ALASKA ECONOMIC TRENDS

MARCH 2012

The Span of Alaska's Railways

WHAT'S INSIDE

ALASKA DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT

Governor Sean Parnell
Commissioner Click Bishop

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Cover photo: A worker in the Alaska Railroad wheel shop, courtesy of Alaska Railroad Corporation

On page 4, passengers wait for the train to depart on a trip from Anchorage to Seward. Photo by Ciaran Bohane

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Railroads helped shape transportation system, cities

By Commissioner Click Bishop

In this month's *Trends* we examine the role railroads have played in Alaska's economic development.

Modern Alaska probably wouldn't exist without the mixed fortunes that have been the Alaska railways. Going back to the early 20th century, railroad transportation has been a key physical connection between the interior and the tidewater ports. An early railroad camp on Ship Creek was the beginning of Anchorage, our largest city.

The Alaska Railroad continues to be an integral piece of our state's transportation system. Over the past century, the railroad's role has evolved including the transition to state ownership in 1984. But it remains a profitable and significant part of the transportation of both natural resources and almost half a million passengers each year.

Making Alaska a safer place to work and live

Also in this issue, we focus on workplace safety. Although even one accident, injury, or death is one too many, workplace illness and injury rates in Alaska have been dramatically reduced in the last two decades.

The national measure of workplace fatalities is the number per 100,000 workers. The most recent calculation is 5.6 in 2009, down from 31.4 in 1992.

The Governor's Safety and Health Conference will be March 19–21 at the Egan Center in Anchorage. Administered by the Alaska Safety Advisory Council, the conference focuses on safety and health issues. Its training and networking opportunities illustrate a strong commitment and partnership among industry, government, and labor organizations. For more information about the conference, go to Labor.Alaska.Gov.

Young Alaskans also need positive exposure to safety and health. Over the last three years, the Alaska Department of Labor and Workforce Development has made aggressive efforts to provide workplace safety training to more than 12,000 K-12 students throughout Alaska.

With the help of agencies such as the Alaska Highway Safety Office, we are seeing fewer alcohol related fatalities on our roads and highways.

How many of you religiously wear your seatbelts? I often have to look down to see if I buckled up since it's become automatic for me. Our next big challenge is to get people to recognize — and avoid — the dangers caused by distracted driving. Taking even one call on a cell phone is a distraction for a driver, so ask your friends to pull over before taking or placing a call.

There are many opportunities to join forces with the Alaska Department of Labor's Division of Labor Standards and Safety through partnership, cooperative recognition programs like the Safety and Health Achievement Recognition Program and the Voluntary Protection Program, or our free consultation program.

We live and work in some of the most hazardous conditions on the planet, and Alaskans are famous for rugged individualism and toughness: attitudes that can conflict with safety. But we are changing attitudes and developing a culture that makes Alaska a safer place in which to work and live.

By CAROLINE SCHULTZ, Economist

The Span of Alaska's Railways

Modern transportation, enduring piece of history

Over three-quarters of a million people rode the Alaska rails in 2011, whether for breathtaking views from the trestles or to hop off the train at a remote flagstop for a hike to the family homestead.

Alaska has just two operating railroads now, but its rich history of rail lines from Nome to Prince of Wales Island helped put the state on track to greater economic development and formation of its major population centers.

Above, Alaska Railroad's GoldStar service along Turnagain Arm, courtesy of the Alaska Railroad Corporation

Birth of the rails

The Second Organic Act of 1912 organized Alaska as a territory. It had a population of around 65,000 that year — just over twice what it was when the United States purchased the land from Russia 45 years prior. The Klondike gold rush had dried up by the turn of the century, and the subsequent rush to Nome had just ended.

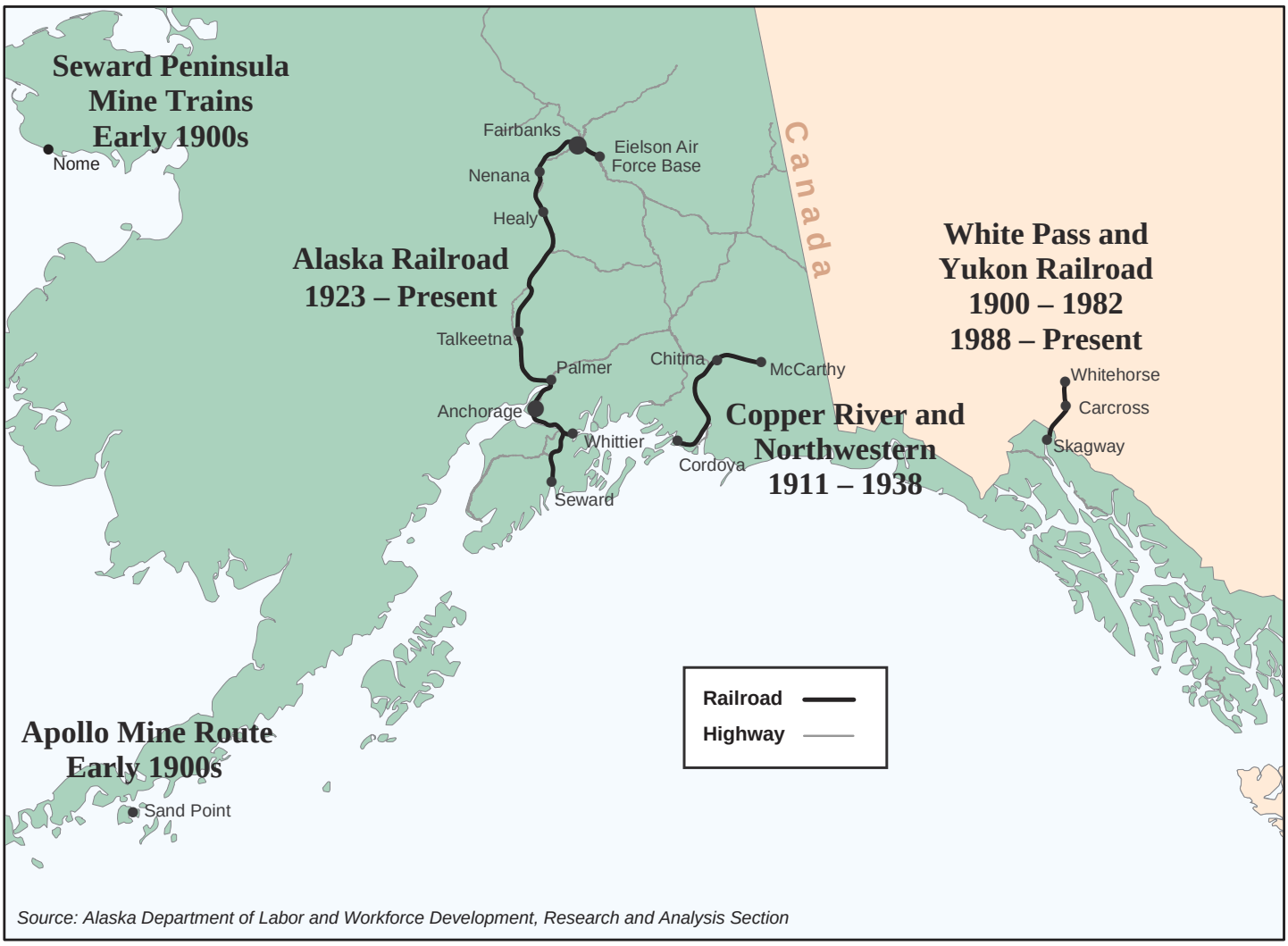
The territory had already paid for itself in valuable seal pelts harvested off the Pribilof Islands, and Alaska's canneries were producing up to a quarter of the United States' total canned fish value. But the territory still lacked significant infrastructure connecting tundra to tidewater, and it was an economic hostage to resource rushes and a few Seattle seafood companies. As a young territory in a new century, Alaska was still waiting for its train to come.

Along with granting Alaskans the right to limited self-governance, the Second Organic Act of 1912 directed the president to appoint a commission to assess Alaska's transportation network. The Alaska Engineering Commission found that based on prior private railroad failures, the small population, and the vast size of the territory, the only feasible interior-to-tidewater railroad in Alaska would be federally financed and operated.

