# Truck and Water Transportation in Alaska

By Brian N. Rae

One of the greatest impediments to Alaska's growth has been the inability to easily and inexpensively transport goods and products. Transportation costs decreased dramatically and promoted both economic and population growth in the state with the opening of the Alcan Highway in 1943. Further road construction and innovations in freight handling techniques have continued to lower costs and increase growth. However, much of Alaska still must rely on either water or costly air for all long distance transportation. For lowest cost transportation, truck and water are the only available options for most of the state.

## Transportation Corridors

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Over 15,000 miles of highway serve various parts of the state. The Alaska Marine Highway System (AMHS) accounts for 2,300 of these miles, or about 15% of the total. The AMHS links Southeast Alaska with both Prince Rupert, B.C. and Seattle, a total of 700 additional miles. For many communities in Southeast, Kodiak and the Aleutians the AMHS offers the only link to mainland road systems. It also plays a vital role in both passenger and freight transportation.

Exact figures are not available for navigable waters in the state—the term itself being open to debate—but Alaska's coastline is 33,900 miles long. Commercial freight lines serve communities as far north as Barrow and pipeline facilities on the North Slope. The Yukon, Tanana and Kuskokwim rivers and their tributaries are important shipping routes for the communities along their banks. The Department of Natural Resources estimates navigable inland waters at 550,000 miles. (This figure includes all rivers over 70 feet wide, usable by raft, boat, or float plane.) Since the state does not regulate waterway usage, these routes are open to anyone. While not all are now used for transportation, the majority of these are used for activities ranging from barge transportation to recreation.

The road system in the state is less extensive. The state oversees about 5,500 miles of land highways, while municipalities and boroughs oversee more than 2,500 miles. An additional 2,900 miles of road, usually owned by the federal government or private entities, are available for public use. The federal government is a major provider of moneys for highway construction, supplying funds for both the state and local governments. After construction, the federal government transfers responsibility for maintenance.

## Historical Trends

In 1960, provisions regulating intrastate trucking were imposed in the Alaska Motor Freight Carrier Act. Various parts of the act addressed safety measures, competition, and rates. In 1970, major revisions to the act strengthened the state's regulatory and enforcement authorities. The Alaska Transportation Commission took over the responsibility for enforcing the act from the Alaska Public Services Commission.

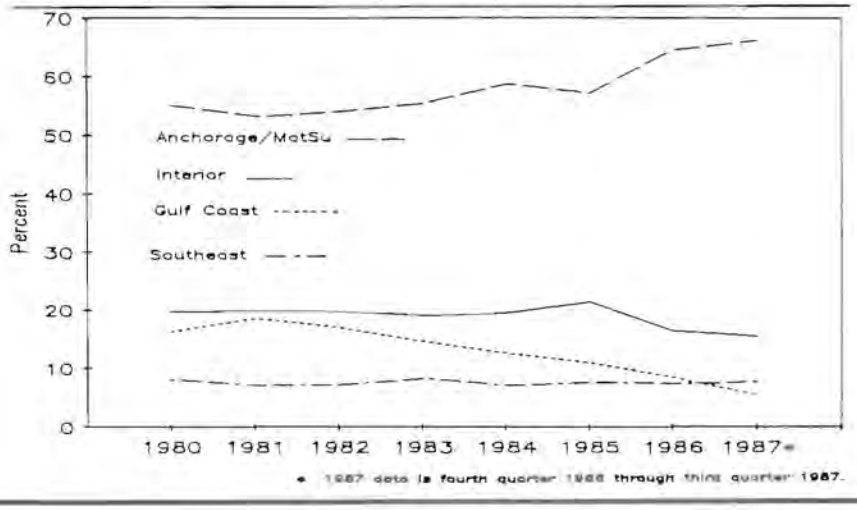
Compared to most regulatory agencies, the commission took a less restrictive course of action. Market forces played an important role in setting tariffs and allowing new entries into the industry. The commission was abolished in March 1985, after legislation was enacted requiring minimum insurance coverage and semi-annual safety inspections for trucks. The Interstate Commerce Commission regulated interstate trucking, which falls outside the jurisdiction of individual states. In 1980, this industry was deregulated by the federal government.

The federal government also regulates interstate and international water transportation through several different agencies. As in other transportation sectors, the 1980s have brought about federal deregulation. Unlike trucking, the state has never regulated the water transportation industry.

