracts reflect a wide variety of purchases, both in and out of Alaska, including such things as barge expense, legal and professional fees, equipment rents, and advertising. Materials and supplies include a diverse collection ranging from building supplies, lubricants, and office equipment to freight-car parts.

As noted above, the data on expenditures include both dollars spent in and outside of Alaska. These expenditures reflect a broad array of purchases from Alaska businesses as well as outside vendors. The division of spending between Alaska and non-Alaskan firms has a direct bearing on the overall economic impact of railroad spending and is discussed in more detail in Section III.

In addition to expenditures associated with railroad operations, the corporation also engages in ongoing capital improvements to the railroad. These activities include investment in improved track and roadbed, buildings and structures, and equipment, as well as leasehold improvements. Table II-4 provides a summary of implicit annual gross and net investment from 1985 to 2003. These data reflect the re-investment of retained earnings throughout the period of state ownership, as well as the expenditure of significant grant revenues in more recent years. It should be noted that annual investment as measured in Table II-4 may not match annual capital expenditures. This is because assets are booked in the year when a specific project (e.g., a track realignment project) is completed, not when capital funds are expended. Thus, if the project took place over more than one year, capital expenditures will also take place over more than one year.

The railroad has three primary sources of funding for its capital activities—retained earnings, borrowing, and federal grants.

Since the mid-1990s, federal grants have played an increasing role in the capital activities of the railroad. In 1996, the Alaska Railroad—with the support of the Alaska congressional delegation—became eligible for federal transportation funding through the Federal Railroad Administration (FRA) and the Federal Transit Administration (FTA). Table 1 shows the annual grant amounts received from those agencies by the railroad from 1996 to the present.<sup>1</sup>

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<sup>1</sup> The railroad has also received smaller grants from other agencies including U.S. Fish and Wildlife Service, FEMA, U.S. Forest Service, and the U.S. Department of Interior.

### FRA/FTA Grants to the Alaska Railroad<sup>2</sup>

Fiscal Year	FRA Funding	FTA Funding <sup>3</sup>	Total
1996	\$10.0 m		\$10.0 m
1997	\$10.0 m		\$10.0 m
1998	\$26.9 m	\$ 4.8 m	\$31.7 m
1999	\$57.6 m	\$11.8 m	\$69.4 m
2000	\$21.9 m	\$18.7 m	\$23.6 m
2001	\$32.1 m	\$30.7 m	\$62.8 m
2002	\$30.0 m	\$21.2 m	\$51.2 m
2003	\$39.5 m	\$16.5 m	\$56.0 m
2004	\$33.8 m	\$11.1 m	\$44.9 m
2005	\$48.8 m	\$ 5.8 m	\$54.6 m

Federal Railroad Administration funds are earmarked funds for passenger operation. FRA funds are most often used for track related improvements—rails, ties, ballasts, and bridges. However, the railroad has also used the FRA monies to upgrade and implement collision avoidance systems and to install state-of-the-art train control and computer dispatch systems. In 1999, \$28 million of the FRA grant was earmarked for the Ted Stevens Anchorage International Airport rail station.

The Federal Transit Administration provides financial assistance to develop new transit systems and improve, maintain, and operate existing systems. FTA funds can be used for operations, maintenance, and capital projects throughout the railroad system. The railroad used FTA funds to build the Whittier pedestrian tunnel access; the Denali depot; the Seward intermodal facility; the Fairbanks intermodal depot; to rehabilitate and purchase new passenger coach equipment and locomotives; and to straighten track between Girdwood and Wasilla.

We will look in more detail at capital expenditures from all sources and their effects in Section III. Table III-3 in the next section provides an overview of capital expenditures by source of funds, illustrating the significance of the federal grants discussed above.

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<sup>2</sup> This table shows the year and amount of appropriation for the federal grants. It does not mean that the railroad actually received or expended the dollar amounts in these years.

<sup>3</sup> FTA-funded projects currently require 9.03 percent railroad matching funds.

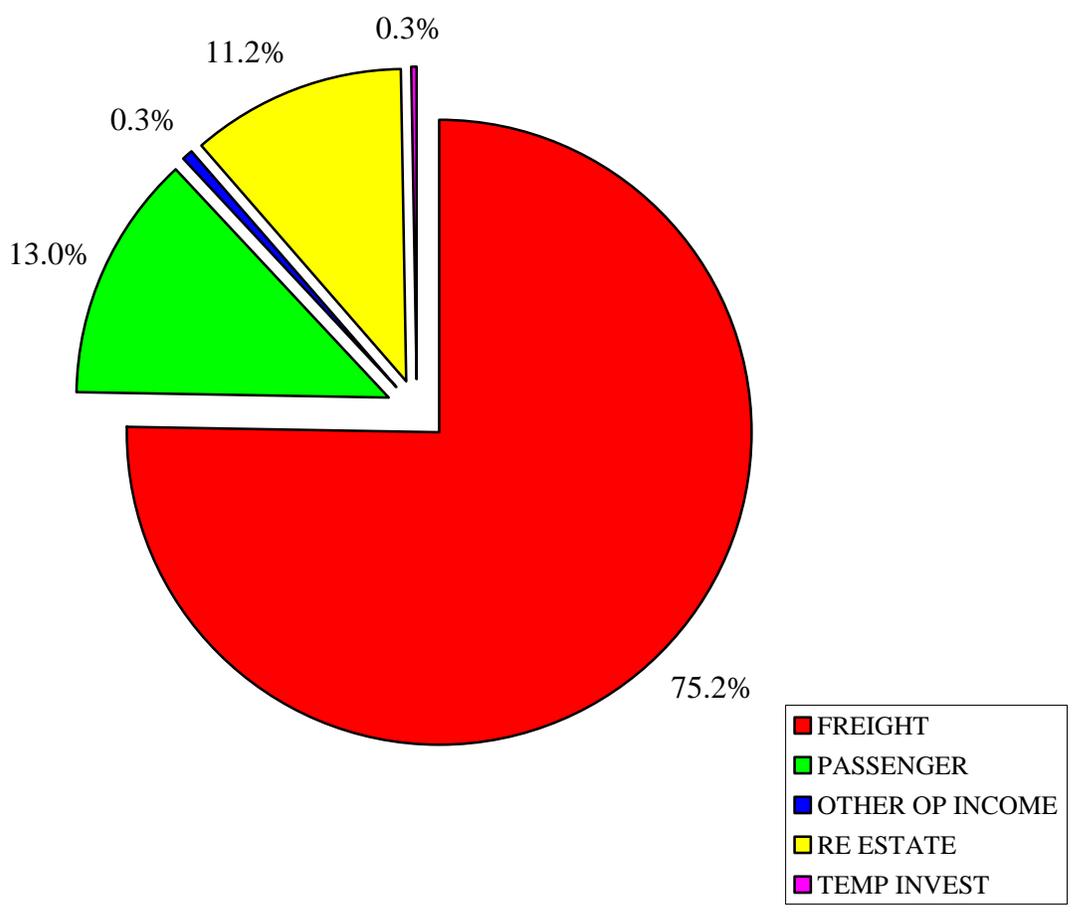
Table II-1

Alaska Railroad Corporation  
 Summary of Income and Expenses, 1985-2003  
 (Thousands of Nominal Dollars)