The Alaska Railroad Act

On March 12, 1914, Congress passed the Alaska Railroad Act, which granted the president the power to build and operate a railroad connecting Alaska's interior to the coast. Nine years later, on July 15, 1923, President Warren G. Harding drove in a golden spike at the Tanana River Bridge to signify the completion of the Alaska Railroad, which runs from Fairbanks to Seward.

Despite its historical significance, the Alaska Railroad — now run by the state of Alaska — is no longer the most important transportation link in Alaska. But before bush pilots and automobiles, there were no alternatives for hauling freight over land. The Alaska Railroad — along with other



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

smaller, mostly defunct rail lines — was instrumental in the development of Alaska, and it is still a major transportation artery in Alaska's most populous region. Hauling both freight and passengers, the Alaska Railroad bills itself as America's last full-service railroad.

Earliest railroads

The Alaska Railroad was by no means Alaska's first. One hundred years ago, Alaska had around a dozen operating private railroads. Short, narrow gauge tracks were first laid in an unlikely location in the Shumagin Islands off the Alaska Peninsula, near the present-day fishing community of Sand Point, and they serviced one of Alaska's first hard rock mines from 1897 through 1917. (See Exhibit 1.) Other similar, small railroads sprung up all over Alaska around the turn of the 20th century, usually for the sole purpose of bringing resources from a slightly-inland quarry to a dock where the freight could be loaded on a steamer. Many of these small railroads lacked a locomotive, so freight was hauled down the line by gravity or mules.

White Pass and Yukon

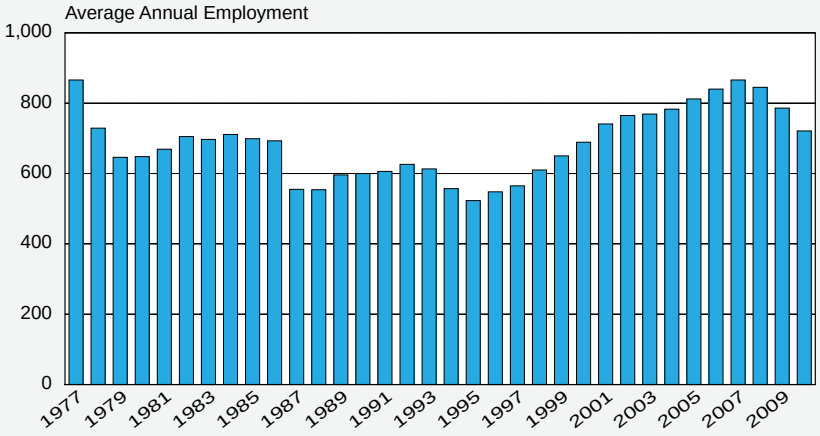
The Klondike gold rush, which began in 1897, demanded a different kind of railroad. Investors and surveyors had grappled with the inaccessibility of the Yukon from Alaska's inside passage before the rush, but financing and political problems got in the way. The ambiguity of the Alaska-Canada border made things even more difficult, and early investors had a permitting contingency plan in case Skagway was deemed a Canadian port.

Finally, in 1898, construction began in Skagway to link the riches of the Yukon to the tidewater port.

Completed just two years later, the White Pass and Yukon Railroad served as the Yukon's only overland transportation corridor until the opening of the Alaska Highway in 1943.

The White Pass and Yukon Railroad operated until the Yukon mining industry collapsed in 1982, but it reopened in 1988 as a seasonal tourism operation. In 2011, Alaska's oldest major railroad carried more than 381,000 passengers along the first 67.5 miles of the original 110-mile line.

2 **Alaska Railroad Employment**
1977 to 2010



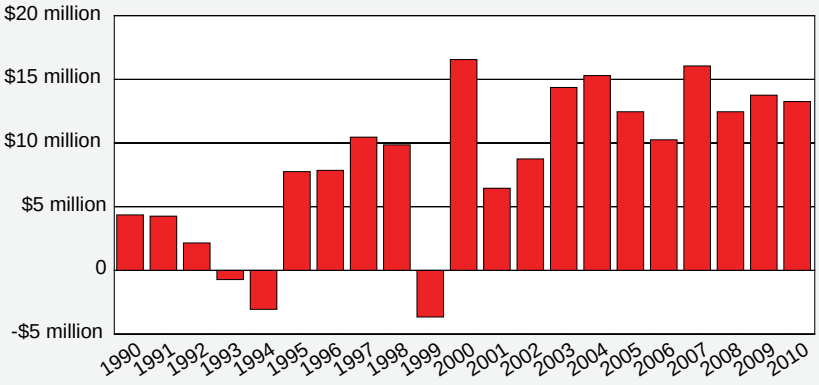
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Copper River and Northwestern

When a mountain of copper ore was discovered near the present-day town of McCarthy in 1900, investors hurried to seize control of the minerals and access to the mine. Railroad route decisions could make or break the future of small Alaska cities. Valdez was a possible port, but the high grade at Thompson Pass made the route unpopular with all but the Valdez Chamber of Commerce. The now-abandoned Gulf of Alaska town of Katalla, which was also home to Alaska's first commercial oil fields, was chosen as the railroad's tidewater terminus. However, a storm washed out Katalla's breakwater and badly damaged the jetty, and with copper ore piling up at the Kennecott Mine, the rail terminus was moved to Cordova.

Construction of the Copper River and Northwestern Railroad, which began in Cordova in 1906, was completed in 1911. The railroad operated for another 28 years, until ore depletion and the Great Depression dried up the Kennecott Mine. The last train left Kennecott in November 1938.

3 **Alaska Railroad Net Profits**
1990 to 2010



Note: Profits include net operating income and net real estate and capital investment income.
Source: Alaska Railroad Corporation

Construction of the Copper River and Northwestern Railroad cost more than $20 million, but the railway hauled up to $300 million in copper ore over its lifetime.

Building the Alaska Railroad

Several routes for the Alaska Railroad were on the table when the federal government involved itself in railroad building in 1914, after the passage of the Alaska Railroad Act. The possibilities included using the existing Copper River and Northwestern rail for the southern portion.

President Woodrow Wilson and the Alaska Engineering Commission eventually chose a route from Seward to Fairbanks through the Matanuska coal fields, a project with

staggering logistics. The AEC purchased existing track and equipment when and where possible — usually at pennies on the dollar — such as the 71 miles of track, three locomotives, and nearly 40 cars from the Alaska Northern line out of Seward.

While the railroad was intended to enable economic development in Alaska through access to mineral deposits and water transportation, its construction resulted in significant development as well. Small coal mines opened near Palmer to replace the locomotive coal that was previously shipped from Seattle. Construction workers encountered further coal deposits such as those near Chickaloon and Nenana as it moved farther north into the interior.

The most important consequence of the railroad construction was development of the Ship Creek railroad construction camp, which AEC later selected as the railroad's permanent headquarters based on its central, coastal location between Seward and Fairbanks and its proximity to Matanuska area coal fields.

When railroad construction began, a tent city sprang up on the Ship Creek flats, populated by thousands of construction workers and eager entrepreneurs. The AEC saw the need to develop an actual town site on higher ground above the Ship Creek flats, and the General Land Office quickly laid out 1,400 lots with space set aside for schools, parks, and public offices. The lots were auctioned off on July 10, 1914, and the AEC managed the town for the next five years. In 1920, the AEC turned the town over to the newly incorporated city of Anchorage.

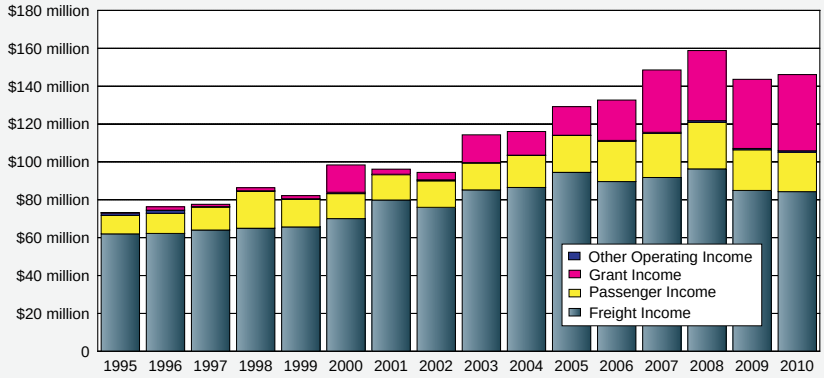
Building the Alaska Railroad cost around $60 million, and employed 4,500 workers at its peak. Not just responsible for laying track, the AEC had far-reaching powers that included selling town lots, building schools, and managing the massive railroad supply chain that involved running a creamery and cannery car.

