FREIGHT TRANSPORT IN ALASKA:

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Because of Alaska's remote location and precarious weather, transport providers carrying freight on land, sea, and air have developed special expertise to buck the challenges. laska distinguishes itself from the lower 48 states by its abundance of natural resources—crude oil, natural gas, and seafood—as well as breathtaking mountain ranges and vast acres of unspoiled land.

It also presents logistics challenges: a small but widely dispersed population, many in locales reachable only by water or air; highly rugged terrain in much of the state; extreme weather; and limited rail and road infrastructure.

Only 31 percent of Alaska's roads are paved. Central Alaska is where the roads are, but they don't reach southeast Alaska—which typically requires barge transport—or rural Alaska, where barge can reach the outskirts, but air is required everywhere else.

No matter what the mode of transport, the drivers of the industry are much the same: the oil and gas sector, the seafood industry, movement of military families in and out of the state, and providing basic supplies to a state with many far-flung, hard-to-access towns.

Alaska's logistics providers must be prepared to handle shipments differently than other U.S. providers. In Alaska, cargo such as building supplies, produce, and food products that would be trucked in other locations often requires air or barge transport—which, because of the weather, is an option only part of the year in some areas.

In addition, logistics in Alaska requires extra equipment, which must often be specialized for rugged conditions or specific needs, such as hauling oil-drilling equipment. For example, Lynden operates flatbeds and stretch decks, and moves modules for oil rigs, pipes, and raw materials such as mud.

Seafood Specials

Among the questions Alaska service providers are currently asking is, "Just how big will this year's seafood production be?" The answer depends on who is talking, but estimates generally call for 2015's salmon season to approach or exceed record levels. If that happens, it will be welcome news to

the array of companies that provide logistics services to Alaska. Seafood, which often comes from remote locations in the state, is the second-largest source of cargo behind the oil and gas sector.

Cargo leaving the state is primarily seafood—salmon, halibut, cod, and crab bound for the lower 48. In mid-May 2014, Alaska Air Cargo delivered the season's first Copper River salmon. In 2013, the carrier delivered nearly 25 million pounds of fresh seafood.

"Seafood is seasonal and cyclical," notes Betsy Bacon, managing director for Alaska Air Cargo. "We enjoyed one of our biggest years for seafood shipments in 2013; while in 2014, volume decreased and we had an average year. We expect another normal year in 2015."



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"A big part of Alaska Marine Lines' overall business is shipping fish southbound, which includes canned salmon, and refrigerated and frozen fish from all parts of Alaska. This is mostly in the summer and our southbound barges are full," says Kevin Anderson, Alaska Marine Lines' president. "I am optimistic that 2015 will be a good year, especially with the predictions for southbound salmon out of Alaska. That's a huge part of our business."

Scheduling the proper amount of airlift can be crucial, especially for perishable seafood shipments.

"Lynden International is Alaska's biggest perishables handler for moving fresh seafood from the state to locations around the world. We have to ensure we have enough airlift to handle that volume of cargo," says Rick Pollock, vice president of Lynden International's Alaska group.

"A lack of good lift options to the consuming markets will have a significant impact on product quality. We have to work diligently with the airlines to ensure when we bring the cargo to them it moves immediately," he adds.

Pumping Up Oil & Gas

Logistics providers are wondering if the decline of oil prices over the past several months will have a long-lasting effect on the volume of oil-related cargo moving into Alaska. Moving equipment and supplies to the oil and gas companies working in the state's remote oil fields, such as those near Prudhoe Bay on the north coast, has been a steady source of business for the past few decades. Until the price drop started, the sector was looking good, with the passage of the More Alaska Production Act, which cut oil taxes following a long political battle.

The drop in oil prices, however, has brought at least some temporary uncertainty about the industry's growth. Logistics providers are of the opinion that if oil remains around \$50 per barrel, there will still be significant production activity.

"Moving forward, the big question mark is what kind of impact oil prices will have on overall business," adds Bill Crawford, vice president of sales and marketing for Totem Ocean. "Oil prices affect the state because it is primarily funded from oil tax revenues."

