



ALASKA

NORTH TO THE FUTURE

A mix of experienced logistics service providers, resilient infrastructure, flexible transportation options, and a seasoned workforce combine to make Alaska a land of promise for companies doing business with the state.



Alaska Air Cargo is replacing half-freighter and half-passenger planes with a full-freighter fleet.

The Last Frontier is the nickname for Alaska—the largest state by land size. It's more than twice the area of Texas, which comes in second. It boasts more than 6,600 miles of coastline, or 34,000 miles including all its islands.

Yet it's one of the least populous U.S. states, with about 700,000 residents. Similarly, just 32,000 miles of road serve Alaska's 572,000 square miles of land. "That's about five percent of Texas' road capacity," says Tom Souply, president of freight provider Span Alaska.

"There's a huge difference between a small town with road access, and a small town without road access," says Kevin Anderson, president of Alaska Marine Lines, part of the Lynden family of companies. "You can't just hop in a car to get what you need."

"Alaska is unique," agrees Jason Berry, managing director with Alaska Air Cargo. "Because it has so few road systems, many communities rely on air for everything." Logistics providers delivering food, medical supplies, construction equipment, or other products

perform critical, life-sustaining services in the state, he adds.

"Given the lack of road infrastructure, other modes of transportation—air, water, and rail—play significant roles in logistics operations," says Dale Wade, vice president, marketing and customer service with Alaska Railroad.

For instance, the state's west coast road system is lacking, so it depends on barge or plane services. Alaska's northwest coast—home to Red Dog Mine, one of the largest zinc mines in the world—is accessible only by seasonal ship service for much of the year. Other communities depend on air transport once the oceans freeze.

"Also unique to Alaska is the fact that very little manufacturing takes place within its borders," says Bill Crawford, vice president of commercial with

ocean carrier TOTE Maritime Alaska. "Almost anything people need or consume—retail goods, food, vehicles, military vehicles, building supplies—comes from the lower 48 and is transported from Tacoma to the Port of Alaska in Anchorage on a vessel."

Similarly, the state has very little warehousing capacity. Instead, containers on ships act as warehouses that go directly to the stores. "If the ships don't come in, stores experience stock outs," Souply says.

The Big Chill

"The weather offers additional challenges," he adds. "The mercury in the northern parts of the state can easily dip to 40 to 50 degrees below zero during the winter months, making safety precautions critical. That includes survival suits for employees and keeping motor vehicles continually idling."

Another challenge concerns the Port of Anchorage, which handles approximately 75 percent of the freight shipped into Alaska. "The port is in dire need

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of an upgrade,” Souply says. According to information from the port, its docks, now a half-century old, are corroding and need replacement. However, problems have stymied progress on any upgrade. “The state has to get its hands around this,” he adds.

In addition, Alaska’s economy has languished as a result of the drop in oil prices; oil accounts for about 85 percent of the state’s budget. “When prices drop, tax dollars erode, curtailing government and capital spending,” Souply says. “We’re walking through the third year of a downturn.”

Signs of a rebound, however, are emerging. Crawford says he has noticed an uptick in optimism and consumer confidence, due to a robust tourism business, large oil field finds that likely will be developed over the next few years, a growing military presence, and the building of a liquid natural gas pipeline or other oil and gas developments.

Empowered Employees

To effectively deal with the challenges and uncertainties that characterize logistics operations in Alaska, employees must be empowered. “They need to be encouraged to think and act like owners,” Souply says. “We don’t micromanage. We hire people who’ve shown independence, pay them fairly,

and give them the respect and freedom to do their job.”

Alaska Air Cargo, which offers the fastest scheduled freight service to Alaska, continues to invest heavily in its cargo operations to the state. “We are bringing on a modern freighter fleet,” Berry says.

Alaska Air is replacing its five “combi” aircraft, in which each plane is half-freighter and half-passenger, with a full-freighter fleet. That will enable it to fly scheduled cargo operations that are not tied to passenger flights. To make this shift, Alaska Air is converting three 737, 700-passenger airplanes into freighters.

“Upgrading to a modern fleet allows us to run an even more reliable schedule,” Berry says. “If we say we’re flying, we’re going to fly.”