Finally, a profit

The Alaska Railroad's spending exceeded its revenues during its first 15 years of operation, but in 1938 the railroad turned its first profit and would henceforth remain operationally self-sufficient.

Yearly Operating Income
Alaska Railroad, 1995 to 2010

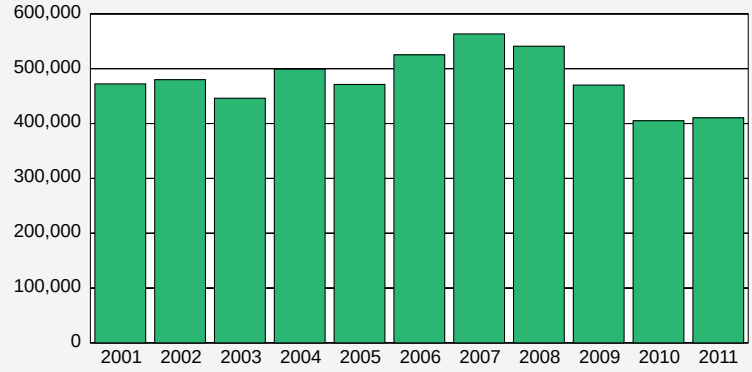
4



Note: Graph only shows operating income; it excludes nonoperating income such as real estate and capital investment earnings.
Source: Alaska Railroad Corporation

Alaska Railroad's Yearly Passengers
2001 to 2011

5

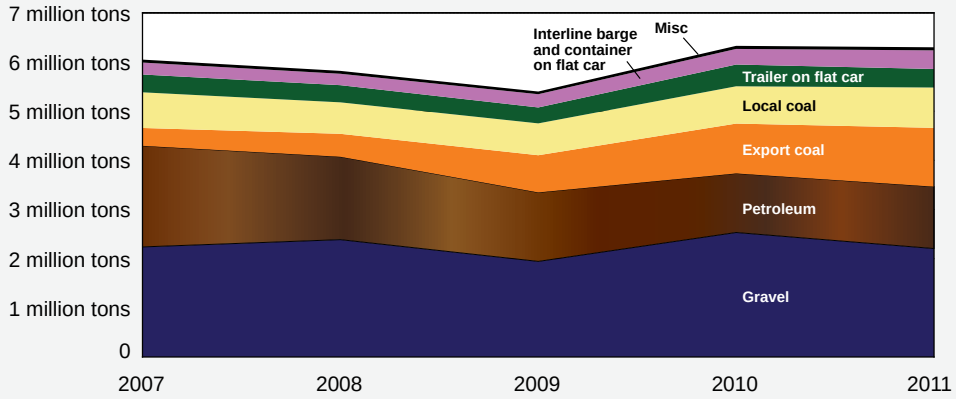


Source: Alaska Railroad Corporation

The onset of World War II drastically increased the demand for the railroad's services, and the bottleneck and vulnerability risk at the railroad's only deep-water port in Seward spurred the U.S. Army to punch out a cutoff to Whittier, a Kenai Peninsula port in western Prince William Sound. The first train rolled into Whittier in 1943, and with the construction of two new air bases near Anchorage and Fairbanks, the Army routed all of its freight through the new port.

World War II put other pressures on the Alaska Railroad. Labor shortages were rampant as employees left for military service or higher paying jobs. There was also a shortage of rolling stock, or vehicles that can move on a railway. By 1943 the

6 The Makeup of Alaska Railroad Freight
2007 to 2011



Source: Alaska Railroad Corporation

situation was so desperate, and the railroad services so critical, that the Army sent more than 1,100 troops to operate the Alaska Railroad. The wartime labor shortage also prompted the railroad to hire a crew of Athabascan women from Cantwell to work a section of track maintenance.

Aside from its wartime service stint, the early Alaska Railroad actively pursued tourism. Before World War II and the availability of airline and highway access to Alaska, tourists traveled weeks by steamship between Alaska and Lower 48 cities. In the 1930s, it was cheaper to travel from the United States to Europe than to Alaska.

Despite these challenges, in 1923 the Alaska Railroad built and operated a 75-room hotel complete with a pool and three-hole golf course in Curry, a now-abandoned town halfway between Seward and Fairbanks where passengers would spend the night on the two-day trip. The Alaska Railroad also constructed and operated the McKinley Park Hotel, which opened in 1939 and operated one year before the U.S. Army took it over to use as a relaxation stop for Alaska-based soldiers.

The modern railroad

The 1964 earthquake was a major setback for the Alaska Railroad, which sustained an estimated $30 million in damages — mostly near Seward, Whittier, and Anchorage. Particularly debilitating to recovery was the fact that the routes to Anchorage from both Seward and Whittier were impassible for weeks, which hampered aid shipments across Southcentral Alaska.

The railroad soon enjoyed another boom following the discovery of massive quantities of oil at Prudhoe Bay and the rush to build the pipeline. Much of the gravel used to construct the Dalton Highway between Fairbanks and Deadhorse was shipped on the Alaska Railroad. Once the highway was complete, the railroad shipped pipe to Fairbanks where it was loaded into trucks and driven up the haul road. During the mid-1970s, the railroad workforce grew to more than 1,000.

Transfer to state ownership

After pipeline construction ended in 1977, the Federal Railroad Administration sought to transfer ownership of the Alaska Railroad to the state. Following the pipeline boom, railroad employment declined through the end of the 1970s. (See Exhibit 2.)

In 1983, while the United States was in a recession but Alaska's economy thrived due to high oil prices, President Ronald Reagan authorized the transfer of the railroad to the state of Alaska. The railroad was to be state-owned and administered by the quasi-public Alaska Railroad Corporation, a seven-member board appointed by the governor. Alaska paid $22.3 million for 655 miles of track, 38,000 acres of land and right-of-way, 1,545 units of rolling stock, and four railroad terminals. Alaska formally took control of the Alaska Railroad in July 1984.

Under new management, the Alaska Railroad pursued ambitious plans to increase passenger and freight traffic as well as cut costs. By the end of the decade, it had increased shipments of pipe for oilfields and began shipping logs from the interior and the Matanuska-Susitna area. The Usibelli Coal Mine in Healy started shipping coal to Seward for a new contract with a South Korean firm. Tourism began to rebound, and a new depot went up at Denali National Park. The railroad

purchased new passenger cars for daily express trains between Anchorage and Fairbanks.

Despite some early successes, the first years of state ownership of the railroad were fraught with challenges. Car derailments, chemical spills, floods, track washouts, and harsh winters kept costs high for the new corporation and meant railroad profits were volatile.

The economic downturns in Alaska in the late 1980s and in the Lower 48 in the early 1990s hurt both passenger and freight traffic on the Alaska Railroad. Its average annual employment dropped 22 percent between 1984 and 1987, and 16 percent between 1992 and 1995. The railroad's unpopularity came to a head in 1996, when the Alaska Legislature passed a bill to appraise it for sale, although Gov. Tony Knowles ultimately vetoed the bill.

Twists and turns

Though the Alaska Railroad Corporation's first 20 years were marred by a few growing pains, it has turned a profit each year since 2000. (See Exhibit 3.) The railroad began to qualify for federal grants in 1996 and used the funding to renovate and maintain dilapidated lines.

In 2000, the Alaska Railroad partnered with a Lynden Transport subsidiary to provide rail-barge services in Seward and Whittier, which substantially increased northbound freight traffic. Revenues from freight topped $70 million in 2000 and peaked at $96 million in 2008. (See Exhibit 4.)

Passenger traffic increased by nearly 20 percent between 2001 and its 2007 peak of 563,491, as the railroad made improvements to passenger facilities and implemented an online reservation system. (See Exhibit 5.) Between 1996 and 2007, annual Alaska Railroad employment grew at an average of 4 percent each year.

