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.

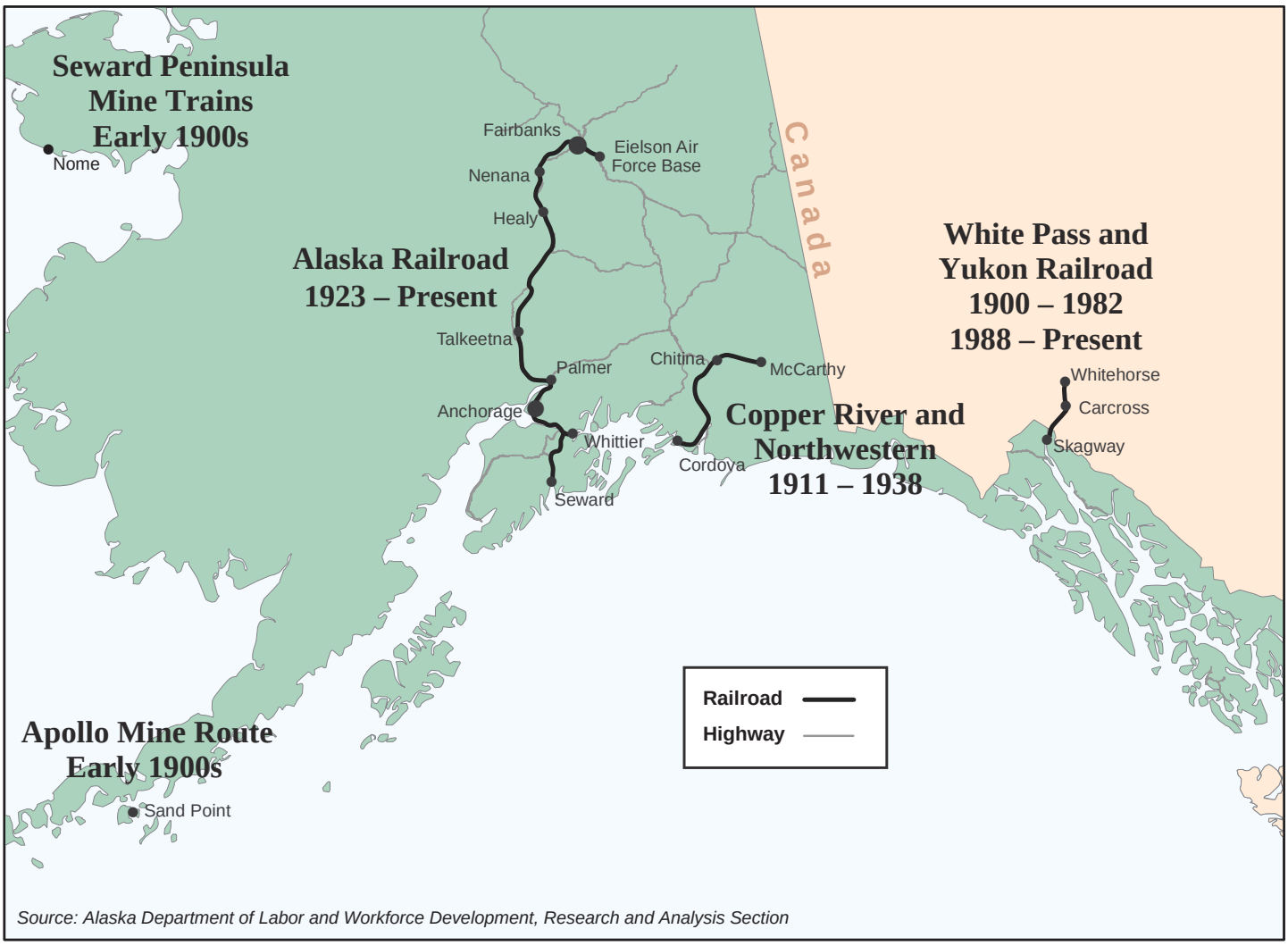
The territory had already paid for itself in valuable seal pelts harvested off the Pribilof Islands, and Alaska's canneries were producing up to a quarter of the United States' total canned fish value. But the territory still lacked significant infrastructure connecting tundra to tidewater, and it was 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

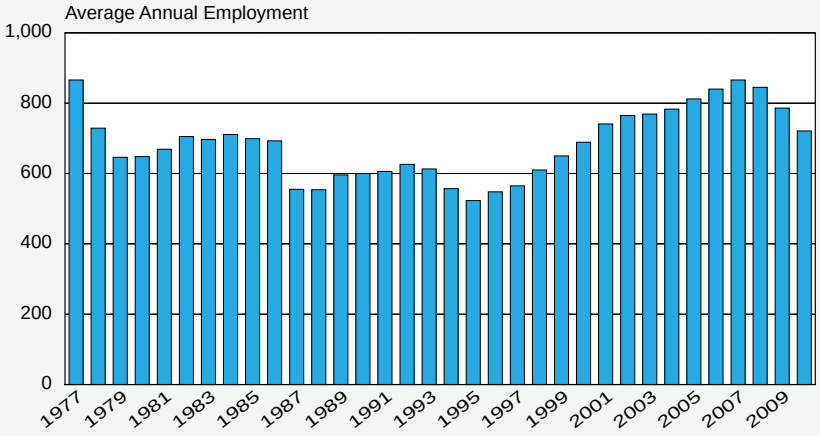
The Klondike gold rush, which began in 1897, demanded a different kind of railroad. Investors and surveyors had grappled with the inaccessibility of the Yukon from Alaska's inside passage before the rush, but financing and political problems got in the way. The ambiguity of the Alaska-Canada border made 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 1892, 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