	OPERATING REVENUE				OPERATING EXPENSES						OTHER INCOME & EXPENSE				GRANT INCOME	NET INCOME	
	TOTAL, OPERATING REVENUE		WAYS & STRUCTURES OR ENGINEERING		EQUIPMENT		GEN & ADMIN		DEPRECIATION		REAL ESTATE INCOME	REAL ESTATE EXPENSE	TEMP INVEST INCOME	GAIN ON SALE OF CAP. ASSET			TOTAL, OTHER INC AND EXP
	PASS-FREIGHT	ENGER	OTHER	TRANSPOR-TATION	OR ENGINEERING	EQUIPMENT	GEN & ADMIN	DEPRECIATION	REAL ESTATE INCOME	REAL ESTATE EXPENSE	TEMP INVEST INCOME	GAIN ON SALE OF CAP. ASSET	INTEREST EXPENSE				
1985	51,978	4,344	5,589	61,911	NA	NA	NA	NA	16,680	59,313	4,322	227	653	348	561	4,535	7,133
1986	41,676	4,574	6,395	52,645	19,044	11,795	12,329	12,560	2,437	58,165	5,274	340	214		613	4,535	-985
1987	39,371	5,434	3,494	48,299	13,205	10,119	10,592	11,303	3,421	48,640	5,206	385	198		1,661	3,358	3,017
1988	44,871	5,601	3,683	54,155	14,214	11,263	11,077	10,974	3,878	51,406	4,753	315	145		1,526	3,057	5,806
1989	48,343	6,025	3,083	57,451	15,645	11,248	12,044	13,977	4,495	57,409	4,218	286	207		1,204	2,935	2,977
1990	53,312	6,974	5,446	65,732	16,187	12,357	13,928	15,993	4,490	62,955	4,036	318	111		2,066	1,763	4,540
1991	51,935	8,174	3,919	64,028	16,460	12,525	14,395	13,735	4,697	61,812	3,979	388	364		1,729	2,226	4,442
1992	52,208	8,460	3,181	63,849	21,317	12,865	11,756	13,005	5,157	64,100	4,042	426	173		1,189	2,600	2,349
1993	47,066	8,855	3,590	59,511	20,788	14,303	9,839	14,207	5,785	64,922	4,377	578	53		1,114	2,738	-2,673
1994	41,658	9,012	4,165	54,835	17,925	14,978	8,781	12,887	6,204	60,775	4,754	813	45		1,256	2,730	-3,210
1995	48,807	9,749	1,716	60,272	16,845	13,031	9,061	11,082	6,133	56,152	5,255	687	191		1,008	3,751	7,871
1996	62,248	10,594	1,669	74,511	34,806	16,223	8,793	6,295	6,178	72,295	5,404	969	430		863	4,002	1,791 8,009
1997	64,029	12,119	238	76,386	37,076	16,622	11,388	6,927	6,758	72,013	6,934	2,031	352		268	4,987	1,230 10,590
1998	64,987	13,491	296	78,774	37,376	20,118	9,918	7,947	7,567	75,359	7,962	3,560	602		90	4,914	1,607 9,936
1999	65,677	14,571	304	80,552	40,078	21,165	10,763	20,078	8,076	92,084	8,626	3,121	1,161		541	6,125	1,648 -3,759
2000	70,084	13,163	726	83,973	42,033	21,010	12,482	11,935	10,303	87,460	9,288	2,915	913		1,563	5,723	14,448 16,684
2001	79,868	13,389	239	93,496	47,776	23,118	13,433	11,819	11,313	96,146	10,571	3,421	555		1,129	6,576	2,687 6,613
2002	76,021	13,980	544	90,545	45,616	24,796	13,019	8,692	12,293	92,123	11,307	3,477	-28		1,000	6,802	3,906 8,909
2003	84,074	14,174	245	98,493	47,370	28,234	14,346	11,277	18,535	101,227	14,012	10,957	385		837	2,603	14,665 14,534

NOTE: COMPILED FROM ANNUAL REPORTS. DATA SERIES ARE RELATIVELY CONSISTENT IN DEFINITION, BUT NOT EXACT, BECAUSE OF SOME CHANGES IN REPORTING FORMAT AND ACCOUNTING PRACTICES. DATA ARE IN NOMINAL DOLLARS (I.E., HAVE NOT BEEN ADJUSTED FOR INFLATION). FROM 1997 FORWARD, DEPRECIATION IS REPORTED SEPARATELY. WE HAVE INCLUDED IT BUT IT IS NOT INCLUDED IN TOTAL OPERATING EXPENSES.