TED STEVENS AIRPORT: DO THE MATH

At Ted Stevens Anchorage International Airport (ANC) in Alaska, the truism "location, location, location" is the cornerstone of its ongoing success in the global marketplace. The airport's unique geographic location is a competitive advantage. With three runways (10,600+ feet/3,200+ meters), special ramp facilities and procedures, and federal government tariff exemptions, ANC has made a name for itself as a critical refueling stop for cargo carriers flying between Asia and North America.

The bulk of ANC's traffic is generated by pure geography. Nestled on the south-central coast of Alaska, Anchorage is roughly equidistant from Tokyo and New York City. That puts ANC within a 9.5-hour flight from 90 percent of the industrialized world. Roughly 80 percent of all air cargo traffic between Asia and North America passes through ANC.

With more than 500 wide-body cargo plane landings per week, mostly 747s, Anchorage International is the fifth-largest airport in the world in terms of cargo throughput and the second largest airport in North America in terms of landed cargo weight.

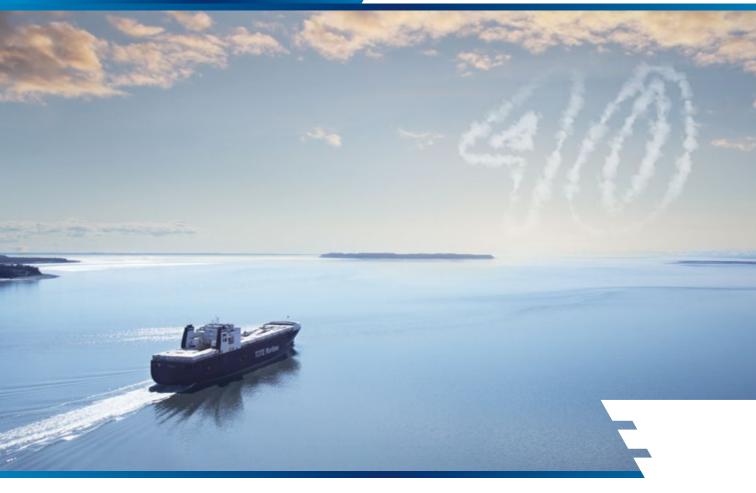
It's all about the math—another significant advantage Anchorage has over other locations. Most international cargo carriers have two choices: carry more fuel and less cargo, which increases range but reduces per flight revenue; or carry more cargo and less fuel, which reduces flying range but boosts revenue. A stop at ANC gives carriers the best of all worlds. Carriers can shoulder an extra 100,000 pounds of cargo just by making a fuel stop in Anchorage. Conservative estimates indicate that carriers have the ability to increase revenue by more than \$150 million. And after doing the math, expenses incurred during stops amount to less than 10 percent of the additional revenue carriers can earn. That is the main reason why almost every carrier that serves trade routes between Asia and North America stops in Anchorage. It's a sound business model.

Unconventional operation is the convention, and all similarities to traditional airports end at the runway. Unlike other cargo hubs that handle similar annual tonnage, ANC has no vast complexes of cargo warehouses and support facilities, railroad lines, or even special roads for transport trucks. They simply aren't necessary. Most of the day-to-day business is conducted on the ramps. The airport maintains 14 parking spots for wide-body aircraft, with third-party developers providing even more capability. The ramp's central location makes it easy for cargo planes to clear a landing runway, taxi to the parking spots, receive service from ground handlers, and then depart. Cargo planes can go from central parking spots to a departure runway in less than two minutes. And fueling is faster. ANC relies on an underground hydrant system. Fuel stations can pump fuel from both sides of an aircraft at the same time. Operations are completely fluid, efficiency maximized.

On top of all that—ANC offers federal tariff exemptions unique to Alaska. In an effort to stimulate economic growth and make national cargo shipping more efficient and economical, the U.S. Department of Transportation granted the airport a partial exemption from the Jones Act in the late 1990s.

Like most airports, ANC is an economic driver of the area's economy; so its continued growth and viability are important. Currently, the airport directly employs 380 people; and one out of every 10 jobs in Anchorage (over 15,000) is dependent on ANC.

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Later this year, Totem Ocean will begin converting the first of two Orca Class vessels to run on liquefied natural gas.