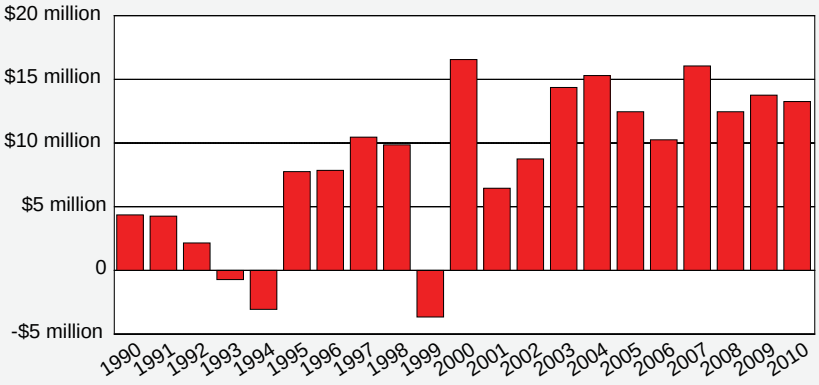
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

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

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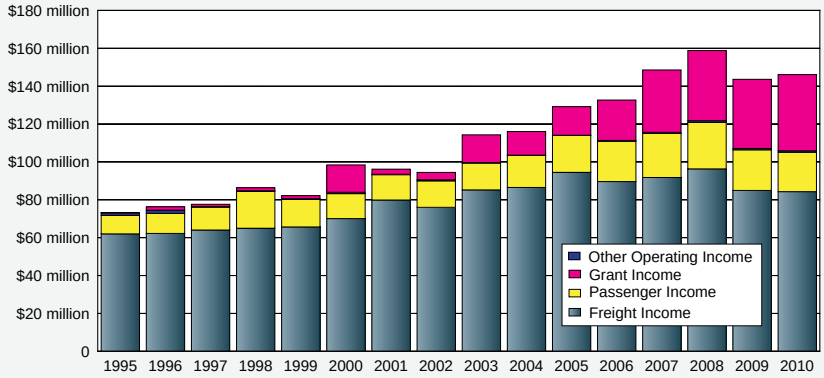

Note: Graph only shows operating income; it excludes nonoperating income such as real estate and capital investment earnings.
Source: Alaska Railroad Corporation

Alaska Railroad's Yearly Passengers
2001 to 2011

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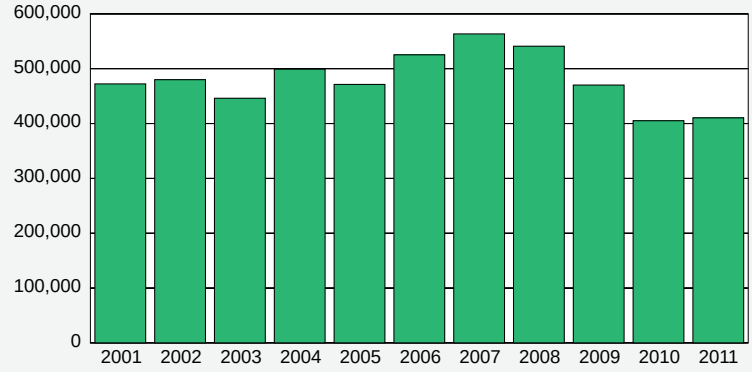
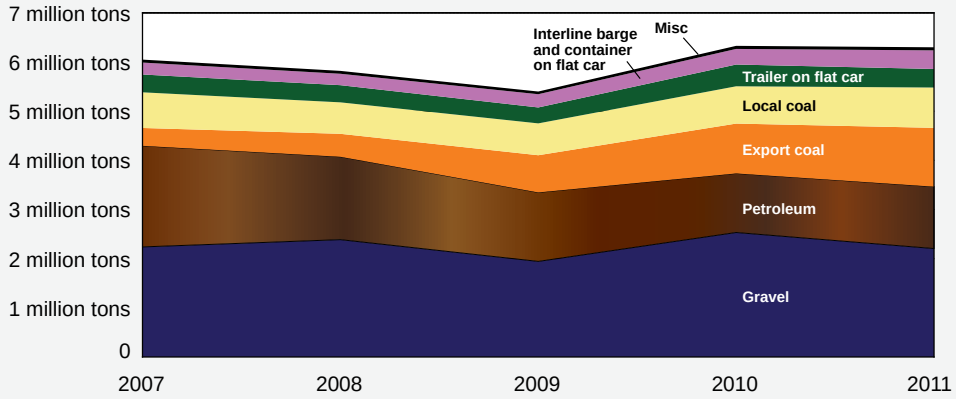


Source: Alaska Railroad Corporation

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.