But the Alaska Railroad's 12-year employment growth streak quickly came to a halt at the onset of the national recession in late 2007. Railroad passenger counts fell 4 percent in 2008, 13 percent in 2009, and 14 percent in 2010 as the depressed Lower 48 economy dampened tourism. Passenger revenue declined 13 percent, or $3 million, between 2008 and 2009.

Freight traffic also took a hit as Alaska's economy felt the ripples from the national recession. Gravel shipments, which are the railroad's greatest by tonnage, dropped as construction slowed in-state.

The Alaska Railroad took another major blow in 2009 when the Flint Hills refinery in North Pole closed a jet fuel processing unit because of lower demand at the Ted Stevens Anchorage International Airport, a result of the global recession. The refinery was one of the railroad's largest freight customers, and the shutdown had serious consequences. The number of fuel cars shrunk from 80 to 40 a day, and freight revenues fell by 12 percent, or $11 million, between 2008 and 2009.

In reaction to the loss of freight and passenger traffic, the Alaska Railroad announced it would lay off up to 20 percent of its workforce in 2009. Between 2008 and 2010, it shed 124 jobs. Severe cost reductions shrunk operating expenses by 11 percent in 2009, which allowed the corporation to earn a $13.9 million profit in 2009.

Railroad keeps its niche

Though Alaska Railroad employment was still at a decade low in 2010, there was a light at the end of the tunnel. The number of passengers grew slightly in 2011 as tourism rebounded, with 5,000 more passengers than there were in 2010. Freight tonnage totaled 6.3 million in both 2010 and 2011, up from 2009's 5.4 million tons. Record-level coal exports from the Usibelli Coal Mine were a major factor in the increase.

While local coal shipments have remained mostly flat — around three-quarters of a million tons — coal for export has increased from 363,000 tons in 2007 to more than 1 million tons in 2010 and 2011. Coal now accounts for a third of total freight tonnage. (See Exhibit 6.)

The Alaska Railroad has weathered both boom and bust and continues to be a key piece of an intermodal transportation network in a state where transportation infrastructure is dear. The corporation estimates that its gravel freight service alone saves Alaska's highway network 192,000 one-way truck trips each summer. About four trains per week haul coal from Healy to Seward, which would be an unwelcome addition to the slow progression of motor homes along the Seward Highway if trucked instead.

By SARA VERRELLI, Research Analyst

Workplace Deaths on Steady Decline

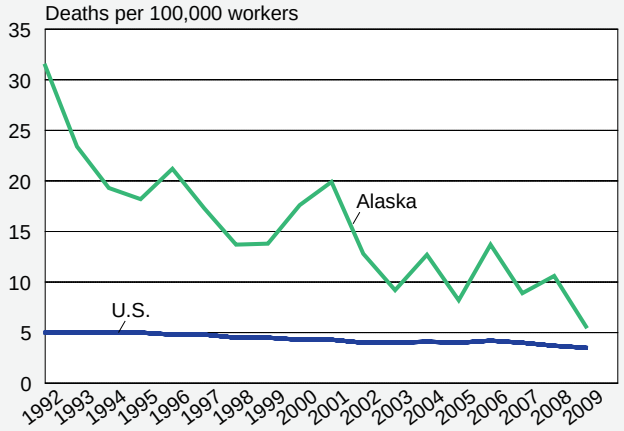
Even the most dangerous jobs become safer

Alaska's workplace fatality rate has always been high compared to the rest of the United States — not a surprise when you consider the extreme conditions many Alaska workers face and the challenges of getting around the state.

Alaska's isolated, remote communities require different modes of transportation, so aircraft travel is more common here — and because of the weather and terrain, it's also more dangerous. Commercial fishing, a notoriously hazardous occupation, is also a much larger part of the economy in Alaska than it is in the Lower 48.

Though Alaska's fatality rate remains higher than that of the nation as a whole, the state's rate has dropped considerably since 1992, when the U.S. Bureau of Labor Statistics implemented the Census of Fatality Occupational Injuries program to begin measuring and studying these deaths. (See Exhibit 1 and the box below.)

1 Alaska Fatalities Decline
U.S. and Alaska, 1992 to 2009



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

Total injuries and the fatality rate

Workplace fatalities are measured by the number of deaths per 100,000 workers. In Alaska, that rate was 5.6 in 2009, the most recent year for which the rate has been calculated. (See Exhibit 2.) In contrast, the fatality rate was 31.4 in 1992.

Alaska's workplace fatalities have continued to decline even as overall employment increased 31 percent, from 247,000 jobs in 1992 to 324,000 in 2010. One possible explanation for the decline in workplace fatality rates is the growth and

Census of Fatal Occupational Injuries keeps precise, detailed statistics

The Bureau of Labor Statistics began conducting annual surveys in 1972 to estimate injuries, illnesses, and fatalities at work. Subsequent analyses showed traumatic occupational fatalities were underreported, and widely varying estimates raised concern about using a sampled survey to estimate deaths. In response, BLS and state agencies developed the Census of Fatal Occupational Injuries, implementing it in all 50 states and the District of Columbia in 1992.

CFOI maintains a complete count of worker fatalities and analyzes them in detail. The program relies primarily on death certificates, newspaper articles, reports from federal and state agencies, and workers' compensation records. It includes employer characteristics, fatality details, and demographic information about the deceased while keeping any identifying information confidential. Because these data are so specific, they're especially useful to policy makers, researchers, concerned employers and workers, unions, trade organizations, and safety equipment manufacturers.

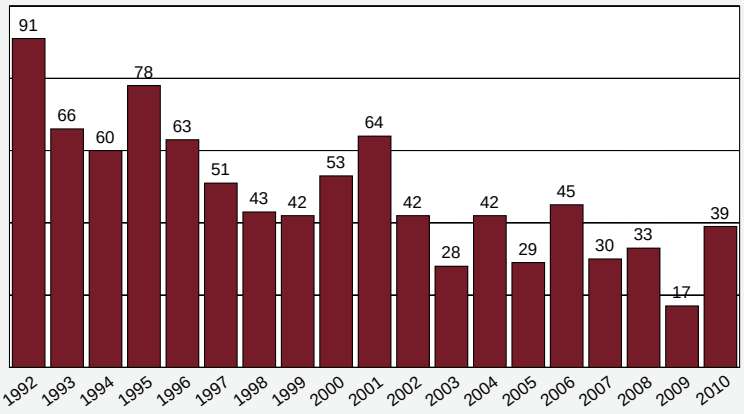
CFOI records any job-related death in Alaska, even if the worker was not a resident or didn't work for an Alaska company. These deaths include homicides, suicides, transportation accidents, contact with objects, falls, and exposure to harmful substances. Natural deaths that happen at work, such as heart attacks, are not part of the record.

2 Rates by State
Deaths on the job

State	Deaths per 100,000 workers 2009[1]	2004-08
New Hampshire	0.9	1.9
Rhode Island	1.5	1.3
Delaware	1.9	2.6
Connecticut	2.0	2.3
Hawaii	2.1	3.3
Massachusetts	2.2	2.2
Nevada	2.2	4.5
New York	2.2	2.6
Michigan	2.3	2.7
Minnesota	2.4	2.8
Maryland	2.5	3.0
Washington	2.5	2.7
California	2.6	2.7
New Jersey	2.6	2.5
Georgia	2.8	4.5
Maine	2.8	2.9
Ohio	2.8	3.2
Arizona	2.9	3.4
Illinois	2.9	3.2
Vermont	2.9	2.8
Pennsylvania	3.1	3.9
Florida	3.2	4.3
North Carolina	3.3	4.0
Virginia	3.3	4.3
Colorado	3.4	4.9
Wisconsin	3.4	3.4
U.S. Average	**3.5**	**4.0**
Oregon	3.9	3.7
Utah	3.9	4.9
District of Columbia	4.0	3.7
South Carolina	4.0	5.5
Alabama	4.3	5.5
Idaho	4.3	5.0
Tennessee	4.5	5.2
Texas	4.6	4.5
Indiana	4.7	4.8
New Mexico	5.2	5.4
Oklahoma	5.3	5.9
Alaska	**5.6**	**10.8**
Iowa	5.6	5.3
Missouri	5.6	5.7
West Virginia	5.7	7.8
Kansas	5.8	5.8
South Dakota	5.9	6.8
Kentucky	6.0	6.6
Nebraska	6.2	5.4
Mississippi	6.3	7.5
Arkansas	6.4	6.3
Wyoming	7.5	15.0
North Dakota	7.9	7.7
Louisiana	8.0	6.5
Montana	12.1	9.2

[1]Most recent rates available
Source: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with state and federal agencies, Census of Fatal Occupational Injuries

Number of Deaths on the Job 3
Alaska, 1992 to 2010



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and the U.S. Bureau of Labor Statistics

maturation of the Alaska economy. The state has gained more than 70,000 jobs since 1992, and most of the growth has been in the service sectors, where workplace fatalities are much less common.