The Alaska LNG Project, a proposed \$45- to \$65-billion liquefied natural gas export project, would provide access to natural gas for Alaskans and would likely generate additional airfreight business in Alaska. The project is anchored by the Prudhoe Bay and Point Thomson fields, which are expected to average about 3.5 billion cubic feet of gas per day.

Up In The Air

The shortest flight path between the United States and Asia stretches over Alaska, and Asia-bound steamships typically pass near Alaska's Aleutian Islands. Airfreight shipments from Anchorage can reach 90 percent of the industrialized world within 9.5 hours.

Ted Stevens Anchorage International Airport is one of the world's leading cargo airports (*see sidebar, page* 82). In 2014, nearly 2.5 million metric tons of cargo moved through the airport, which ranked fifth in metric tons of cargo loaded and unloaded, and reported a growth rate of three percent, according to Airports Council International.

Alaska Air Cargo, a division of Alaska Airlines, is the primary airfreight service in the state. The Seattle-based carrier serves Alaska through two combi-carriers, one freighter, and the bellies of its passenger aircraft. Cargo business in Alaska has remained steady in recent years, but there has not been a huge amount of growth, according to Bacon.

The oil and gas industry is a big driver of air cargo into the state, along with perishables and other basic commodities bound for remote areas. To better serve Alaska's cargo needs, Alaska Air Cargo is converting three of its 737-700 passenger planes to full freighters by late 2016. The freighters will replace some aging 737-400 combis. "The new aircraft will help us better manage cargo by being able to dictate schedules based on cargo needs rather than passenger needs," Bacon says.

Lynden Air Cargo primarily serves Alaska and the Pacific Northwest, transporting goods through scheduled weekly service, and oversized cargo worldwide through charter flights. Its fleet of L-100 Hercules aircraft can haul oversized loads to and from remote areas, can land on rural airstrips, and has the flexibility to carry



GETTING SOME AIR TIME

To get the latest information about Ted Stevens Anchorage International Airport, *Inbound Logistics* spent a few minutes with Airport Manager John Parrott.

IL: Some shippers might have the impression that Alaska is "way out on the edge" geographically, so they don't consider it a shipment or trans-shipment point. Is that impression accurate?

JP: All you have to do is look at a globe to see how strategic Alaska's location is. We are within 9.5 hours of 90 percent of the industrialized world. In the past, aircraft landed here because they didn't have the range to fly all the way across the Pacific Ocean. Now they land here so they can carry more revenue cargo, and operate more efficiently.

IL: When shippers think about airports that move high volumes of cargo tonnage, they might think about Memphis or Atlanta. Where does Ted Stevens fit in that mix?

JP: Due to our strategic location and efficient operations, we are the second-busiest cargo airport in North America behind Memphis.

IL: Does Ted Stevens Airport have any special facilities that would interest shippers in the seafood business?

JP: We have seafood specialists such as CFI on the airport who are quite able to provide product as desired.

IL: Many projects in Alaska and surrounding regions require heavy lift and specialized cargo. What facilities/services does Ted Stevens provide to address those needs?

JP: The airport is Design Group VI (think A-380 or 747-8) compatible. We have handled the Antonov 225. Basically, if you can get it airborne, you can operate it at ANC.

IL: Any expansion plans?

JP: Due to the upgauging of cargo (and passenger) aircraft, our operations numbers are actually down a bit from the mid-2000s. That means we are already positioned to accommodate some growth before we need to think about expansion on the cargo side.

IL: Final thoughts?

JP: As the four-time winner of the Air Cargo Excellence award, we are proud of the way the entire airport community pulls together to provide an incredibly efficient place to operate. The unique cargo transfer provisions that are available at ANC (and Fairbanks Airport) offer even more reasons to look to Alaska as a location to optimize global supply chains.

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ALASKA'S FULL SERVICE RAILROAD

Established in 1914, the Alaska Railroad was operated by the federal government until it was purchased by the state of Alaska in 1985. Chartered to operate as a private enterprise, the Alaska Railroad receives no funding from the state of Alaska. All operating expenses and improvements are paid out of revenues generated by freight services, passengers, and real estate.