**Figure II-1**  
**ARRC REVENUE SHARES, BY ACTIVITY**  
**(2001 - 2003 AVERAGE)**



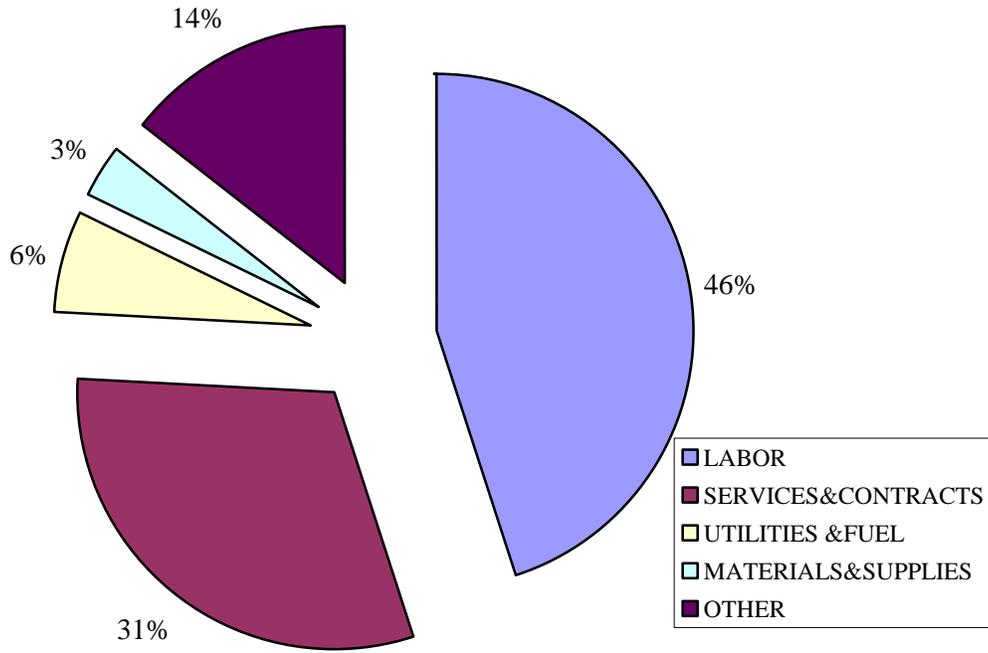
**Table II-2**

**Alaska Railroad Corporation  
Annual Operating Revenues, 2001-2003**

Year to Date Revenues	2003	2002	2001	AVERAGE, 2001-2003	PCT OF TOTAL
Freight Revenue					
Coal, Local	\$5,897,843	\$5,410,539	\$5,036,675	\$5,448,353	5.79%
Coal, Export	\$1,094,977	\$1,551,084	\$3,206,841	\$1,950,967	2.07%
TOFC/COFC	\$2,651,558	\$2,732,451	\$2,843,359	\$2,742,456	2.91%
Petroleum	\$40,507,253	\$34,886,931	\$35,485,221	\$36,959,802	39.24%
Gravel	\$9,768,646	\$7,831,462	\$7,545,084	\$8,381,731	8.90%
Interline	\$23,338,416	\$22,448,480	\$24,707,507	\$23,498,134	24.95%
Miscellaneous Local	\$634,234	\$655,476	\$697,402	\$662,370	0.70%
Other	\$181,159	\$504,249	\$346,230	\$343,879	0.37%
Subtotal Freight	\$84,074,086	\$76,020,673	\$79,868,319	\$79,987,693	84.93%
Passenger Revenue					
North	\$9,543,383	\$9,870,884	\$9,923,649	\$9,779,305	10.38%
South	\$3,933,205	\$3,440,383	\$3,023,579	\$3,465,723	3.68%
Other	\$697,099	\$668,755	\$441,293	\$602,382	0.64%
Subtotal Passenger Revenue	\$14,173,687	\$13,980,022	\$13,388,522	\$13,847,410	14.70%
Misc. Operating Revenue	\$245,160	\$544,195	\$238,872	\$342,743	0.36%
				\$0	
<b>TOTAL, OPERATING REVENUE</b>	<b>\$98,492,934</b>	<b>\$90,544,890</b>	<b>\$93,495,713</b>	<b>\$94,177,846</b>	<b>100.00%</b>

SOURCE: ARRC PROVIDED DATA.

**Figure II-2**  
**ALASKA RAILROAD EXPENSES BY TYPE, 2001- 2003**



Source: Alaska Railroad data

Table II-3

Railroad Expenses by Type, 1994-2003

Year to Date Expenses											
Account Type	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	2001-03 AVE
PERSONNEL COSTS	\$47,672,320	\$45,661,917	\$46,214,668	\$39,940,644	\$37,855,027	\$33,482,058	\$33,544,986	\$32,214,478	\$31,432,100	\$31,931,409	\$46,516,302
OTHER EXPENSES	\$42,002,571	\$36,980,224	\$41,300,846	\$40,428,482	\$49,263,118	\$37,869,103	\$33,741,681	\$34,872,003	\$32,119,687	\$20,498,211	\$40,094,547
Depreciation	\$10,426,317	\$10,232,091	\$9,348,231	\$8,174,456	\$7,037,456	\$6,842,263	\$6,325,781	\$6,089,907	\$6,132,806	\$6,203,502	\$10,002,213
Grant Depreciation*	\$12,083,416	\$2,946,596	\$2,702,938	\$1,830,608	\$1,050,331	\$725,785	\$431,872	\$87,887	\$0	\$0	\$5,910,984
Interest Expense	\$836,043	\$1,000,157	\$1,128,981	\$1,562,759	\$540,969	\$90,736	\$267,826	\$862,798	\$1,007,579	\$1,255,597	\$988,394
<b>Total</b>	<b>\$113,020,667</b>	<b>\$96,820,986</b>	<b>\$100,695,664</b>	<b>\$91,936,949</b>	<b>\$95,746,901</b>	<b>\$79,009,944</b>	<b>\$74,312,146</b>	<b>\$74,127,073</b>	<b>\$70,692,173</b>	<b>\$59,888,720</b>	<b>\$103,512,439</b>
	\$113,020,667	\$96,820,986	\$100,695,664	\$91,936,949	\$95,746,901	\$79,009,944	\$74,312,146	\$74,127,073	\$70,692,173	\$59,888,720	\$103,512,439

SOURCE: ALASKA RAILROAD CORPORATION

Footnote 1 - Reclassification of audited financial statements

Per Note 2 in the 1995-1997 audited financial statements, certain reclassifications were made to prior year balances in order to conform to the current year presentation of the audited financial statements. The years affected include 1994 - 1996. The above amounts have been adjusted to reflect the restated audited financial statements.

\*Grant-funded projects are depreciated when they are put into service; several multi-year projects were put in service in 2003.

**Table II-4**

**Computed Gross and Net Annual Investment, 1985-2003  
(Thousands of Nominal Dollars)**

TRANSPORTATION ASSETS, AT YEAR END											
YEAR ENDING		ROAD	EQUIP- MENT	ROAD MATERIALS & SUPPLIES	LEASEHOLD IMPROVE- MENTS	CONSTRUCTION IN PROGRESS	ACCUMU- LATED DEPRECIATION	TOTAL TRANS- PORTATION NET ASSETS	TRANS. GROSS ASSETS	IMPLICIT GROSS ANNUAL INVESTMENT TOTAL	IMPLICIT NET ANNUAL INVESTMENT TOTAL
JAN 5, 1985	1985	3,847	2,281	2,319				8,447	8,447		
DEC 31, 1985	1985	10,623	12,765	3,444		3,133	1,455	28,510	29,965	21,518	20,063
	1986	19,613	21,429	2,385		1,345	3,785	40,987	44,772	14,807	12,477
	1987	22,884	24,917	1,438		557	7,206	42,590	49,796	5,024	1,603
	1988	27,374	27,478	1,701		1,145	11,084	46,614	57,698	7,902	4,024
	1989	37,548	33,558	2,291		1,216	15,566	59,047	74,613	16,915	12,433
	1990	41,443	34,681	2,651		2,269	20,056	60,988	81,044	6,431	1,941
	1991	45,609	35,943	1,837		256	24,572	59,073	83,645	2,601	-1,915
	1992	52,715	41,206	1,784		665	29,729	66,641	96,370	12,725	7,568
	1993	59,032	42,974	3,072		532	35,087	70,523	105,610	9,240	3,882
	1994	63,887	41,258	1,536		0	38,201	68,480	106,681	1,071	-2,043
	1995	64,623	41,486	1,040		839	44,331	63,657	107,988	1,307	-4,823
	1996	72,979	41,863	1,269		3,138	46,131	73,118	119,249	11,261	9,461
	1997	83,549	43,921	1,357		5,276	52,433	81,670	134,103	14,854	8,552
	1998	99,226	47,475	2,216		8,502	59,544	97,875	157,419	23,316	16,205
	1999	114,519	51,938	3,171		20,237	66,888	122,977	189,865	32,446	25,102
	2000	115,401	92,726	4,486		56,269	76,965	191,917	268,882	79,017	68,940
	2001	123,996	107,666	5,772	1,728	100,539	88,850	250,851	339,701	70,819	58,934
	2002	134,000	110,050	3,491	1,848	154,573	101,554	302,408	403,962	64,261	51,557
	2003*	228,231	127,703	3,724	1,848	122,260	123,965	359,801	483,766	79,804	57,393

SOURCE: COMPILED FROM ARRC ANNUAL REPORTS, 1985-2003

TOTAL GROSS INVESTMENT	\$475,319
TOTAL NET INVESTMENT	\$351,354

IMPLICIT GROSS INVESTMENT CALCULATED AS TOTAL PROPERTY AND EQUIPMENT TRANSPORTATION ASSETS IN YEAR T MINUS YEAR T-1, IN NOMINAL DOLLARS.  
IMPLICIT NET INVESTMENT IS THE CHANGE BETWEEN YEAR T AND YEAR T-1 IN NET ASSETS AND IS GROSS INVESTMENT MINUS DEPRECIATION.