Deaths on the job in the nation as a whole have remained largely stable since 1992, declining slightly in the last few years. Overall, the U.S. fatality rate has ranged from four to five deaths per 100,000 workers since 1992, reaching its lowest rate of 3.5 in 2009.

Characteristics of the workers

The overwhelming majority of those who lose their lives on the job are male — 94.9 percent of 39 total fatalities in 2010. (See Exhibits 3 through 5.) This is because men tend to dominate the more dangerous industries such as logging, commercial fishing, and construction.

Among racial and ethnic groups, 74.4 percent of fatalities were among white, non-Hispanic workers, and 12.8 percent were Alaska Native or American Indian.

Deaths were also most common among those in their prime working years — ages 35 to 54 — at 46.2 percent, followed by those aged 25 to 34, at 20.5 percent.

Although self-employed workers were about 6 percent of the state's workforce, they made up 20.5 percent of workplace fatalities. The higher fatality rate among the self-employed is primarily due to deaths in seafood harvesting.

Highest fatalities by industry

Historically, the highest workplace death rates in Alaska have been in air transportation and seafood harvesting. Fatalities are

4 Total Fatalities
1992 to 2010

Year	Alaska	United States
1992	91	6,217
1993	66	6,331
1994	60	6,632
1995	78	6,275
1996	63	6,202
1997	51	6,238
1998	43	6,055
1999	42	6,054
2000	53	5,920
2001	64	5,915
2002	42	5,524
2003	28	5,575
2004	42	5,764
2005	29	5,734
2006	45	5,840
2007	30	5,657
2008	33	5,214
2009	17	4,551
2010	39	4,547

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

also typically high in the construction industry, in which they rose to a high of 10 in 2010, or 25.6 percent of all work-related fatalities. (See Exhibit 6.) Nationally, construction fatalities declined by 10 percent between 2009 and 2010, but the construction industry still has the highest rate of workplace deaths in the nation.

Air travel

Alaska's air transportation industry, which includes commercial air taxi and helicopter services, accounted for 13 percent of all worker fatalities in Alaska in 2010, and 50 percent of transportation-related deaths. This was a major departure from the rest of the nation, where only 1 percent of workplace deaths were in air transportation the same year.

Alaska pilots are known for the danger and scope of their work. Because 82 percent of Alaska communities aren't accessible by road, the state has grown a large aviation network whose 10,000 pilots operate in 700 registered airports and 1,200 air strips in more than 3 million square miles.

Flying into these remote and isolated locations can be fraught with hazards, including unpredictable and harsh weather. Despite these challenges, aviation fatalities in the state fell to their lowest level in 2005 and have remained low. (See Exhibit 7.)

The decrease in deaths may be partly due to safety improvements by the Federal Aviation Administration, the pilots themselves, and other public and private aviation agencies. One example is the Alaska Capstone Program, which uses new technology to improve instrumentation on aircrafts and on the ground. Other aviation safety programs include the Medallion Foundation Five Star Shield Program and the Circle of Safety Program, which focuses on educating passengers.

Seafood harvesting

Some of Alaska's highest numbers of workplace deaths have been in seafood harvesting — 275 deaths since 1992, or 30 percent of the total.

Seafood harvesting has always been one of Alaska's most dangerous industries. Fishermen are exposed to some of the harshest working conditions in the world — rough seas, extreme cold, ice, darkness, and high winds. Popular reality television shows such as The Deadliest Catch have boosted the industry's notoriety. However, despite its reputation, Alaska's fishing industry has im-

5 Deceased Worker Characteristics
All Alaska industries, 2010

	Total deaths	Percent
Total:	39	100.0%
Employee status:		
Wage and salary workers	31	79.5%
Self-employed	8	20.5%
Gender:		
Men	37	94.9%
Women	2	5.1%
Age:		
20 to 24 years	5	12.8%
25 to 34 years	8	20.5%
35 to 44 years	9	23.1%
45 to 54 years	9	23.1%
55 to 64 years	5	12.8%
65 years and over	3	7.7%
Race or ethnic origin:		
White, non-Hispanic	29	74.4%
Black, non-Hispanic	–	–
American Indian, Aleut, Eskimo	5	12.8%
Asian	–	–

Notes: May include volunteers and other workers receiving compensation. Includes paid and unpaid family workers, and may include owners of incorporated businesses or members of partnerships. Totals for major categories may include subcategories not shown separately. Percentages may not sum to their totals because of rounding. A dash means data are unavailable or too small to publish due to confidentiality requirements.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

proved its safety record, with its number of fatalities falling from 12 in 1992 to five in 2010.

A variety of programs have likely contributed to the reduction in deaths, particularly individual fishing quotas for halibut and black cod (1995), some pollock, and the Bering Sea-Aleutian Islands crab rationalization program (2005). Before IFQs, fishing was literally a race to get as many fish as possible during short, derby-style openings, often in the middle of winter and regardless of conditions.

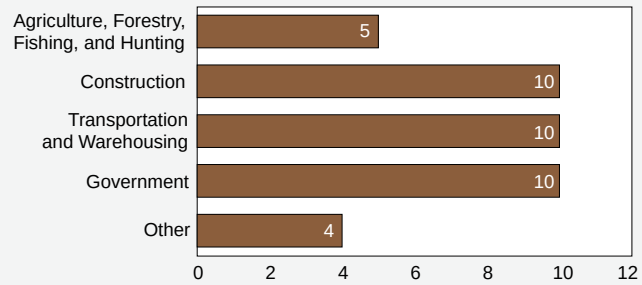
Congress enacted the Commercial Fishing Vessel Safety Act of 1988, which required fishing vessels to carry specific safety, survival, and firefighting equipment starting in 1990. The act also required emergency drills and first-aid training for crew members.

Industry groups such as the Alaska Marine Safety Education Association also educate commercial fishermen about safety and the causes of fishing-related injuries and deaths. AMSEA emphasizes survival skills and practices with fishermen using equipment that would be used in an emergency.

A Coast Guard program called the Alternate Compliance Safety Agreement focuses on the Bering Sea-Aleutian Island trawl fleet that fishes for cod and sole. ACSA requires vessel inspections to improve hull and material condition, updated vessel stability guidance, additional lifesaving and firefighting capabilities, and demonstration of emergency drills by crew.

Deaths by Industry
Alaska, 2010

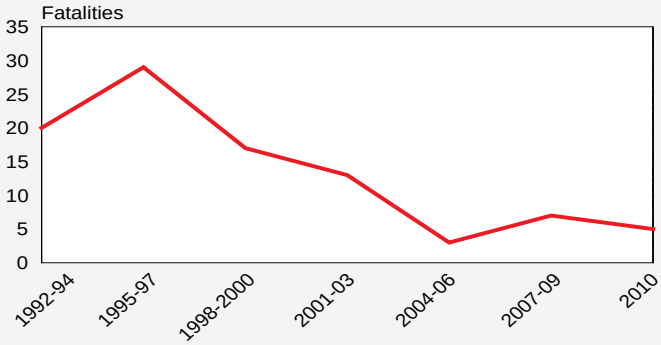
6



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and the U.S. Bureau of Labor Statistics

Aircraft Fatalities Decline
Alaska, 1992 to 2010

7



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and the U.S. Bureau of Labor Statistics

The most hazardous jobs

In general, fatal injuries in Alaska are common among occupations that require manual labor — workers in construction, mining, and oil and gas accounted for 26 percent of workplace deaths in 2010. These workers are much more likely to be in danger of falling, being caught in operating equipment or machinery, contacting electricity, and drowning.