Efficient handling, well-trained personnel, and more than 80 years of experience make the Alaska Railroad an exceptional value to rail shippers. The Alaska Railroad is committed to providing responsive customer service and reliable delivery under some adverse conditions. It requires constant improvement in systems and techniques, and is backed by reinvestment in capital improvements.

Alaska Railroad has the people, equipment, and experience to move difficult, heavy, large, and unusual dimensioned freight, as well as containerized and hazardous materials. With the Alaska Railroad's Rail-Marine Service, shippers can load their goods onto a railcar in the lower 48, and they will be seamlessly transferred to Alaska and railbelt communities via the Alaska Railroad's port in Seattle.

payloads up to 48,000 pounds of palletized or breakbulk freight. The aircraft can fly as low as 100 feet for oil dispersant spraying in response to oil spills.

Lynden Air Cargo is often contracted for humanitarian missions. Working with the Federal Emergency Management Association, the Red Cross, and the U.S. military, Lynden has delivered emergency vehicles, portable hospitals, food, water, and relief workers to ravaged areas, including Haiti and Indonesia after their earthquakes in 2011, as well as to Samoa after its tsunami in 2009.

One recent mission involved flying relief supplies to Vanuatu after Tropical Cyclone Pam devastated the South Pacific Islands in March 2015.

Communications company Digicel Fiji chartered a Lynden Air Cargo plane from Nadi, Fiji, to the capital city of Port Vila within days of the cyclone. It was loaded with food rations and technical equipment to repair towers and networks to restore communications throughout the islands. Later, working with the World Food Programme, Lynden continued to pick up more supplies from Brisbane, Australia, for air delivery to Port Vila in support of humanitarian efforts.

By The Sea

In Alaska, conditions are often extreme, costs are always high, and time is precious. Given the state's geographic breadth, fickle weather, and the cost of transporting freight across great distances, ensuring seamless transportation handoffs is a necessity.

When it comes to ocean transportation, Totem Ocean Trailer Express is Alaska's leader, with 40 years of service between the Ports of Tacoma and Anchorage.

Totem Ocean operates two Orca Class Ro/Ro cargo ships between the cities—M.V. Midnight Sun and M.V. North Star. The vessels were built to overcome the challenges that come with crossing the Gulf of Alaska year-round, while providing the capacity and flexibility to carry everything from containers to large vehicles, small vehicles, food, household goods, construction materials, and military supply support.

One ship departs Tacoma on Thursday and arrives on Sunday; the other leaves Tacoma on Saturday and arrives in Anchorage on Tuesday. Each trip takes three days, and it takes 12 hours to load the ships.

Totem Ocean is in the process of converting both its ships, which were built in 2003, to run on liquefied natural gas. The first will be converted in winter 2015/2016, and the other will be converted the following winter. The Orca Class vessels will be the third and fourth cargo ships in the United States, second only to TOTE's (Totem Ocean's parent company) Marlin Class ships serving Puerto Rico to run on liquefied natural gas. As a result of the conversion, the Totem Ocean vessels will reduce sulphur oxide emissions by 100 percent; particulate matter by 91 percent; nitrogen oxide by 90 percent; and carbon dioxide by 35 percent.

"The conversion will result in a significant reduction in emissions," says Crawford. "This will be positive for the environments of both Alaska and the Puget Sound area, as well as for our employees and the communities we serve."

Crawford notes that Alaska's economy has evolved considerably over the past 15 years, with a variety of new big box retailers locating in the state. This has been a positive change for residents who benefit from many more shopping options and an improved quality of life.

"There are very few consumer commodities that we don't move," Crawford says. "This includes vehicles, military goods, retail products, and perishables. Our peak season begins around April 1 and goes through October. There's not much manufacturing in Alaska, so the primary commodities moving southbound are seafood, household goods, military materials, return merchandise, and some heavy equipment."

Barging In

Alaska Marine Lines is Lynden's ocean barge division, providing service between Seattle and Alaska, and Seattle and Hawaii, Most of the barge business is Alaska-related. Cargo is largely comprised of consumer goods, industrial goods, and seafood.