The trucking and water transportation industries had an average combined employment of about 3,600[1] between 1980 and 1987. Trucking, warehousing and storage (trucking) had the majority of these jobs, averaging 2,300 during that time frame. Water transportation employment averaged 1,300. Compared to many other Alaskan industries, both have been relatively stable in the post-pipeline years.

[1] Does not include self-employed or unpaid family members, a significant portion of the trucking industry because of independent operators.

Figure 1
Trucking Transportation
Percentage Total Employment by Region




Both industries, trucking in particular, seem more insulated from market shocks than do most other industries. Most companies contacted have diversified their operations over the years, both by expanding into other industries and broadening their clientele. Although some firms are still dependent on one product or client, this is no longer the norm in these industries. In water transportation, freight carriers operate in much the same way as railroads. Interchange agreements allow a company to transport another company's container, so a firm will often transport a competitor's containers.

Trucking employment was at a low point in 1980, with only 2,000 jobs statewide. In 1981-82, employment increased to higher than normal levels, with gains experienced throughout the state. Since 1983, statewide annual average employment has remained close to the 2,300 mark. Not all regions of the state have experienced this stability.

Water transportation employment showed extremely stable employment levels from 1980 through 1985 at the statewide level. Annual average employment ranged from 1,325 to 1,410 during this six year period. Like trucking, this stability was not clear in all regions. In 1986, employment fell by almost 200, and fell an additional 150 in 1987.

### Regional Trends

One clear relationship can be drawn between regional employment levels for the water transportation and trucking industries—one industry usually dominates. Statewide, between 1980 and 1987, annual average trucking employment has represented 59% to 69% of combined water and truck transportation employment.

The Anchorage/MatSu region trend has held fairly steady with 75% to 85% of employment in the trucking sector. Employment in water transportation has been very stable, with some small gains between 1982 and 1984. Since that time, employment fell slightly but gained somewhat in 1987 (Figure 1). Trucking has shown less stability over the period, but has grown since 1980 by over 400 in employment. Over the period,

Table 1
Annual Average Employment by Regions

| Area | Year 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987* |
|---|---|---|---|---|---|---|---|---|
| Northern | | | | | | | | |
| Trucking | 1 | 3 | 6 | 12 | 9 | 19 | 7 | 31 |
| Water | 203 | 271 | 273 | 232 | 204 | 200 | 155 | 88 |
| Total | 204 | 274 | 279 | 244 | 213 | 219 | 162 | 119 |
| Interior | | | | | | | | |
| Trucking | 401 | 478 | 489 | 429 | 458 | 483 | 372 | 360 |
| Water | 44 | 53 | 74 | 73 | 65 | 62 | 48 | 51 |
| Total | 445 | 531 | 563 | 502 | 523 | 545 | 420 | 411 |
| Anchorage | | | | | | | | |
| Trucking | 1120 | 1274 | 1335 | 1247 | 1372 | 1286 | 1467 | 1544 |
| Water | 303 | 310 | 303 | 342 | 360 | 330 | 274 | 266 |
| Total | 1423 | 1584 | 1638 | 1589 | 1732 | 1616 | 1741 | 1810 |
| Southwest | | | | | | | | |
| Trucking | 15 | 23 | 36 | 42 | 37 | 46 | 60 | 73 |
| Water | 76 | 94 | 71 | 75 | 79 | 71 | 88 | 87 |
| Total | 91 | 117 | 107 | 117 | 116 | 117 | 148 | 160 |
| Gulf Coast | | | | | | | | |
| Trucking | 333 | 447 | 422 | 329 | 293 | 246 | 193 | 127 |
| Water | 155 | 139 | 155 | 139 | 191 | 248 | 149 | 98 |
| Total | 488 | 586 | 577 | 468 | 484 | 494 | 342 | 225 |
| Southeast | | | | | | | | |
| Trucking | 165 | 170 | 180 | 188 | 165 | 172 | 168 | 181 |
| Water | 608 | 542 | 447 | 486 | 452 | 470 | 464 | 431 |
| Total | 773 | 712 | 627 | 674 | 617 | 642 | 632 | 612 |
| STATEWIDE | | | | | | | | |
| Trucking | 2035 | 2395 | 2469 | 2248 | 2335 | 2252 | 2273 | 2330 |
| Water | 1392 | 1410 | 1323 | 1347 | 1351 | 1381 | 1192 | 1043 |
| TOTAL | 3427 | 3805 | 3792 | 3595 | 3686 | 3633 | 3465 | 3373 |

*1987 data represents a four quarter average from 4th quarter 1986 to 3rd quarter 1987.

