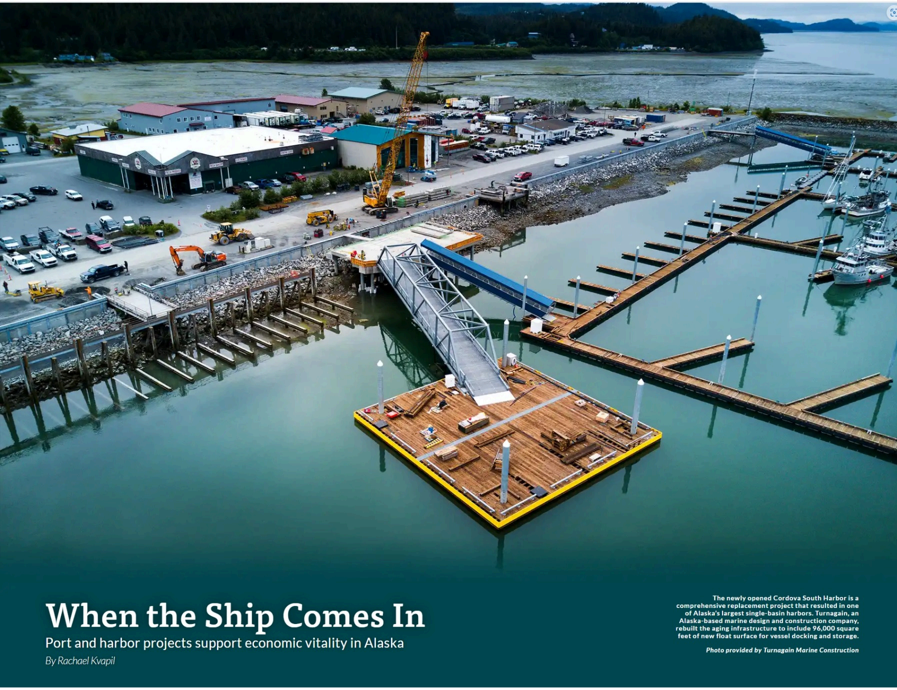


When the Ship Comes In

Port and harbor projects support economic vitality in Alaska

By Rachael Kvapil

The newly opened Cordova South Harbor is a comprehensive replacement project that resulted in one of Alaska's largest single-basin harbors. Turnagain, an Alaska-based marine design and construction company, rebuilt the aging infrastructure to include 96,000 square feet of new float surface for vessel docking and storage.

Photo provided by Turnagain Marine Construction

Ports and harbors are as Alaskan as blueberries and salmon. More than a place to park a boat, they are keys to commerce and community along coastal Alaska.

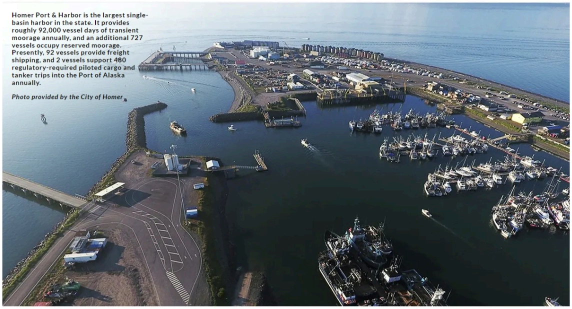
Port and harbor construction and maintenance projects are happening around the state; however, the development of these projects isn't as straightforward as projects along the state road system and Alaska Marine Highway. The facilities' owners and location often determine how quickly projects are funded and addressed.

EVOLVING RESPONSIBILITY

Given that waterways are a form of transportation, one might assume that the construction and maintenance of ports and docks fall under the Alaska Department of Transportation and Public Facilities, or DOT&PF, jurisdiction. That responsibility has changed hands several times since statehood. Just after statehood, the Division of Harbor and Waters was separate from DOT&PF. The two merged in the early '80s at the height of the oil boom, giving DOT&PF the responsibility for all ports and harbors. However, the added infrastructure didn't necessarily result in an increased budget. Over the past thirty years, DOT&PF has arranged for Transfer of Responsibility agreements with local governments that had the resources to take partial or complete possession of their local port or dock. This has reduced the number of DOT&PF water facilities (tallying both full and shared responsibility) to twenty.

"If we own it, the money for construction and maintenance comes through DOT through state appropriations," says Kirk Miller, preconstruction engineer in DOT&PF's Southcoast region. "The amount we formerly received was small, usually around $1 million for projects. It's been about 5 years since we received state funding for harbors, but this year there was $1 million included in the budget. We don't have any federal aid for harbors."