“Converting a plane to carry cargo is a massive engineering undertaking that can last several years,” he adds. “It’s not just taking seats out. It involves gutting the whole airplane and reinforcing the floors so they can accommodate heavier loads.”

Many systems have to be rerouted or moved to make space for the freighter containers that will go in the airplane. In addition, creating a cargo door requires cutting a massive hole in the side of the plane. “Our engineers and

maintenance team who oversee and supervise the conversion do a phenomenal job,” Berry says.

The new freighters’ cargo loading systems also have been configured to allow Alaska Air Cargo to handle pieces of up to 13,000 pounds, and shipments up to 15 feet long. In the past, its planes were limited to pieces of no more than about 10 feet long or 8,000 pounds.

“We can accommodate special projects and the unique shipments that pop up in the state of Alaska,” Berry says. “The oil, gas, and mining industries all require moving heavy machinery.”

Increased Capacity

Alaska Air’s recent acquisition of Virgin America increases the carrier’s cargo capacity across the mainland United States by about 50 percent. These planes also can accommodate pieces about 15 to 20 percent larger than can fit on Alaska Air’s other planes. “The larger door openings help with the logistics of odd-sized pieces,” Berry says.

Another recent change includes the launch of SmartKargo, an online booking portal. “Customers can reserve space and print airway bills in seconds, from their computers,” Berry says.

The shift allows Alaska Air’s customer service employees to concentrate on more complicated trips, such as the

Many enhancements are in the planning and development stages at Ted Stevens Anchorage International Airport, including a \$100-million runway widening project and a new maintenance, repair, and operations facility.





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A new conversion project will allow TOTE Maritime Alaska's Orca Class vessels to use both liquefied natural gas and diesel as fuel.

shipment of live animals—Alaska Air Cargo moves everything from reindeer to grizzlies to family dogs.

Alaska Air Cargo's planes are fitted with RNP, a proprietary navigation tool that offers GPS data-based guidance and allows the planes to get in when airport conditions would make it unsafe for other airlines. "If anyone can get in, it's going to be us," Berry says.

A Sea of Improvements

Much of the freight heading to the state of Alaska travels by boat, and often by TOTE Maritime. TOTE, which has been in operation for more than 40 years, offers twice-weekly service between Anchorage and Tacoma. Its transit time of 66 hours leads the industry, and its on-time arrival rate is 99 percent. Port turnaround time is eight hours.

The company's Orca Class vessels can accommodate oversized equipment, such as 53-foot-long trailers and project freight, as well as up to 250 vehicles. Typical cargo includes food, household goods, vehicles, construction materials, and supplies for the military base.

TOTE's roots extend back to the 1970s, when workers in search of high-paying jobs moved to Alaska to

help build the Trans-Alaskan Pipeline System. Once the pipeline was completed in 1977, many workers and their families remained in Alaska. TOTE did as well.

Several years ago, TOTE Maritime Alaska began converting its ships to run on liquefied natural gas (LNG). Both of its vessels require two phases to conversion. The first includes adding the tanks and other important components. The second phase consists of converting the engines to dual-fuel, or LNG and diesel.

The *North Star*, a TOTE vessel that recently completed the first phase, proudly displays the LNG tanks. "Converting these two vessels to LNG will create a safer and healthier environment through significantly reduced emissions," Crawford says.

The Alaskan shipping industry is both challenging and exciting. The frigid temperatures demand insulated equipment, while Cook Inlet in Anchorage boasts the second-highest tidal fluctuations in the world. "We have to time the vessels to get through the shoal," Crawford says. Inside the inlet, ice moving with the tide can create river-like conditions.

TOTE's ships are roll on/roll off, which means that rather than loading

containers on the ship, the trailers themselves move onto the ship, where they're dropped onto a pintle hook and lashed to the deck. The advantages? "It's a much faster way to load and discharge the vessel, versus using cranes," Crawford says. "It gives customers more time to get their cargo onto the ship."

It also allows for more flexible equipment options. "We can handle 30- to 50-foot trailers and oversized cargo," Crawford says. The ships also offer watertight stowage below deck for vehicles and cargo.