\*Several grant-funded multi-year projects were put in service in 2003.



### **III. DIRECT ECONOMIC EFFECTS OF RAILROAD OPERATIONS AND CAPITAL ACTIVITIES**

The economic effects of the Alaska Railroad may be observed in many ways. In general, the railroad affects the economy through its purchases of goods and services from other sectors of the economy and through its expenditures on labor. In essence, its expenditures constitute injections into the Alaska income stream. In turn, these expenditures lead to further expansion of the income stream through multiplier effects. Expansion of the income stream may also result in an expansion of employment opportunities throughout the economy.

Before looking at multiplier effects, we first look at several dimensions of direct expenditures. We divide direct expenditures between operating expenditures (expenditures related to current-year expenses) and capital related expenditures (expenditures that result in increased assets). We also grouped operating expenditures into a number of categories, including employment (labor) costs, contracts and services, materials and supplies, utilities and fuel, and a residual “other” category. We further distinguish between total expenditures and expenditures made in Alaska, since only expenditures made in Alaska affect income in Alaska. Finally, where data permit, we look at the regional distribution of expenditures within Alaska.

Table III-1 provides a general overview of expenditures on purchased goods and services—both in-state and out-of-state—based on averages for 2001-2003. These include expenditures on both capital and expense items. As described above, expense items include services and contracts, utilities and fuel, and materials and supplies. These are expenses the railroad incurs in the course of operations and are charges against current year activities.

Capital expenditures, on the other hand, are charges incurred in the process of creating new assets. They include such things as construction of new roadbed and track, structures or major equipment purchases. As can be seen from Table III-1, about seventy-five percent of capital expenditures are made in Alaska, with the remainder spent outside of Alaska. In general, major equipment purchases tend to be made out-of-state, because things like railroad cars aren't available here, while the balance of capital activities tend to occur in-state.

Purchases of goods and services for operations provide a somewhat different picture, with about 40 percent occurring in Alaska, and the remainder going outside the state. But a substantial portion of those outside payments are for the purchase of transportation services from other railroads, barge service, and other transportation service providers—services that obviously can't be purchased in Alaska.

Table III-2 provides a more detailed look at current expense-related activities. Labor related costs are a significant part of the total expenditures. Services and contracts, utilities and fuel, and materials and supplies are other major items. All represent direct injections into the Alaska income stream. Figure III-2 provides a picture of relative shares of these activities. Labor related costs represent about fifty-nine percent of in-state operating expenditures, with services and contracts accounting for another ten percent. Utilities and fuel add another eight percent. A major portion of the “other” category is depreciation on assets.

Table III-3 provides more perspective on capital activities. The data reflect additions to assets in 2001–2003, and show both type of asset and source of funding. It can be seen that grants (from the federal government) have been a significant source of capital infrastructure and equipment in recent years.

As indicated above, additions to assets do not match capital expenditures in a given year since assets are added at the time the “asset” is completed. A multi-year project gets booked at completion, but expenses have been ongoing over the life of the project. Table III-4 provides a look at in-state capital spending over the 2001–2003 period. The expenditures reflect purchases of goods and services from vendors, as well as ARRC employee costs charged to capital activity.

We also looked at regional expenditure patterns, again using 2001–2003 data. The regions are based on ZIP code aggregations of places in the railbelt area. Anchorage includes Chugiak and Eagle River, as well as Turnagain Arm communities and Whittier. South of Whittier is the Kenai Peninsular region, including Moose Pass and Seward. The Mat-Su Valley region includes Palmer, Wasilla, and points along the railroad as far north as Cantwell. Fairbanks and vicinity begins with Denali National Park and extends north to Fairbanks. It should be noted that the data grouped by ZIP code reflect the location where wage and salary payments—or payments to vendors—were received. The data do not necessarily reflect where the related economic activity took place. As such, the data provide a measure of where regional injections into the income stream took place, but do not necessarily reflect where economic production was occurring.

Table III-5 provides a look at wage and salary payments by region. Payments are focused primarily in the Anchorage area, the Mat-Su valley, and Fairbanks and vicinity. The data indicate that about 66 percent of total labor costs are in the Anchorage area region. Labor costs associated with capital activities are somewhat more concentrated in the Anchorage and Mat-Su regions, with about 89 percent of total capital related employment. Annual wage and salary data average about \$55 thousand per year. There is some regional variation, with a range from about \$47 thousand to \$58 thousand, depending on region and type of expenditure.

Not surprisingly, a similar pattern is evident in employment data, measured in person-hours. See Table III-6. Using 2080 hours as a measure of full-time equivalent (FTE), FTE employment averaged 799 jobs, with 677 in operations and 122 in capital related positions. These figures exceed actual employment somewhat because of some overtime employment. Headcount data average 742 railroad employees over the same period.

Tables III-7 provides more detailed information about wage and salary payments and employment data measured in person-hours for seven railbelt cities—Nenana, Houston, North Pole, Wasilla, Palmer, Whittier, and Seward.

Purchases by the railroad for the 2001–2003 period, by region, are presented in Table III-8. The data show that about 81 percent of purchases occur in the Anchorage area, with another 11 percent in Fairbanks and vicinity. Relative shares are quite similar for both capital and operations categories. About \$50 million are spent in the Anchorage area, out of a total of \$62 million. Wage and salary payments for Anchorage and the valley add another \$35 million.

In summary, the railroad is spending about \$108 million dollars a year in the Alaska economy. Of this amount, about \$43 million dollars are for wage and salary payments, with the balance going to purchased goods and services. Over seventy-five percent of this spending is in the Anchorage area.

**Table III-1**

**Estimated Purchased Goods and Services**

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>3 YEAR AVERAGE</b>
<b>OUT-OF-STATE TOTAL</b>	\$58,192,448	\$48,247,656	\$56,777,313	\$54,405,806
<b>CAPITAL</b>	\$11,777,447	\$9,051,987	\$14,324,324	\$11,717,919
<b>EXPENSE</b>	\$46,415,001	\$39,195,669	\$42,452,989	\$42,687,886
<b>IN ALASKA</b>	\$61,755,244	\$59,147,159	\$65,278,820	\$62,060,408
<b>CAPITAL</b>	\$33,856,649	\$34,342,926	\$39,637,282	\$35,945,619
<b>EXPENSE</b>	\$27,898,595	\$24,804,233	\$25,641,538	\$26,114,789
<b>TOTAL</b>	\$119,947,692	\$107,394,815	\$122,056,133	\$116,466,213
<b>CAPITAL</b>	\$45,634,096	\$43,394,913	\$53,961,606	\$47,663,538
<b>EXPENSE</b>	\$74,313,596	\$63,999,902	\$68,094,527	\$68,802,675
<b>PERCENT OF TOTAL PURCHASES MADE IN ALASKA</b>				
<b>CAPITAL</b>	74.19%	79.14%	73.45%	75.42%
<b>EXPENSE</b>	37.54%	38.76%	37.66%	37.96%

SOURCE: COMPILED FROM ARRC VENDOR REPORTS FOR 2001 - 2003

Note: Out-of-state operating expense excludes some spending that is not for goods and services including federal tax withholding.