The Alaska Marine Highway receives Federal Highway Administration, or FHWA, funding, but that money cannot go to any marine project outside that system. Miller says state-owned ports and harbors are eligible for other types of federal funding in narrow circumstances. For instance, Federal Aviation Administration funding is available for seaplane floats; however, it does not allow the building of moorage floats for boats.



Homer Port & Harbor is the largest single-basin harbor in the state. It provides roughly 92,000 vessel days of transient moorage annually, and an additional 727 vessels occupy reserved moorage. Presently, 92 vessels provide freight shipping, and 2 vessels support 480 regulatory-required piloted cargo and tanker trips into the Port of Alaska annually.

Photo provided by the City of Homer

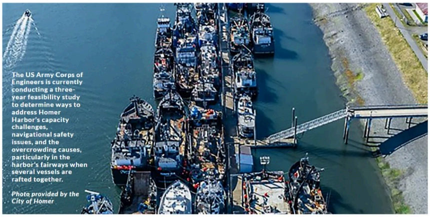
In 2006, the Alaska Legislature passed legislation establishing a 50/50 matching grant program called the Harbor Facility Grants program. The program provides financial assistance to municipal or regional housing authority-owned harbor facilities. DOT&PF often manages applications.

“FHWA and most other federal aid doesn’t support harbor infrastructure,” says Miller. “We have seen several communities successfully apply for grant programs, but these are harbors related to freight, fuel docks, and places with heavy industrial connections.”

For anyone living near a harbor, its necessity is apparent. Miller says harbors are the lifeblood of smaller coastal communities and, for some, their only access point. He says commercial fishermen with small fleets and owners of small charter operations often live in these communities. Likewise, these harbors also serve as a refuge for vessels needing protection when nearby waters get rough. Unfortunately, many of these small harbors don’t have a way to collect moorage fees that generate revenue. Miller says many don’t have a means to collect moorage, adequate technology for an electronic payment system, or a large enough population to employ someone for the job.

“When a terrible storm hits one of these harbors, we send [DOT&PF] Maintenance and Operations or contract repairs,” says Miller. “We find the money somehow for these types of emergency projects.”

He says larger ports and harbors like those in Seward, Valdez, and Homer are in a slightly different situation, as they have large populations that can pay rent for boat moorage and contribute to the coffers for facility improvements.



The US Army Corps of Engineers is currently conducting a three-year feasibility study to determine ways to address Homer Harbor’s capacity challenges, navigational safety issues, and the overcrowding causes, particularly in the harbor’s fairways when several vessels are rafted together.

Photo provided by the City of Homer

HONING FEASIBILITY IN HOMER

Cities with larger ports and harbors face different challenges than those faced by smaller coastal communities. A port and harbor that serves a larger population often experiences more traffic and higher demands for moorage. These factors and several others prompted the City of Homer to initiate a three-year feasibility study conducted by the US Army Corps of Engineers, or USACE.

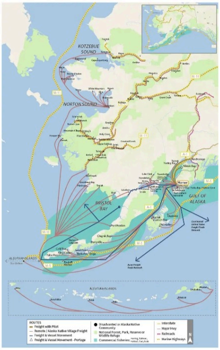
“These are not new problems,” says Bryan Hawkins, port director. “We’ve been at overcapacity with a very long waitlist for over twenty years. As a regional port, we have a very large user group with a diverse fleet.”

The Homer Harbor Expansion General Investigation began in March 2023 when the city signed a federal cost share agreement with USACE for the feasibility study. Jenny Carroll, Homer’s special projects and communications coordinator, says the feasibility study is how USACE determines if a water resource project merits federal investment. She says USACE worked with the city and community to draw up a set of needs-based objectives and develop ideas on how a new harbor design can help meet those objectives, namely improving navigational safety and efficiency by better accommodating large vessels and relieving overcrowding and congestion in the existing harbor. This resulted in a set of conceptual alternatives that USACE is currently developing to meet demand and perform effectively in the local ecological and oceanic conditions.

“The [USACE] will evaluate and refine each alternative using models of local baseline conditions and share them for community input before selecting one that is the most cost-effective with minimal environmental impact,” says Carroll. “The community will then have another opportunity to comment.”

PND Engineers, Inc. is currently providing construction administration services for the Valdez Small Boat Harbor replacement project, which should be fully built this fall. The project includes replacing floats H through K, utility upgrades, new gangways, and a tour dock float system for tour boats.

Photo provided by PND Engineers, Inc.