Putting Telematics to Work

Another change at TOTE in 2018 is the installation of telematics. These GPS tracking devices let employees easily locate each trailer on the ship, as well as its arrival and departure times. The devices, which support the TOTE safety culture, also allow workers to monitor the temperature of refrigerated cargo from their computers, without having to look at the physical units.

TOTE is launching a phone app that customers can use to manage the load and demurrage process. "It creates efficiencies for customers, and helps them ensure they're unloading equipment quickly, reducing the risk of being

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Lynden Transport's service center network is the largest in Alaska and provides coverage with integrated air, truck, and marine solutions.

charged for extra days," Crawford says.

When shipments into and around Alaska require a mix of transportation modes, Lynden, a family of transportation and logistics companies in Alaska, western Canada, the Pacific Northwest, and other areas, can help. Lynden has been providing integrated freight transportation via land, water, and air for more than one century.

"We enjoy the challenge of fitting the puzzle pieces together to arrange pickups and deliveries to some of the world's most remote and inaccessible locations," says Kevin Anderson, president of Alaska Marine Lines, part of the Lynden family. "From the extreme north of Prudhoe Bay, Alaska, to the smallest village half a world away, we are known for making the impossible possible."

Solutions for Any Situation

Lynden's capabilities include truckload and less-than-truckload transportation, scheduled and charter barges, intermodal bulk chemical hauls, domestic and international forwarding and customs services, and sanitary bulk commodities hauling, among others. "We combine trucks, ships, barges, ferries, and aircraft in numerous ways, always balancing speed and cost," Anderson says.

From the over-the-road trucking service it pioneered to Alaska in 1954, to deliveries of mail and other

essentials to remote bush communities via Hercules aircraft and hovercraft, Lynden is synonymous with Alaska transportation. Its network of service centers covers the entire state.

"We can reach the unreachable," Anderson says. No landing strip? Lynden's Hercules aircraft lands on gravel or ice. No harbor? The company's shallow draft barges are equipped with ramps to allow access from any shore. No road? Lynden's hovercraft can glide through any terrain to deliver people, equipment, or customer shipments. "We move all kinds of freight over some of the most rugged, remote terrain imaginable," he says.

By combining aircraft, trucks, ships, barge, and ferry to craft customized solutions, Lynden enables its customers to optimize both speed and cost. "Our solutions combine speed, mode, technology, and people to add value to the supply chain while meeting business objectives," Anderson says. "We don't try to fit you into our world. We build the world around you."

Moreover, its employees know how to work in Alaska's sometimes unforgiving environment. "There's no 911 to save you if you get in trouble in remote Alaskan locations," Anderson says. "Our employees have years of experience working in these conditions."

Span Alaska Transportation and its subsidiaries ship more than 325 million pounds of freight annually

to Alaska, Hawaii, and Puerto Rico. Along with the vast volume of shipments it moves from the lower 48 states to South Central Alaska, Span Alaska offers overnight service from Anchorage to Fairbanks and the Kenai Peninsula, and provides LTL barge service from Seattle to Southeast Alaska.

Now in its 40th year, Span Alaska is owned by Matson Logistics. It operates a 93-door terminal at its base in Auburn, Washington, as well as terminals in Anchorage, Fairbanks, Kenai, Kodiak, and Wasilla.

Alaska receives ships twice each week, on Sunday and Tuesday. Span is able to deconsolidate each arrival within 48 hours. This allows for consistent and predictable delivery every week, a value customers have come to expect.

Going Above and Beyond

To provide the "extreme reliability" required in Alaska, employees often go above and beyond to overcome weather-related delays, Souply says. For instance, ocean winds can create swells of 50 to 60 feet, forcing ships from the mainland to slow down. Once the ships dock, employees often work around the clock to meet their unloading deadline.

Span Alaska strives to make customers' lives easy by doing all it can to minimize problems and mistakes. "We deliver what you expected, at the price you agreed to, and with minimal errors,"

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Souply says. In fact, Span Alaska's error rate is only about one mistake per 750 shipments.

Whereas Span Alaska handles smaller shipments, Matson transports cargo traveling between Washington and Alaska, specializing in just-in-time ocean transportation of full container loads. Matson is the parent company of Matson Logistics; Span Alaska is a subsidiary of Matson Logistics.