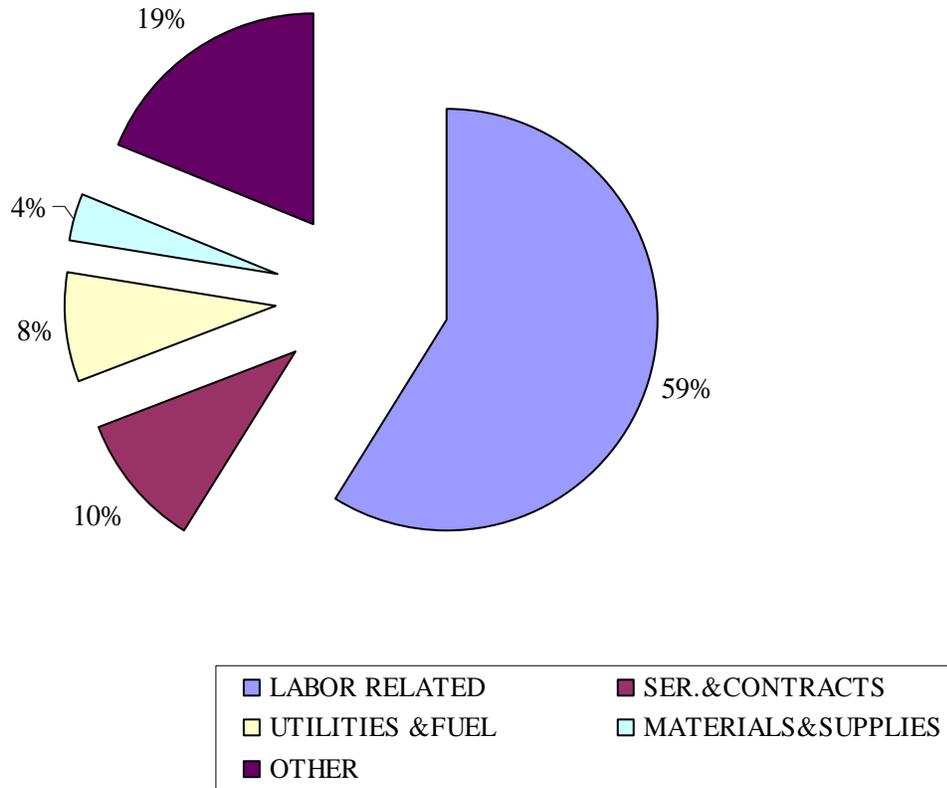
**Table III-2**

**Alaska Railroad Corporation Expenses:  
Average In-State Non-Capital Expenditures, 2001-2003**

<b>Account Type</b>	<b>2001-03 AVE</b>
PERSONNEL COSTS	\$46,516,302
OTHER EXPENSES	\$15,531,206
Depreciation	\$10,002,213
Grant Depreciation	\$5,910,984
Interest Expense	\$988,394
<b>TOTAL, IN-STATE</b>	<b>\$78,949,098</b>

Source: Compiled from ARRC data, including annual expense data for 2001 - 2003, and ARRC vendor reports for 2001 -2003, showing vendor payments by amount, type and by location.

**Figure III-1  
AVERAGE IN-STATE NON-CAPITAL EXPENDITURES,  
2001 - 2003**



Source: Alaska Railroad Data

**Table III-3****Alaska Railroad Corporation  
Fixed Asset Additions, 2001-2003**

<b>Source of Funding</b>					
<b>Source of Funding</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>Total</b>	<b>3YR AVE</b>
Retained Earnings	\$ 13,102,416	\$ 14,408,660	\$ 12,043,259	\$ 39,554,335	\$13,184,778
Grants	9,691,629	194,000	97,427,795	107,313,424	\$35,771,141
Borrowing/Debt	1,000,000	-	4,008,899	5,008,899	\$1,669,633
<b>Total</b>	<b>\$ 23,794,045</b>	<b>\$ 14,602,660</b>	<b>\$ 113,479,953</b>	<b>\$ 151,876,658</b>	<b>\$50,625,553</b>

<b>Type of Asset</b>					
<b>Type</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>Total</b>	<b>3YR AVE</b>
Road Bed and Track-Retained Earnings / Borrowing	\$ 4,783,075	\$ 5,689,715	\$ 3,835,498	\$ 14,308,288	\$4,769,429
Road Bed and Track-Grant funded	-	-	56,823,678	56,823,678	\$18,941,226
Subtotal Road Bed and Track	4,783,075	5,689,715	60,659,176	71,131,966	\$23,710,655
Buildings and Structures-Retained Earnings / Borrowing	3,953,765	5,479,152	4,515,019	13,947,936	\$4,649,312
Buildings and Structures-Grant funded	-	194,000	29,115,966	29,309,966	\$9,769,989
Subtotal Buildings and Structures	3,953,765	5,673,152	33,630,985	43,257,902	\$14,419,301
Equipment-Retained Earnings / Borrowing	5,365,576	3,239,793	7,657,971	16,263,340	\$5,421,113
Equipment-Grant funded	9,691,629	-	10,184,432	19,876,061	\$6,625,354
Subtotal Equipment	15,057,205	3,239,793	17,842,403	36,139,401	\$12,046,467
Other (Land)-Retained Earnings / Borrowing	-	-	43,670	43,670	\$14,557
Other (Land)-Grant funded	-	-	1,303,719	1,303,719	\$434,573
Subtotal Other (Land)	-	-	1,347,389	1,347,389	\$449,130
<b>Total</b>	<b>\$ 23,794,045</b>	<b>\$ 14,602,660</b>	<b>\$ 113,479,953</b>	<b>\$ 151,876,658</b>	<b>\$50,625,553</b>

SOURCE: ALASKA RAILROAD

**Table III-4**

**Alaska Railroad Corporation  
Total In-State Spending, Capital in Progress, 2001-2003**

<b>2001-2003 CAPITAL IN PROGRESS, TOTAL IN-STATE SPENDING</b>	
2001	\$33,856,649
2002	\$34,342,926
2003	\$39,637,282
<b>3 YEAR AVERAGE</b>	<b>\$35,945,619</b>
<b>CAPITAL IN PROGRESS, 2001 - 2003 AVERAGE</b>	
<b>BY INDUSTRY</b>	
23 CONSTRUCTION	\$20,235,934
31 MANUFACTURING	\$437,962
42 TRADE	\$583,886
54 PROF, SCI,& TECH SERVICES	\$3,861,072
GOVERNMENT	\$378,457
<b>SUB-TOT, ALLOCATED</b>	<b>\$25,497,311</b>
<b>UNALLOCATED</b>	<b>\$10,448,308</b>
<b>TOTAL CAPITAL GOODS&amp;SERVICES</b>	<b>\$35,945,619</b>
<b>ARRC CAPITAL RELATED LABOR COSTS</b>	
<b>3 YEAR AVERAGE 2001 - 2003</b>	
WAGES & SALARY	\$6,413,339
BENEFITS	\$1,732,453
<b>TOTAL CAPITAL LABOR COST</b>	<b>\$8,145,792</b>
<b>TOTAL, CAPITAL GDS &amp; SER + LABOR</b>	<b>\$44,091,411</b>

Source: Computed from ARRC vendor and payroll reports for 2001-2003.