Source: Alaska Department of Labor, ES-202 File.

Anchorage/MatSu has increased its share of employment in both sectors.

Water transportation has been the predominant sector in the Southeast region. Southeast water employment was quite high in 1980, but dropped nearly 25% over the next two years. This was brought about by the dollars appreciation against the Japanese yen. Demand for Alaska timber dropped sharply due to a depressed Japanese housing market. Since 1982, the water transportation sector has been quite stable with annual average employment around 450. Even with the 1980-82 drop, Southeast has dropped only slightly in its share of statewide water transportation employment. For trucking employment, Southeast has shown only slight growth during the period, but has remained quite stable with employment around 175.

The Interior region relies heavily on trucking, with employment levels stable between 400 and 500 between 1980 and 1985. Since 1986, employment has shown some weakness. Water transportation in the Interior mainly serves remote communities on major rivers, delivering bulk and nonperishable items.

Gulf Coast trucking employment showed gains similar to statewide movements in 1981 and 1982, but did not stabilize and continued to decline through 1987. The Gulf Coast lost almost two-thirds of its share of statewide trucking employment between 1980 and 1987. Expectations surrounding events in Seward can be blamed for part of this loss. Water transportation was quite stable until 1984, when employment increased rapidly in response to ventures using the Seward terminal by VECO Alaska,

SeaWay Express, and Alaska Marine Towing (Table 1). Employment hit its peak in 1985 and then declined rapidly as the planned expansion did not materialize. Increased shipments by the Alaska Railroad through Whittier hurt the Seward economy. SeaWay Express, AK Marine Towing and VECO Alaska filed Chapter 11 bankruptcy proceedings. Their subsequent retraction from Seward sent transportation employment to its lowest level in the eight year period.

### Occupational Structure

Water transportation leads trucking in the percentage of laborers employed. Over 80% of employees are in the crafts, operators, and laborers designation. Stevedores alone make up over 25% of the employment, and longshore equipment operators make up an additional 16%.

Slightly over 70% of employment in the trucking, warehousing and storage industry is in the crafts, operators and laborers sector. Of these, almost one-half are heavy truck or tractor trailer drivers and 20% are light truck and delivery drivers. This industry employs a much higher percentage of office staff than does the water transportation industry. On a percentage basis, it has almost twice as many clerical workers and three times as many officers and managers.

Trucking also employs a higher percentage of Alaska residents. In 1986, nonresidents made up 14.9% of all employees, as reported in *Nonresidents Working in Alaska 1986*. These workers collected 9.4% of total earnings. The water transportation industry, with extensive operations in ports outside Alaska, employed 19.7% nonresidents who collected 18.3% of the industry's earnings.

### Water and Truck Transportation Trends

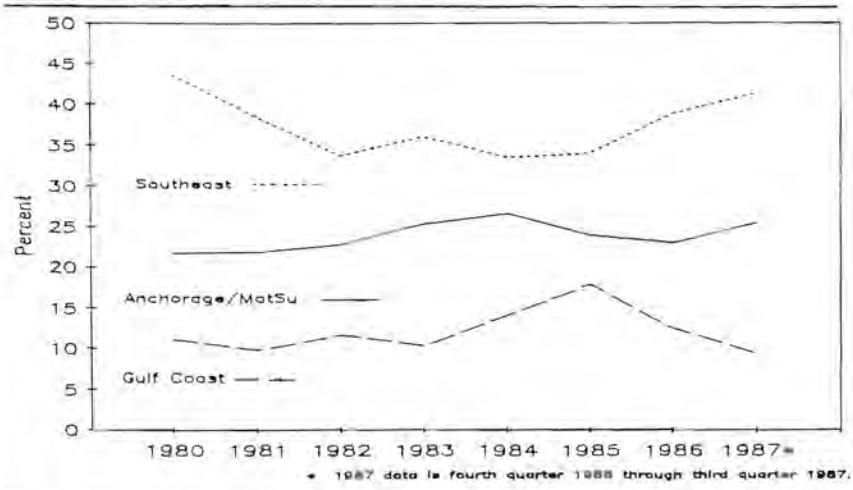
Competition has helped drive down the cost of transporting freight in Alaska. Following the abolition of the Alaska Motor Freight Carrier Act, many new firms entered the trucking industry. According to a House Research study, in 1985 over 500 new long-distance trucking firms applied for licenses. (This does not include local trucking, outside the scope of the House Research study.) During the same time trucking rates fell, which could not happen under the regulated rate structure of the Alaska Transportation Commission.