"Our vessels are fast and containerized, and are in demand from customers that want a high service level," says John Lauer, Matson's senior vice president and chief commercial officer.

Given the scarcity of warehouses in Alaska, the goods carried on Matson ships often head straight from the ship to store shelves. It's critical the goods arrive on time and deliveries are reliable. About 500 containers make each trek. Matson offers a range of container types, including dry, refrigerated, open top, insulated, and others.

Matson's shipments north to Alaska typically contain sustenance products, including food, beverages, and other retail goods. On the return trip, the ships usually carry seafood. "Alaskan king salmon, Alaskan crab, Alaskan wild halibut—we handle it all," Lauer says.

Matson's three ships travel between Tacoma, Washington, and Anchorage and Kodiak, Alaska, twice weekly. Another ship travels to Dutch Harbor, Alaska, once each week. It's the only container shipping company that operates in Kodiak and Dutch Harbor, Lauer notes.

Extensive retrofits to Matson's vessels have dramatically reduced air emissions. The National Academies and Ocean Conservancy has recognized Matson for its zero solid waste discharge program. The company's diesel fleet is equipped with state-of-the-art exhaust scrubbers and tamper-proof monitoring equipment.

Committed to Alaska

Like all shipping companies, Matson must manage unpredictable weather and ocean conditions. One key is its employees, many of whom have several decades of experience with the company, going back to its days as Sea-Land, which began operating in Alaska in 1964. Sea-Land later became Horizon Lines Inc.; in 2015, Matson purchased Horizon Lines' Alaska operations and retained its employees. "They're extremely experienced in Alaska," Lauer says.

In instances when weather delays occur, communication is critical. "There's no such thing as too much communication," Lauer says. "If the ship will be one hour late, customers want to know."

Once Matson enters a community, it is there to stay. "We're committed to Alaska and excited to be there," Lauer says.

Matson has invested tens of millions of dollars in new equipment and other improvements to its Alaska services, and gives back to the local community. Through its community-giving program, Matson contributed more than \$800,000 in cash and in-kind donations to charities and community causes in Alaska in 2016. Among the beneficiaries were Covenant House of Alaska, Special Olympics of Alaska, Alaska Federation of Natives, Anchorage Library Foundation, and the Alaska office of the National Multiple Sclerosis Society.

Many items found on store shelves across the mainland United States—from T-shirts to electronics—fly through the Ted Stevens Anchorage International Airport. In fact, it's one of the busiest cargo airports in the world, and the second-busiest airport in North

Span Alaska's truck fleet provides LTL freight transportation services to and from Alaska. The service provider also arranges freight transportation through its relationships with ocean carriers and other trucking companies.





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America for landed cargo weight, says Jim Szczesniak, airport manager.

What makes Anchorage so attractive? “We’re 9.5 flight hours from 90 percent of the industrialized world,” Szczesniak says. “Eighty percent of all air cargo traffic between Asia and North America passes through this airport.” Each day, more than 170 wide-body freighter operations fly into and out of the airport, he adds.

The airport also plays a key role in the transportation of seafood, one of Alaska’s top exports. “We work hand-in-hand with our air cargo partners and the Alaskan seafood industry to make sure we get fresh Alaskan seafood to market,” Szczesniak says.

Air Cargo Hub

While outsiders might assume that weather makes flying into Anchorage a challenge, that’s not the case. The ocean keeps temperatures relatively, well, temperate. “As a result, our airport is number-one in on-time performance in North America among airports our size,” Szczesniak says.

Cargo airlines flying between Asia and North America have to choose between filling their tanks with enough

gas to make the trip without stopping, or adding cargo and including a stop. Often, it’s better for an airline’s bottom line to haul more cargo and include a stop—in some cases, to the tune of about \$100,000 per flight.

Years ago, the airport and cargo carriers worked with the federal government to gain an exemption from some traditional cargo regulations. “As a result, multiple carriers and multiple aircraft from multiple destinations can land at Ted Stevens, swap cargo, and then continue to their destinations,” Szczesniak says. “It’s essentially a hub-and-spoke system for air cargo pallets, which makes the process more efficient.”