**Table III-5**

**Wage & Salary and Benefit Payments by Region  
2001-2003 Averages**

REGION, CAPITAL + EXPENSE	WAG&SAL	BENEFITS	LABOR COST	REGION SHARE	AVE AN WAGE & SALARY
ANCHORAGE AREA	\$28,980,550	\$7,828,595	\$36,809,144	65.92%	\$57,388.56
KENAI PENINSULAR	\$632,706	\$170,915	\$803,620	1.44%	\$47,077.29
FAIRBANKS AND VICINITY	\$6,255,738	\$1,689,879	\$7,945,617	14.23%	\$50,317.44
OTHER	\$112,613	\$30,420	\$143,033	0.26%	\$47,900.64
MAT-SU VALLEY	\$7,978,926	\$2,155,369	\$10,134,295	18.15%	\$51,878.62
<b>TOTAL, CAPITAL + EXPENSE</b>	<b>\$43,960,532</b>	<b>\$11,875,178</b>	<b>\$55,835,710</b>	<b>100.00%</b>	<b>\$55,026.03</b>
<b>REGION, CAPITAL ACTIVITY</b>					
ANCHORAGE AREA	\$3,504,002	\$946,546	\$4,450,548	54.64%	\$54,095.19
KENAI PENINSULAR	\$163,090	\$44,056	\$207,146	2.54%	\$51,956.83
FAIRBANKS AND VICINITY	\$511,312	\$138,122	\$649,434	7.97%	\$53,867.82
OTHER	\$41,926	\$11,326	\$53,251	0.65%	\$53,130.96
MAT-SU VALLEY	\$2,193,010	\$592,404	\$2,785,413	34.19%	\$50,340.14
<b>TOTAL, CAPITAL ACTIVITY</b>	<b>\$6,413,339</b>	<b>\$1,732,453</b>	<b>\$8,145,792</b>	<b>100.00%</b>	<b>\$52,672.57</b>
<b>REGION, EXPENSE ACTIVITY</b>					
ANCHORAGE AREA	\$25,476,547	\$6,882,049	\$32,358,596	67.85%	\$57,873.16
KENAI PENINSULAR	\$469,616	\$126,859	\$596,474	1.25%	\$45,590.35
FAIRBANKS AND VICINITY	\$5,744,426	\$1,551,757	\$7,296,184	15.30%	\$50,023.97
OTHER	\$70,687	\$19,095	\$89,782	0.19%	\$45,258.12
MAT-SU VALLEY	\$5,785,916	\$1,562,965	\$7,348,882	15.41%	\$52,486.61
<b>TOTAL</b>	<b>\$37,547,193</b>	<b>\$10,142,725</b>	<b>\$47,689,918</b>	<b>100.00%</b>	<b>\$55,449.21</b>
TOTAL, WAGE&SALARY	\$43,960,532				
TOTAL BENEFITS	\$11,875,178				
<b>TOTAL LABOR COST</b>	<b>\$55,835,710</b>				
BENEFITS/WAGE&SAL	27.01%				

SOURCE: COMPUTED FROM PERSON-HOUR AND PAYROLL DATA PROVIDED BY ARRC

**Table III-6**

**Employee Person-Hours by Region  
2001-2003 Averages**

REGION, CAPITAL + EXPENSE	HOURS	FTE EMPLOYMENT	REGION SHARE
ANCHORAGE AREA	1,050,376	505	63.21%
KENAI PENINSULAR	27,955	13	1.68%
FAIRBANKS AND VICINITY	258,597	124	15.56%
OTHER	4,890	2	0.29%
MAT-SU VALLEY	319,904	154	19.25%
<b>TOTAL, CAPITAL + EXPENSE</b>	<b>1,661,721</b>	<b>799</b>	<b>100.00%</b>

REGION, CAPITAL ACTIVITY	HOURS	FTE EMPLOYMENT	REGION SHARE
ANCHORAGE AREA	134,731	65	53.20%
KENAI PENINSULAR	6,529	3	2.58%
FAIRBANKS AND VICINITY	19,743	9	7.80%
OTHER	1,641	1	0.65%
MAT-SU VALLEY	90,613	44	35.78%
<b>TOTAL, CAPITAL ACTIVITY</b>	<b>253,258</b>	<b>122</b>	<b>100.00%</b>

REGION, EXPENSE ACTIVITY	HOURS	FTE EMPLOYMENT	REGION SHARE
ANCHORAGE AREA	915,644	440	65.01%
KENAI PENINSULAR	21,426	10	1.52%
FAIRBANKS AND VICINITY	238,854	115	16.96%
OTHER	3,249	2	0.23%
MAT-SU VALLEY	229,291	110	16.28%
<b>TOTAL, EXPENSE ACTIVITY</b>	<b>1,408,463</b>	<b>677</b>	<b>100.00%</b>

<b>TOTAL, CAP+EXP HRS</b>	<b>1,661,721</b>	<b>799</b>	
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SOURCE: COMPUTED FROM DATA PROVIDED BY ARRC

NOTE: FTE EMPLOYMENT = HOURS/2080

**Table III-7**

**Wages and Employment among Railroad Employees, For Selected Places  
2001-2003 Averages**

PLACE	WAGE & SALARY PAYMENTS*	PERSON HOURS	FTE EMPLOYMENT
CITY OF NENANA	\$47,220	1,559	0.75
CITY OF HOUSTON	\$7,043	65	0.03
CITY OF NORTH POLE	\$1,141,698	29,702	14.28
CITY OF WASILLA	\$2,561,368	68,053	32.72
CITY OF PALMER	\$2,081,023	51,130	24.58
CITY OF WHITTIER	\$150,087	3,375	1.62
CITY OF SEWARD	\$115,655	4,609	2.22
MUNICIPALITY OF ANCHORAGE	\$28,830,462	1,047,000	503.37
DENALI BOROUGH	\$18,112	18,112	8.71
KENAI PENINSULA BOROUGH	\$632,706	27,955	13.44
MAT-SU BOROUGH	\$7,978,926	319,904	153.80
CITY OF FAIRBANKS	\$4,213,534	175,117	84.19
FAIRBANKS NORTH STAR BOROUGH	\$6,190,405	238,926	114.87

Source: Computed from data provided by ARRC

\*Hours and payments based on zip code of employee place of residence.