Water transportation still handles the greatest tonnage of freight in Alaska. Water transportation was critical to Alaska's early settlers, who located their communities to accommodate this need. Even after truck transportation was possible, the vast area of the state made this option too expensive to pursue. Air transportation filled the need for rapid transportation of perishable goods, and water transportation supplied the durable goods. Because of Alaska's unique evolution in transportation, it will be many years before other transportation sectors can compete with water transportation's inherent advantages in rural Alaska.

One controversial regulation, insulating the maritime industry from foreign competition, is the Jones Act. (The act is more correctly referred to as the Merchant Marine Act of 1920.) Under this act, all transportation between American ports must be done with ships built and registered in the United States. The Alaska Statehood Commission, in their final report released in January 1983, states that:

> "(T)he act adds $41 million a year to the cost of goods coming into the state, and thereby helps raise our cost of living. But the worst effects of the Jones

Figure 2
Water Transportation Employment
Percentage by Selected Regions



Act are those on the state's revenues from oil and on the future of state mineral development. Each year . . . the state treasury is denied from $63 to $176 million in oil revenues." (Original emphasized.)

Not everyone agrees with this rationale, including some who testified before the Commission. It was argued that legislation similar to the Jones Act exists in most maritime countries, and in other industries in the United States. The act was not seen as protecting the water transportation industry. Proponents said the act protects the country's national security and political interests, at very little added cost to consumers. It was even argued that any added costs were evenly distributed when one looked at all government programs. For example, the costs for the Coast Guard, only available to people using waters under the Coast Guard's jurisdiction, were seen as inequitable but in the public's best interest. Likewise, setting a 200 mile fishing limit protects United States fishers at the expense of consumers.

The Rural Research Agency of the Alaska Senate reported in 1986 on freight transportation in rural Alaska. The report found freight services and tariffs quite unstable. Many remote communities are forced to rely on one type of service, with little recourse to rate fluctuations. One of the few moderating forces on tariffs is the presence of federally subsidized freight systems. These include the U.S. Postal Service and the BIA Cool Barge. The instability extends beyond the state level, however, as national and world freight rates show strong cyclical tendencies.

The report expected rural freight rates to increase because the industry was then at the low point of a cycle. This would be worsened by other factors. Decreased tonnage moving into rural Alaska, increased insurance rates and decreased competition would cause rates to rise. These expectations have proven to be correct. Since January 1987 three rate hikes have taken place in the water transportation sector. Shipping costs have increased by 24.2%.

The agency found that freight charges contributed only a small part to the cost of living differences for rural Alaska. In general, freight charges add 10% to 15% to the costs of goods in rural Alaska, while the cost of living differentials range from 26% to 45% more than that of Anchorage.

For example, fuel accounts for 80% by weight of freight shipped into rural Alaska. Most of this is shipped by water or truck. The House Research Agency looked at the costs of fuel oil in two villages in western Alaska in 1983. It found that the retail price was $1.23 to $1.31 higher per gallon than the wholesale price at the California refinery. Transportation costs and dealer markup account for this increase. Dealer markup, which includes inventory, labor and administrative costs and profits, accounted for $0.47 to $0.68 of this increase. Transportation costs can be compared over three segments of the trip. The California to Dutch Harbor segment cost the least, while transportation from distribution centers in Bethel or Kotzebue to the villages added $0.31 to $0.325 to the fuel's cost.

### Outlook

Water transportation employment, after two years of losses, should stabilize near 1987 levels. Although this sector has a captive market in much of rural Alaska, competition with other sectors in transportation could be a problem. There might be regional employment swings as firms consolidate operations. More movements could occur by firms expanding into different sectors in the transportation industry.

Much the same outlook is projected for trucking. Although this sector did not show employment declines over the past two years, it did not grow strongly after the lifting of regulations. The trucking sector could face serious setbacks if the air freight industry is able to lower prices and more commodities are moved by the Alaska Railroad.