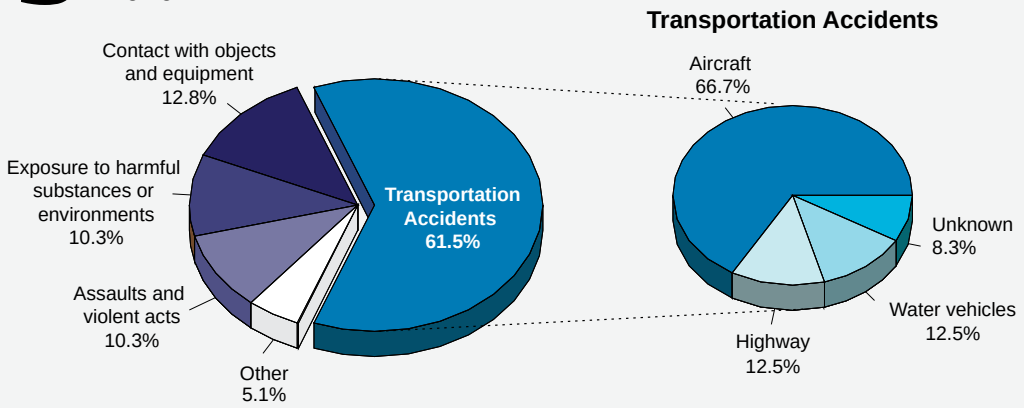
Another 18 percent who died were aircraft pilots, and 10 percent were fishermen. The other occupations with

8 Workplace Fatalities by Type
Alaska, 1992 to 2010

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	91	66	60	78	63	51	43	42	53	64	42	28	42	29	45	30	33	17	39
Transportation	69	47	30	67	51	33	30	31	39	48	30	13	31	21	25	17	23	9	24
Assaults/violence	4	12	6	3	6	6	7	3	3	5	–	7	–	–	4	–	–	–	4
Contact with objects or equipment	10	4	9	4	4	6	–	5	8	5	6	3	–	–	8	4	4	4	5
Exposure to harmful substances or environments	3	–	7	–	–	3	--	–	–	4	–	3	3	–	5	5	3	–	4

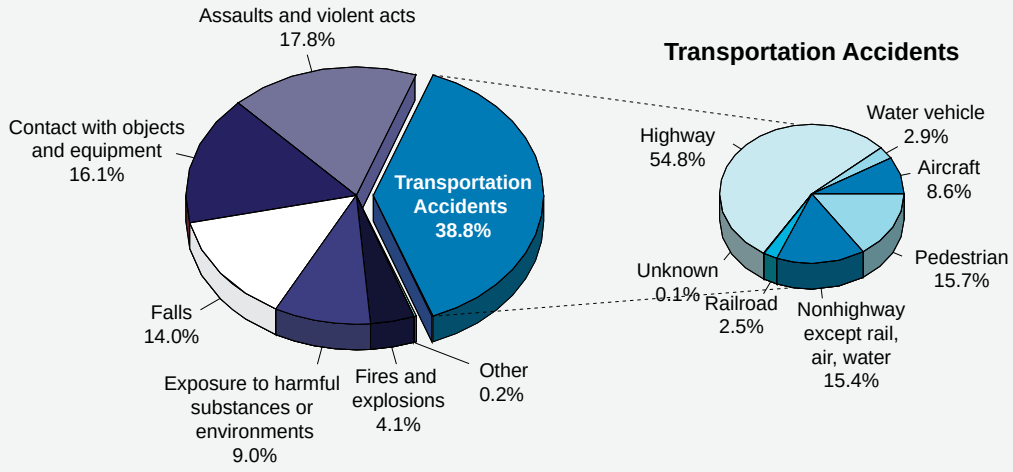
Note: Event groups are coded using the Bureau of Labor Statistics Occupational Injury and Illness Classification Structure. Columns may not sum to their total because they exclude fatality categories with data too small to publish. A dash means data are not available or are suppressed due to confidentiality requirements.
Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

9 Causes of Workplace Fatalities in Alaska
2010



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and the U.S. Bureau of Labor Statistics

10 Causes of Workplace Fatalities in the U.S.
2010



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and the U.S. Bureau of Labor Statistics

Vehicles the main cause of death

Transportation accidents were the leading cause of workplace death in Alaska and nationwide in 2010, accounting for 61.5 percent in the state and 38.8 percent in the nation. (See Exhibits 8 through 10.) The key difference is that most were aircraft-related in Alaska, but were highway-related nationwide.

Alaska's size and lack of roads means more workers travel by boat and airplane than they do in the Lower 48. In Alaska, 66.7 percent of transportation accidents were aircraft-related in 2010, in contrast to just 8.6 percent nationwide. Water vehicle accidents (mainly boats) followed at 12.5 percent in Alaska and 2.9 percent nationwide.

Just 12.5 percent of transporation fatalities were highway-related in Alaska, but highway accidents were the main cause of death in the U.S. at 54.8 percent. Pedestrians hit by vehicles represented 15.7 percent of the U.S. total.

recorded deaths in 2010 included vehicle operators, protective service workers, and mining workers.

The overall occupational mix varies greatly between Alaska and the rest of the country. Fishermen and aircraft pilots represented 40 percent of all occupational fatalities in Alaska from 2003 to 2010, but less than 3 percent nationwide.

In the U.S. as a whole, occupations in transportation and the moving of materials had high rates along with those in construction and extraction.

After vehicle accidents, "contact with objects or equipment" was the second-leading cause of death on the job in Alaska at 12.8 percent, and third nationally at 16.1 percent. This category includes those struck by falling objects and caught in equipment or collapsing structures.

Violence and assaults — which include suicide and animal attacks — and exposure to harmful substances or environments each made up 10 percent of workplace fatalities in Alaska in 2010. Exposure to harmful substances or environments

represented 9 percent of workplace fatalities nationally.

U.S. workplace assaults have decreased over the years but were still a significant cause of death in 2010, at 18 percent.

Notes

The Alaska Department of Labor and Workforce Development's Research and Analysis Section publishes fatal and nonfatal workplace injury and illness information and tables for download on its Web site: labor.alaska.gov/research/index.htm. Click on "Occupational Information" on the blue menu bar at the top, then "Workplace Fatalities" or "Workplace Injuries and Illnesses." National data as well as information for all 50 states and the District of Columbia are available from the U.S. Bureau of Labor Statistics at www.bls.gov/iif/home.htm.

Trends Index 2011

January
Employment Forecast for 2011
Employment Scene: Unemployment rate at 8.0 percent in November

February
Science, Technology, Engineering, and Math: Knowledge-based occupations in Alaska
Changes in Unemployment Benefits: Economic effects of bigger payouts and new maximum
Employment Scene: Unemployment rate at 8.1 percent in December

March
Social Assistance in the Private Sector: A small, seldom-examined industry with a large reach
New ACS Data and the Census: How to use the American Community Survey
How Alaskans Get to Work: A look at American Community Survey commuter data

April
Juneau at a Glance: Government, natural resources buoy capital city
Hiring on the Rise in Alaska: A look at patterns and seasonality
Civil Engineering in Alaska: Education, wages, and employment outlook
Employment Scene: Unemployment rate at 7.6 percent in February

May
The Cost of Living in Alaska: How it's measured, and how we compare
Commutes Are Shorter in Alaska: Times vary widely around the state
Employment Scene: Unemployment rate at 7.4 percent in March

June
Leisure and Hospitality in Alaska: Eat, play, and stay
The Makeup of Alaska's Population: 2010 Census release includes race, age
Alaska's Personal Income in Top 10: Growth recovers somewhat in 2010
Employment Scene: Unemployment rate at 7.3 percent in April

July
The *Trends* 100, 25th Edition: Alaska's Largest Private Employers in 2010
Alaska's Registered Apprenticeships: Employers and workers make a solid investment
Employment Scene: Unemployment rate at 7.4 percent in May

August
Alaska's Health Care Industry: Employment and costs continue their rapid rise
2011 Alaska Rental Survey: Costs around the state for various types of homes
Employment Scene: Unemployment rate at 7.5 percent in June

September
The Decade in Review: 2000 to 2010
Green Jobs Come Into Focus: State's first comprehensive survey shows a growing role
Employment Scene: Unemployment rate at 7.7 percent in July

October
Gender and Earnings in Alaska: Women's earnings vary widely by occupation
Alaska's $49 Billion Economy: The makeup of the state's gross domestic product
Employment Scene: Unemployment rate at 7.7 percent in August

November
Fish Harvesting in Alaska: Survey provides updated estimates for 2010
The Bristol Bay Region: Area relies on fishing, synthesis of modern and traditional
Employment Scene: Unemployment at 7.6 percent in September

December
Alaska Residential Construction: A look at the housing market and employment
Alaska Career Ladder Branches Out: Upgrade to lattice expands online job-seeking tool
Employment Scene: Unemployment at 7.4 percent in October

By DAN ROBINSON, Economist

Employment Scene

What if Alaska had followed the U.S. recession pattern?