Airport management has several enhancements in the planning and development stages. These proposed changes should allow airlines using Ted Stevens to operate even more efficiently. One plan is for an on-airport hotel that international flight crews and others can use. The request for proposal is scheduled for release in spring 2018.

Management is interested in adding a maintenance, repair, and operations facility as well, Szczesniak says.

Also under consideration is a parts distribution operation. That way, if an engine part on a plane breaks down between North America and Asia, an airplane taking off from Anchorage could transport the replacement parts. Management is also looking at adding more cargo warehousing space.

That’s not all. A \$100-million runway widening project is starting, Szczesniak says. This will widen a runway to better accommodate larger aircraft.

True Intermodal Transportation

Once freight lands in Alaska, the Alaska Railroad (ARRC) can efficiently and cost effectively move it to its final destination. ARRC provides freight and passenger rail service throughout south central and interior Alaska.

While water transportation tends to be the least expensive on a cost-per-ton basis, rail is right behind it, Wade says. It’s an economical way to move commodities, and heavy or oversized equipment. Most of ARRC’s freight includes petroleum, lumber, rebar, oil field pipe. It hauls gravel during the summer months.

Most inbound rail freight starts

Alaska Railroad specializes in quickly and efficiently moving cargo such as lumber, heavy machinery, rebar, pipe, and hazardous material.



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Alaska Marine Lines offers twice-weekly barge service from Seattle to Anchorage, Cordova, Fairbanks, Kenai, Palmer, Seward, and Wasilla.

its journey at the Port of Anchorage, where it's transferred to waiting trailers-on-flatcars, or TOFCs. When the freight reaches its destination, the trailers can be lifted off the trains and delivered to local stores and businesses. "We're a connecting line between the water and all points inland," Wade says.

From Florida to Fairbanks

Indeed, ARRC can help freight move from Florida to Fairbanks—a journey of more than 4,800 miles—while remaining within one load, Wade says.

Here's how it would work: To start, the freight would travel across the mainland United States by train. In Seattle, it would be loaded onto a rail barge for the journey up the inside passage to the ice-free port of Whittier. From there, it would move back onto the train tracks and head north to Fairbanks. Freight that needed to move farther north—say, to Prudhoe Bay—would travel by truck for the last part of the journey.

Because rail often is one leg of a trip that involves multiple modes of transportation, ARRC, like many logistics and transportation providers in Alaska, often collaborates with

other firms. "We work closely with partners such as TOTE, Matson, and Lynden," Wade says. "It's true intermodal transportation."

The railroad also works closely with Alaska Rail Marine Services, or ARMS, a Lynden company. This service transports both rail cars and 53-foot containers that are placed three levels high above the rail cars. "It's a very efficient environment, as the containers are transported by rail beyond the port," Wade says. Once the carriers dock, the containers can move by forklift.

"As with all modes of transportation, the color, challenges, and harsh conditions that go along with doing business in Alaska are part of the reality of running a railroad," Wade says. "It's both challenging and rewarding."

For example, rail operations in Alaska require monitoring avalanche conditions. "We deploy avalanche blasting and mitigation tools," Wade says. Sometimes, helicopters drop explosives and release an avalanche in a controlled manner. "The avalanches are pretty active," he adds.

Another concern is the occasional earthquake. If a significant one occurs,

rail operators must stop and check bridges before crossing them.

The railroad follows the Nenana River, and the ice breaking in the spring can back up and cause flooding conditions. It's not unusual for water to rise rapidly by more than one foot, which is enough to wash out sections of the railroad.

ARRC's maintenance-of-way team often can rebuild a section of track within days. "They're phenomenal," Wade says. And unlike maintenance workers operating in the lower 48 states, who usually can call an outside provider to help, "in Alaska, you have to be self-reliant and accommodate the interruptions internally," he adds.

Weathering the Challenges

"Alaska is a beautiful, wonderful land, but it's not without challenges," Wade says. The state's nickname, The Last Frontier, is fitting. The organizations and employees working in the state must be independent, resourceful, and dedicated.

Most are. "With all the geographic and weather challenges, it's amazing how reliable the supply chain is," Souply says. ■

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