"We are able to carry just about anything," notes Anderson. "We stack containers, offer roll-on/roll-off, and carry heavy equipment and odd-sized freight. Every load is different, and that's part of the excitement of the

business. We carry some breakbulk cargo, and we stack some lumber and rebar. There is a lot of flexibility when loading a barge."

Anderson describes the Alaska-bound cargo as diversified, with the grocery business providing steady cargo year-round. The company transports a lot of groceries, including produce, to serve food stores in southern Alaska. The mining and oil sectors also drive business.

Alaska Marine Lines has a fleet of 24 barges that provide scheduled service to Alaska and Hawaii, as well as several charters annually. Loads on the barges vary considerably and depend on the size of the barge and the mix of cargo. Containers can be stacked six high, and the company's largest barges have a capacity of 15,000 tons and more than 800 containers.

On The Road

Interstate highways in Alaska are not required to be constructed to the same interstate highway standards that apply in the continental United States. Many Alaskan highways are rural, two-lane, undivided thoroughfares—sometimes with steep grades, and not always paved. Shippers doing business in Alaska have to package shipments well to ensure safe transport of their goods moving to remote areas.

Driver issues also impact Alaska in unique ways. In addition to a population of fewer than one million from which to recruit drivers, increasing Hours-of-Service restrictions have particular implications for the state. When there is no civilization or creature comforts along a 500-mile stretch of road, it can be difficult—and even dangerous—for drivers to stop for a mandated rest period.

Lynden, like most trucking companies, has to deal with a nationwide shortage of qualified truck drivers. "The shortage is problematic," says Alex McKallor, executive vice president and chief operating officer for Lynden. "Lynden addresses it by recruiting on a corporate-wide basis, and drawing many employees from the military. But our situation is more acute because of

Alaska's challenging environment. Drivers have to be highly experienced to operate on icy roads and steep climbs."

Those challenging roads include the 414-mile Dalton Highway, which runs across northern Alaska and was built to supply the Trans-Alaska Pipeline System. The highway is treacherous in many places, and is considered one of the most isolated roads in the United States.

Challenging infrastructure conditions don't deter Pacific Alaska Freightways (PAF), a trucking company that has been providing freight transportation services to Anchorage, Fairbanks, Kenai, Kodiak, and Southeast Alaska business and consumers since 1961. PAF receives freight from the lower 48, consolidates it into containers, and provides last-mile delivery in Alaska with a fleet of 45 trucks.

While the company historically focused on offering freight service between Alaska and the lower 48, PAF also provides intra-Alaska consolidation in Chicago, with weekly linehaul west for delivery in the Pacific Northwest and Alaska, as well as



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logistics services throughout the United States. These offerings include a bi-weekly steamship service considered to be the fastest ocean service to Anchorage.

While 2014 was a good year for Pacific Alaska Freightways, 2015 started off a little slow, according to Curtis Dorn, PAF's vice president of sales and marketing.

"Many large projects seem to be on hold in the state," he says. "When the price of oil goes up, it stimulates the economy, and people, goods, and service move north. When oil prices decline, business tends to slow down because it cools exploration and extraction. But we are seeing good solid trends in the right direction."

Another trucker at ease on Alaska's challenging roads is Reddaway, which serves customers shipping to Alaska from the lower 48. Reddaway transports goods from the 10 western states in its service footprint, and transfers them to the Port of Tacoma, where they are loaded on ships bound for Alaska. Pacific Alaska Freightways, its long-standing partner, delivers the freight to its final destination.

"Alaska is a niche market," notes Steve Selvig, Reddaway vice president of sales and marketing. "Shippers are truly looking for expertise. The partnership between Reddaway and PAF does a nice job of providing continuous service all the way from origin to Alaskan destinations. Shippers monitor the progress of their shipment via electronic updates, and receive a single invoice with itemized charges. With direct loading to Soldotna, Anchorage, and Fairbanks, the Reddaway/Pacific Alaska Freightways partnership provides distinguishable service performance."