Economy watchers are now more than familiar with how the Great Recession, which began in December 2007 and ended in June 2009, cost the nation millions of jobs and pushed the U.S. unemployment rate above 10 percent — more than double its pre-recession level.

Alaskans are also likely to have heard, in *Alaska Economic Trends* and elsewhere, that the nation's worst downturn since the Great Depression in the 1930s did substantially less damage to the state's economy than it did to the to the country as a whole.[1]

But explaining the difference between the severity of the U.S. recession and what Alaska experienced has been done more through adjectives and analogies than actual numbers. Exhibits 1 and 2 show the difference between Alaska's actual job numbers and unemployment rates over the last several years and how they would have looked if the state had mirrored national percent changes.

Two labor market indicators

The job numbers and unemployment rate are influential and closely watched. Nationally, they move the stock market, drive policy decisions, and influence consumer confidence. At the state level, the two indicators are the best overall gauge of an economy's health compared to other states and the nation, and also compared to the state's history.

Loss of 1,000 jobs versus 18,000

In 2009, Alaska lost jobs for the first time in more than two decades — but if the magnitude of the state's losses had matched the nation's, the dip of 1,000 jobs would have been a much more severe 14,000. What's more, they would have been preceded by a loss of 2,000 jobs in 2008 and followed by an additional loss of 2,000 in 2010. (See Exhibit 1.)

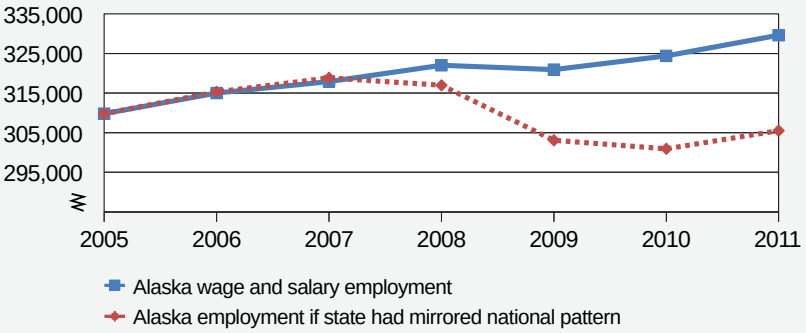
To give context to those numbers, Alaska lost about 20,000 jobs during its deep recession of 1986 and 1987.

Then, the red-hot economy of the early 1980s, fueled by Prudhoe Bay oil production and a dramatic rise in state spending, cooled abruptly when oil prices fell and the construction, banking, and real estate industries contracted harshly. Between 1985 and 1989, Alaska's population dropped by 44,000 and the construction industry alone lost 10,000 jobs.

Numbers delayed each February

Because of the annual benchmarking and revision process, the data the Department of Labor typically uses to generate the monthly unemployment rate and job numbers were not available before publication of this month's *Trends*. The department will release two months' employment statistics and unemployment rates in March: the January 2012 rate on March 13 and the February rate on March 23.

1 How a Severe Recession May Have Looked
Alaska jobs, 2005 to 2011



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

Although the loss of 20,000 jobs in the 1980s is not significantly more than the 18,000 Alaska would have shed during the recent recession if its declines mirrored national percentages, the state's job count was about 100,000 smaller then than it is today. In other words, as difficult as the job losses would have been for Alaska, they still would have been milder than the percentage losses from the 1986-87 state recession.

Rate increase pales in comparison

Alaska's unemployment rates also rose noticeably in 2008 and 2009, but if the increases had matched the nation's, the state's unemployment rate would have soared to more than 13 percent in 2009 and still top 11 percent. (See Exhibit 2.) Instead, Alaska is in the unprecedented position of having noticeably lower rates than the U.S. for three years and counting.

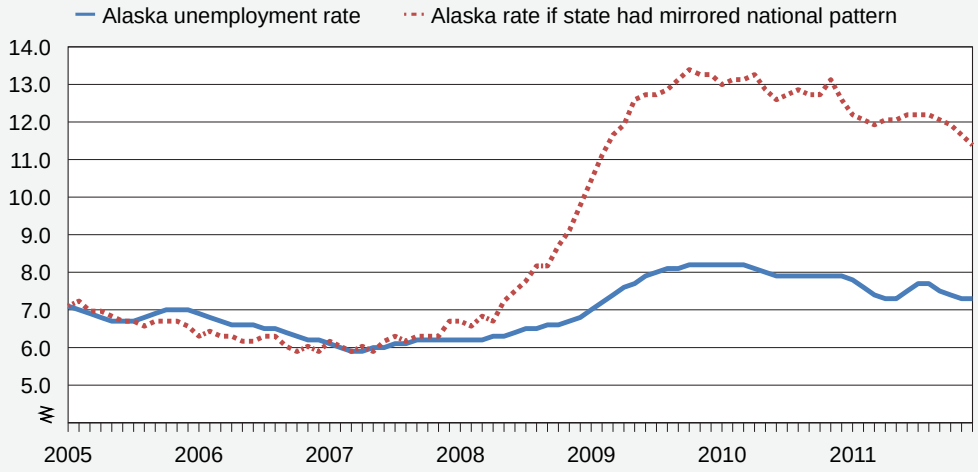
But if history is a guide, the state's unemployment rate would not have climbed quite that high, because job loss in the 1980s recession and the period following completion of the Trans-Alaska Oil Pipeline in the 1970s led to a combination of population loss and higher unemployment. On the whole, Alaska has one of the nation's most migratory populations, and it is much easier to move from state to state than it is from country to country, making unemployment rates in Alaska less firmly connected to the job numbers than they are for the U.S.

Parts of Alaska have much higher rates

Despite relatively low unemployment rates for the state as a whole — 7.5 percent on average in 2011 — many of the state's boroughs and census areas are struggling with much higher rates.

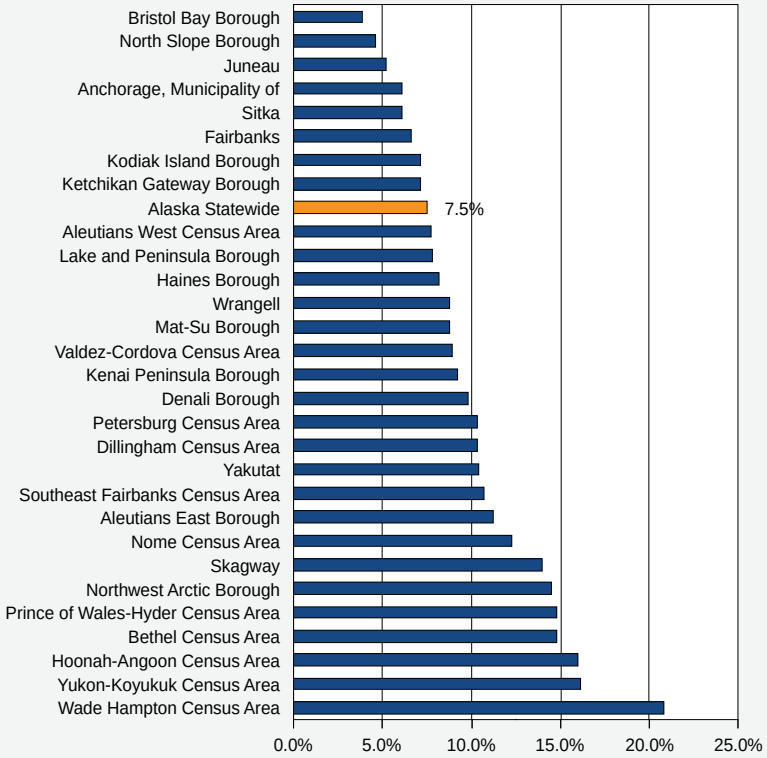
That theme of a relatively healthy statewide economy with challenging economic conditions in many of the state's rural areas has persisted for decades. Thirteen of the state's 29 boroughs and cen-