**Table III-8**

**Alaska Railroad Corporation Purchases by Region  
2001-2003 Averages**

<b>REGION, CAPITAL + EXPENSE</b>	<b>AMOUNT</b>	<b>PCT. SHARE</b>
ANCHORAGE AREA	\$50,360,786	81.15%
KENAI PENINSULAR	\$3,423,937	5.52%
FAIRBANKS AND VICINITY	\$6,570,790	10.59%
MAT-SU VALLEY	\$786,200	1.27%
OTHER, NOT RAILBELT	\$918,572	1.48%
<b>GRAND TOTAL</b>	<b>\$62,060,285</b>	<b>100.00%</b>

<b>REGION, CAPITAL</b>	<b>AMOUNT</b>	<b>PCT. SHARE</b>
ANCHORAGE AREA	\$29,424,687	81.86%
KENAI PENINSULAR	\$2,412,230	6.71%
FAIRBANKS AND VICINITY	\$3,577,714	9.95%
MAT-SU VALLEY	\$81,118	0.23%
OTHER, NOT RAILBELT	\$448,230	1.25%
<b>CAPITAL TOTAL</b>	<b>\$35,943,979</b>	<b>100.00%</b>

<b>REGION, EXPENSE</b>	<b>AMOUNT</b>	<b>PCT. SHARE</b>
ANCHORAGE AREA	\$20,936,099	80.16%
KENAI PENINSULAR	\$1,011,707	3.87%
FAIRBANKS AND VICINITY	\$2,993,076	11.46%
MAT-SU VALLEY	\$705,082	2.70%
OTHER, NOT RAILBELT	\$470,342	1.80%
<b>EXPENSE TOTAL</b>	<b>\$26,116,306</b>	<b>100.00%</b>

SOURCE: COMPILED FROM ARRC VENDOR REPORTS.



#### IV. ECONOMIC SIGNIFICANCE OF RAILROAD SPENDING

In this section, we explore the overall effects of the railroad's direct spending for goods and services and labor described. We estimated overall effects with an Alaska regional input-output (I-O) model developed at the Institute of Social and Economic Research (ISER). In effect, the model traces the effects of the railroad's purchases of goods and services from other businesses in Alaska and the effects of railroad employees spending their incomes. These direct expenditures (which are referred to as the final demand vector in the appendix tables) lead to further rounds of expenditures and a related expansion of the overall Alaska income stream. This expansion translates into additional sales by Alaska businesses, as well as expanded employment and payrolls.

Our analysis will look at statewide and regional effects of both current operations and capital spending. The expansionary effects are captured by "multipliers" that compare total activity to direct (railroad) activity. Two types of multipliers are calculated. The first is a "direct effect" multiplier—that is the employment, payroll, and output effects of direct (e.g., railroad) spending for labor and goods and services

A second type of multiplier is the final demand multiplier. In this case, we calculate the increase in jobs, payroll, or total output per additional million dollars of railroad spending for either operations or capital projects.

It is also possible to look at how specific sectors, or industries, are affected by changes in railroad expenditures. For example, we could see how an increase in railroad employment would affect employment in retail trade or health services. We could also calculate the effect of a railroad final demand increase on employment, payroll, or output in other sectors of the economy.

Finally, we can also look at regional impacts. The I-O model looks at effects statewide and in four regions—Southeast, Southcentral, Southwest, and North. Southcentral includes the Kenai Peninsula, Mat-Su Valley, and Anchorage regions used in Section III. The Fairbanks and vicinity region is subsumed under the North region.

We looked at five runs of the I-O model, including statewide operations and capital expenditures effects. In addition, operations expenditure effects for Anchorage (Southcentral minus Mat-Su and Kenai Peninsula), Fairbanks (North), and Southcentral minus Anchorage (essentially, Mat-Su and Kenai Peninsula combined), were run. Model output for the statewide runs is contained in the appendix.

First we review the statewide impacts. Direct effects and final demand multipliers for the operations and capital models are summarized in Table IV-1.

The direct effect employment multiplier is 1.96. This indicates that, on average, direct railroad spending for labor and goods and services support an additional 0.96 jobs in the rest of the economy. For the 2001–2003 period, this means that the railroad's 677 full-time-equivalent (FTE) operations-related employees and direct purchases from businesses supported an additional 648 FTE jobs elsewhere in the economy. Similarly, each dollar of direct railroad spending generated an additional \$ 0.55 of payroll in the rest of the economy. The multipliers for capital expenditures are interpreted in a similar manner.

The final demand multipliers are also of interest. On average, an additional railroad expenditure of \$1 million in Alaska—on operations—results in an additional 14.07 jobs. Of these jobs, 7.19 are with the railroad and 6.88 are in other sectors of the economy. The additional \$1 million of Alaska operating expenditures also results in added payroll of \$630 thousand. Of this amount, \$404 thousand is paid directly to railroad employees and \$223 thousand dollars goes to new employees in other sectors of the economy.

Table IV-2 shows how the additional non-railroad jobs would be divided among other industries. There would be an additional 1.36 jobs in health services; 1.26 jobs in retail trade; 0.96 jobs in business services; or a total of 6.88 additional jobs in non-railroad industries. The table also shows how the additional payroll would be divided among industries—an additional health services payroll of \$46.6 thousand; \$30.8 thousand to retail trade; \$36.7 thousand to business services—or a total increase of \$223 thousand in the payrolls of non-railroad industries.

Table IV-2 also illustrates the effects of an additional \$1 million expenditure of capital on jobs and annual payroll—spending for new roadbed, track, and structures (additional construction of track and other facilities). The biggest impact is in construction employment (2.93 jobs); followed by business services (1.73 jobs); and retail trade (1.15). The total non-railroad employment effect is 10.25 jobs, and combined with an additional 2.77 railroad jobs, the overall impact is 13.02 jobs. The table also shows the increase in annual payroll. A \$1 million increase in capital spending results in \$397.8 thousand of non-railroad industry payroll, and \$145.5 thousand of railroad payroll, for a total of \$543.3 thousand.

Regional multiplier results are summarized in Table IV-3. For technical reasons, there are no output or final demand multipliers presented for the regions, and we did not calculate regional capital expenditure multipliers, since almost all capital-related direct employment is in Anchorage or Mat-Su. Thus, we have only direct employment and payroll multipliers to consider. The interpretation of the regional multipliers is the same as the statewide multipliers in Table IV-1. As would be expected, the multipliers tend to be larger in the larger regions. However, regional railroad employment leads to significant additional employment in each of the regions considered.