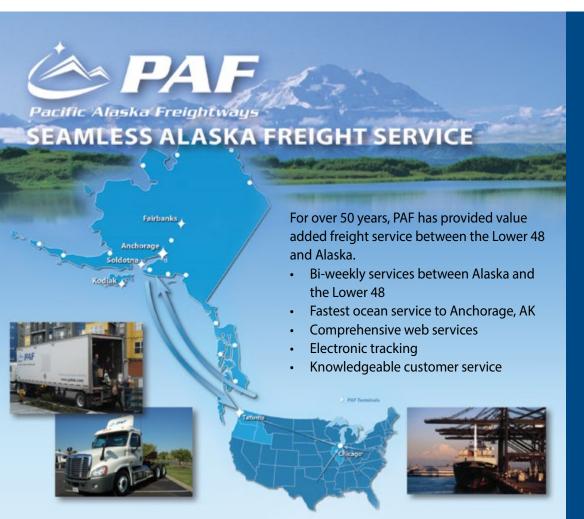
A Tradition Of Service

Reddaway was founded in Oregon City, Ore., and has provided western regional coverage since 1919. Reddaway began as a premier service provider in the Pacific Northwest, but has grown to encompass all of the western United States. Reddaway has built a long-standing, industry-leading tradition of next-day and two-day delivery service, with high on-time reliability and one of the lowest claim ratios in the West.

The asset-based carrier offers electronic tracking, reliable and on-time pickup and delivery, professional drivers, dedicated customer service, and cost-efficient solutions. Reddaway extends that value and expertise to customers shipping to and from Alaska.

At Lynden Transport, the company's trucking division, business was up eight percent for the first two months of 2015, and Steve Hartmann, vice president, sales and marketing, is cautiously optimistic that trend will continue throughout the year. Like other divisions of Lynden, oil, gas, and seafood are major sources of cargo, along with groceries and retail goods.

"We haul just about anything and everything you can think of because when you service Alaska, you need the ability to move anything that goes up there, and have the equipment to do it," Hartmann says. "It's a unique state, one-fifth the size of the lower 48 with a population of 700,000 people. We've been servicing Alaska with scheduled service longer than anyone else—since 1954. We even handle freight for most of



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our competitors—they are our customers. It's a unique situation."

Alaskan shippers face the challenge of transporting freight across an expansive and often remote supply chain. Mode neutrality is a given. Common household goods fly, barges ferry rail cars, and flatbed trucks haul cargo over gravel and ice acting as roads. It's not uncommon for shipments to travel via all modes. With each additional touch, complexity grows.

To ease that complexity, many shippers turn to Lynden, a family of transportation companies serving Alaska and other regions over land, on water, and in the air. The company was created to help ease the challenges of Alaska's demanding environment and lack of infrastructure. Services include truckload and less-than-truckload, barges, intermodal bulk chemical hauls, air freighters, air forwarding, and ocean forwarding.

"Alaska is an interesting place to do business because it's such a multi-modal environment," McKallor says.

While McKallor believes 2015 will be

a good year overall for the company, he remains concerned about economic situations related to oil's low prices and its long-term impact on Alaska's economy.

"We have great people and are focused on refining and improving all parts of our business' safety and efficiency," McKallor says. "This year will be solid because we are committed to operating excellence. We continue to evolve and streamline our intermodal system of truck, marine, and air services to make it easy for customers to match their timing to the mode."

Forward, March

A broad range of domestic and international freight forwarding services are handled by Lynden International, which operates more than 50 offices around the globe. "Overall, the freight forwarding business is in good shape," says Pollock. "Our activity is strong and growing. Logistics is key for this market. Alaska is remote, and the cold weather presents a unique operating environment, but it's a good fit for what Lynden does."

Lynden International's Alaska operation is based at Ted Stevens Anchorage International Airport. In fact, it's the only freight forwarding operation located on airport property. That gives the company a great advantage when building up its loads, Pollock says.

Lynden International handles a wide gamut of cargo, ranging from construction materials, oil well equipment, and drilling tools to perishables and supplies.

Moving cargo within Alaska comes with many challenges, not the least of which are the oil patch projects that have been put on the back burner. "We had a stronger January and February 2015 than we did last year, and we expect that trend to continue into the spring, summer, and fall," says Pollock. "We are cautiously optimistic. That's the best way to describe it."

Despite the challenges, moving freight in and out of Alaska has gotten easier over the years. As transportation service providers continue to develop new offerings, it will become increasingly possible for shippers to tame the last frontier.



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