Alaska's Rate Would Have Topped 13 Percent 2
Unemployment, 2005 to 2011



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

Area Unemployment Rates 3
Alaska, preliminary 2011



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

4 Alaska's Winter Rates Especially High

Unemployment in December and August, 2011

Highest Unemployment Rates in U.S.
December 2011 (preliminary)

		Labor Force	Unemployed	Rate
1	Imperial County, CA	75,250	20,166	26.8%
2	**Aleutians East Borough, AK**	**799**	**212**	**26.5%**
3	**Skagway Borough/Municipality, AK**	**563**	**149**	**26.5%**
4	Colusa County, CA	11,414	2,664	23.3%
5	Yuma County, AZ	91,429	21,146	23.1%
6	**Hoonah-Angoon Census Area, AK**	**856**	**184**	**21.5%**
7	**Wade Hampton Census Area, AK**	**2,632**	**565**	**21.5%**
8	**Denali Borough, AK**	**857**	**183**	**21.4%**
9	**Aleutians West Census Area, AK**	**2,206**	**437**	**19.8%**
10	Hancock County, GA	2,877	558	19.4%
11	Sutter County, CA	42,555	8,196	19.3%
12	Clay County, MS	7,111	1,357	19.1%
13	Scott County, TN	8,079	1,516	18.8%
14	Merced County, CA	103,694	19,410	18.7%
15	Siskiyou County, CA	17,899	3,281	18.3%
16	Mackinac County, MI	4,932	901	18.3%
17	Baraga County, MI	3,787	685	18.1%
18	Montmorency County, MI	3,595	644	17.9%
19	Marion County, SC	12,201	2,186	17.9%
20	Trinity County, CA	4,777	850	17.8%

Highest Unemployment Rates in U.S.
August 2011

		Labor Force	Unemployed	Rate
1	Imperial County, CA	78,484	25,473	32.5%
2	Yuma County, AZ	97,840	28,638	29.3%
3	Menominee County, WI	1,793	391	21.8%
4	Wilcox County, AL	3,345	725	21.7%
5	**Wade Hampton Census Area, AK**	**2,632**	**559**	**21.2%**
6	Hancock County, GA	2,897	577	19.9%
7	Marion County, SC	12,682	2,527	19.9%
8	Scott County, TN	8,074	1,587	19.7%
9	Allendale County, SC	3,367	649	19.3%
10	Martinsville city, VA	6,009	1,149	19.1%
11	Perry County, AL	3,627	689	19.0%
12	Jenkins County, GA	2,459	463	18.8%
13	Yuba County, CA	29,409	5,466	18.6%
14	Marlboro County, SC	11,599	2,162	18.6%
15	Zavala County, TX	4,052	749	18.5%
16	Dallas County, AL	15,360	2,818	18.3%
17	Clay County, MS	7,243	1,325	18.3%
18	Holmes County, MS	7,123	1,300	18.3%
19	Santa Cruz County, AZ	18,749	3,420	18.2%
20	Hendry County, FL	16,199	2,945	18.2%

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Bureau of Labor Statistics

sus areas had average 2011 unemployment rates above 10 percent and well above the national average. Three census areas' rates topped 15 percent. (See Exhibit 3.)

In fact, during December, six of the nation's 10 highest county-level unemployment rates were in Alaska. (See Exhibit 4). Part of the explanation is Alaska's dramatic seasonality. Skagway and the Denali Borough in particular are entirely different economies in the summer than in the off-season. During August, only Alaska's Wade Hampton Census Area was on the list of the nation's 20 highest unemployment rates.

It's also worth noting that Alaska's sparsely populated and heavily seasonal areas present special statistical challenges. As a result, the rates have much larger margins of error than the rates for larger places such as Anchorage or Fairbanks, or for California's Imperial County, which topped the list of the nation's highest unemployment rates in both December and August.

Alaska has more extremes

Alaska's size and variety of economic conditions distinguish it from other resource-rich states to which it is often compared. December unemployment rates in Wyoming at the county level, for example, were all in the range of 3 to 8 percent and in North Dakota they were between 3 and 9 percent.

In contrast, Alaska's December rates ranged from a low of 4.4 percent in the North Slope Borough to a high of 26.5 percent in Skagway and the Aleutians East Borough. In that respect, Alaska has slightly more in common with Louisiana and Texas, which also have important oil and gas sectors. Both of those states had county-level unemployment rates in December that ranged from 3 to 13 percent.

Notes

[1]For more on why the recent recession didn't affect Alaska as severely as most other states, see "Decade in Review" in the September 2011 issue of *Trends*, and "Alaska's $49 Billion Economy" in the October issue.

Employer Resources

Governor's Safety Conference to be held March 19–21

The annual Governor's Safety and Health Conference will be held March 19-21 at the Egan Civic and Convention Center in Anchorage. The conference theme this year is "Injury Prevention in Alaska – No One Left Behind." The event is open to employers, employees, safety and health professionals, and the public.

Sponsored by the Alaska Safety Advisory Council, the conference focuses safety needs unique to Alaska and on emerging safety and health issues. More than 300 Alaskans attended last year's conference from a range of industries, including oil and gas, construction, health care, tourism, recreation, state and local government, Alaska Native corporations, aviation, mining, timber, and fishing.

The list of course offerings includes certifications to meet the Occupational Safety and Health Administration's 10-hour construction training and 10-hour general industry training. There will also be a workshop on Electrical Arc Flash.

One highlight of the conference is recognition of Alaska businesses that exemplify good corporate citizenship and a commitment to worker health and safety. Awards will be given in three categories: the Governor's Safety Award of Excellence, the Governor's Special Achievement Award, and the William "Tinker" Childress Memorial Award.

More information is available online at: http://www.labor.alaska.gov/lss/asac.htm or by calling (907) 269-4940.

A Safety Minute

Falls a major cause of preventable deaths on the job

In 2010, falls were the cause of 35 percent of workplace deaths in the U.S. construction industry, and nearly 14 percent of fatalities across all industries nationwide. Sadly, many of these deaths could have been prevented with proper training and adequate fall protection.

Of the 635 fatal falls in 2010, 129 were from ladders and 117 were from roofs. These numbers are significant because they center around common tasks that workers may not recognize as hazardous. However, it's important to remember that a fall from 6 feet can be just as lethal as a fall from 600 feet. Employers can train their employees to recognize and deal appropriately with these hazards through these basic safety principles:

- When on a ladder, maintain three points of contact at all times (e.g., both feet and one hand).
- Maintain balance on a ladder by ensuring the center of your body does not go beyond the sides.
- Make sure the top of the extension ladder extends at least 36 inches beyond the top platform.
- When working on uneven or slippery ground, secure the bottom of the ladder to prevent it from sliding out.
- When working on surfaces higher than 6 feet, wear fall protection gear.
- When working on a roof, wear a fall harness and/or erect guardrails, regardless of the roof slope.

Occupational Safety and Health Administration regulations require that working platforms higher than 4 feet have guardrails. In construction, workers 6 feet or more from the ground must also have some kind of fall protection. OSHA also mandates safety training for all employees who use ladders and stairs.

For more on training and fall protection requirements, see OSHA regulations 1926 subpart M and 1926.1060. For additional information on general workplace safety and health, see www.osha.gov, or contact the Alaska Occupational Safety and Health Consultation and Training program at (800) 656-4972.