**Table IV-1**

**Statewide Alaska Railroad Multipliers**

	MULTIPLIER	OPERATING EXPENDITURES	CAPITAL EXPENDITURES
<b>DIRECT EFFECT MULTIPLIERS</b>			
OUTPUT		1.8	2.38
PAYROLL		1.55	3.73
EMPLOYMENT		1.96	4.7
<b>FINAL DEMAND MULTIPLIERS</b>			
OUTPUT		\$1.80	\$2.38
PAYROLL		\$0.63	\$0.54
EMPLOYMENT		14.07	13.02

SOURCE: APPENDIX TABLE I and TABLE II

**Table IV-2**

**"Rules of Thumb"  
Statewide Impacts of \$1 Million Increase in Activity**

ACTIVITY	IMPACT ON	NEW JOBS (ANNUAL AVE)	ANNUAL PAYROLL (THOUS \$)
ADDITIONAL CONSTRUCTION OF TRACK AND OTHER FACILITIES	NEW CONSTRUCTION	2.93	\$148.364
	BUSINESS SERVICES	1.73	\$66.321
	RETAIL TRADE	1.15	\$28.063
	HEALTH SERVICES	0.80	\$27.299
	MAINTENANCE&REPAIR	0.63	\$32.099
	EATING AND DRINKING	0.63	\$9.316
	MISCELLANEOUS SERVICES	0.45	\$13.935
	WHOLESALE TRADE	0.40	\$16.355
	PERSONAL SERVICES	0.31	\$5.580
	OTHER NON-RR INDUSTRIES	1.22	\$50.476
	SUB-TOTAL, NON-RR INDUSTRIES		10.25 \$397.809
	RAILROAD		2.77 \$145.456
	<b>TOTAL</b>	<b>13.02</b>	<b>\$543.265</b>
OVERALL INCREASE IN DEMAND FOR FREIGHT AND PASSENGER SERVICE	HEALTH SERVICES	1.36	\$46.570
	RETAIL TRADE	1.26	\$30.758
	BUSINESS SERVICES	0.96	\$36.619
	EATING AND DRINKING	0.76	\$11.264
	MISCELLANEOUS SERVICES	0.46	\$14.032
	WHOLESALE TRADE	0.30	\$11.992
	PERSONAL SERVICES	0.28	\$5.076
	HOTELS&LODGING	0.23	\$4.659
	FINANCE	0.19	\$8.000
	MAINTENANCE&REPAIR	0.15	\$7.591
	OTHER NON-RR INDUSTRIES	0.94	\$46.541
	SUB-TOTAL, NON-RR INDUSTRIES		6.88 \$223.103
	RAILROAD		7.19 \$404.639
	<b>TOTAL</b>	<b>14.07</b>	<b>\$627.742</b>

SOURCE: COMPUTED FROM MODEL OUTPUT FROM APPENDIX TABLE I AND TABLE II

<b>Table IV-3</b>			
<b>Regional Direct Effects: Employment and Payroll Multipliers</b>			
	<b>ANCHORAGE</b>	<b>OTHER</b>	<b>FAIRBANKS</b>
<b>DIRECT EFFECT MULTIPLIERS</b>		<b>SOUTHCENTRAL</b>	
<b>PAYROLL</b>	1.59	1.44	1.5
<b>EMPLOYMENT</b>	2.06	1.74	1.78
<b>SOURCE: ISER COMPUTATIONS FROM REGIONAL INPUT OUTPUT TABLES.</b>			



## V. BROAD ECONOMIC IMPACTS OF THE ALASKA RAILROAD

The previous chapter estimated the number of jobs and the amount of income generated by railroad spending statewide and in several regions of Alaska. The railroad also benefits the Alaska economy in other ways that we can't quantify but can describe in broad terms.

The railroad can facilitate some kinds of economic activity, because it offers a more efficient and cheaper way of transporting large quantities of heavy, bulk commodities like gravel. These lower transportation costs may translate into lower prices for purchasers. For instance, it's likely that the price of gravel and derivative products (including concrete and asphalt) in the Anchorage bowl is lower than it would otherwise be, if gravel couldn't come by rail from the Mat-Su Valley.

In some instances, the cost of transportation may determine whether an economic activity is viable or not. For example, coal from the Usibelli mine in the Interior probably couldn't be exported at a competitive price, if there were no railroad to haul it to the port of Seward.

Petroleum products—primarily jet fuel and unleaded gasoline—from the North Pole refinery outside Fairbanks make up a big share of freight the railroad hauls. By providing a way to get those products to the Anchorage market, the railroad helps make the North Pole refinery viable, thereby supporting an Alaska source of refined petroleum products as well as jobs and income.

Fuel from the North Pole refinery currently makes up a significant share of the roughly 700 to 800 million gallons of jet fuel carriers use at Anchorage's international airport every year, because that fuel is available at a competitive price. Specific price information is proprietary, but it's certainly true that carriers are sensitive to even very small changes in the price of fuel—and the availability of fuel at competitive prices is one of the factors carriers consider in deciding which airports to use.

The railroad also helps boost the tourism industry, which in recent times has been among the fastest growing industries in Alaska. It provides another transportation choice for tourists traveling along the railbelt, and parts of the route offer access to areas and scenery not visible from the road. The railroad also offers some special services for Alaskans—like trips into popular ski areas—and local passenger service along remote sections of the railroad where there's no highway access.

It could also be argued that by hauling large, heavy loads, the railroad helps prevent wear and tear that would otherwise occur on Alaska's highways. And at some point the railroad could provide commuter service between Anchorage and the fast-growing Mat-Su Valley, if there were enough passenger traffic to warrant it. Such commuter service could offer environmental as well as economic benefits.

The railroad also contributes to communities through its support of charitable non-profits and the volunteer activities of its employees. In 2004, cash and in-kind contributions (including free tickets and use of railroad cars for charitable events) from the corporation and its employees totaled about \$1 million. The railroad also leases land to local governments at below-market value for parks and other uses that benefit communities.

## VI. SUMMARY AND CONCLUSIONS

Most of what the Alaska Railroad spends to operate trains and build facilities stays in Alaska, supporting close to 1,900 jobs and \$83 million in payroll. Of those jobs, 42 percent are with the railroad and 58 percent are in other Alaska businesses. Of the payroll, 53 percent goes to railroad employees and 47 percent to employees of other businesses.

Those are the broad economic effects of current railroad spending of \$108 million in Alaska—\$65 million for railroad operations and \$43 million for capital projects. Railroad spending supports Alaska jobs and income both directly and indirectly. When railroad employees spend their paychecks, they generate additional jobs and income for other Alaskans. Likewise, when the railroad buys goods and services from Alaska businesses, those purchases help support jobs and income throughout the economy.

Our estimates of the economic effects of railroad spending are based on average annual railroad spending in Alaska from 2001 through 2003. If railroad spending increased, it would support more jobs and income; if spending dropped it would cost the state jobs and income.

Also, the economic effects would change if the mix of spending for operations and for capital projects changed. Railroad operations require relatively more railroad employees, and many of the other jobs that rely on operations spending are in health care and retail trade. Capital projects create relatively more non-railroad jobs—since so much of the work is contracted out—and about a third of the non-railroad jobs supported by capital spending are in construction.

It's impossible to predict future railroad capital spending. About 40 percent of the railroad's in-state spending in recent years was for capital projects, which it pays for almost entirely through a combination of retained earnings and federal grants. We know that federal grants can vary sharply from year to year, and the railroad's retained earnings depend on how much money it makes from its operations and its real estate investments.