KOTZEBUE SOUND
NORTON SOUND
BRISTOL BAY
GULF OF ALASKA
Homer
ALEUTIAN ISLANDS
See below
ALEUTIAN ISLANDS
ROUTES
Freight with Pilot
Remote / Alaska Native Village Freight
Freight & Vessel Movement
Freight & Vessel Movement - Portage
Disadvantaged or Alaska Native Community
National Forest, Park, Reserve or Wildlife Refuge
Commercial Fisheries: Herring, Salmon, Halibut, Cod, Crab
Interstate
Major Hwy
Railroads
Marine Highways
N

The transportation route map shows how Homer Harbor connects statewide freight networks to more than 130 communities, industries, and remote work sites. This network spreads across 130,000 square miles, many of which are not connected to Alaska's road system. With no winter moorage in the Arctic and much of western Alaska, vessels serving those regions depend on Homer Port for overwinter moorage and mandatory inspections or repairs.

Graphic provided by the City of Homer

After the comment phase, USACE will determine if the Homer Harbor Project is economically feasible for a second phase.

HDR is providing the City of Homer with owner's representative services focused on supporting the feasibility study. HDR delivers various services, including architecture, asset management, commissioning and operations, economics and finance, engineering, environmental sciences, planning and consulting, project delivery, real estate, research, sustainability and resilience programs, and strategic communications. Since HDR is the project's owner's representative, the City of Homer can access any of HDR's services during this project phase.

"Specifically, HDR is supporting the city and USACE with alternatives developed using sophisticated coastal numerical modeling, geophysical/geotechnical investigations, and topographic/hydrographic surveying," says Ronny McPherson, the Homer Harbor Expansion project manager at HDR. "Additionally, we are providing strategic communications that support the city in collaboratively engaging the community and delivering the study in a transparent manner."

McPherson says that owner's representative services are set up using a stage-gate method, which allows the city to arrive at a major milestone, take a step back, and assess how things are going. City leaders can then decide whether to proceed to the next stage or course correct as needed.

"HDR can support major infrastructure projects through all life stages," says McPherson.

The feasibility study costs $4.15 million, with USACE covering half and the City of Homer with support from the State of Alaska paying for the other half. Hawkins emphasizes that Homer is a central hub that serves communities and industries around the state. The harbor serves vessels active in commercial fisheries statewide, and is an essential link between AK Highway A-1 and several US marine highways. Vessels from Homer Harbor enable freight shipping from Seattle and Asia to the Port of Alaska and serve Cook Inlet, the Eastern Aleutian Islands, Lake Clark, Lake Iliamna and Bristol Bay, Yukon and Kuskokwim River villages, and coastal communities up to Kotzebue on the northwest Bering Sea coast. Smaller nearby communities rely on the harbor to access mainland Alaska and to ship essential goods to their homes.

"A harbor is more than a place to park a boat," says Hawkins. "To understand the whole story, follow the life of a boat."

Additional renovations to the Cordova South Harbor include new gangways and floats alongside new trestles and pilings, increasing the capacity of both the South and North harbor to 700. The project also included a bulkhead wall to enhance the harbor parking area.

Photo provided by Turnagain Marine Construction

CRUCIAL IMPROVEMENTS IN CORDOVA

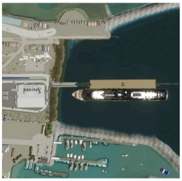
Turnagain Marine Construction, an Alaska-based marine design and construction company, recently completed a major harbor project in Cordova and announced a significant port project in Seward. As a company specializing in dock development for cruise lines, port and harbor infrastructure, and waterfront development, these two projects are just two of three dozen Turnagain Marine projects around the state.

The newly opened Cordova South Harbor is a comprehensive replacement project that resulted in one of Alaska's largest single-basin harbors. Turnagain Marine rebuilt the aging infrastructure to include 96,000 square feet of new float surface for vessel docking and storage. New gangways and floats were installed alongside new trestles and pilings, increasing the capacity of both the South and North harbor to 700. Turnagain Marine also enhanced the harbor parking area by installing a new bulkhead wall.

Turnagain Marine began construction in January 2024 and completed the final electrical and mechanical details in August. Jason Davis, president of Turnagain Marine, says the project required a quick turnaround since the harbor is a vital piece of community infrastructure.

"After sixty years, the aging facility was in horrible shape, and it was more beneficial to fix it quickly than waiting for another year," says Davis.

The harbor is the economic engine for Cordova, which ranks among the top twenty fishing ports in the nation. In 2022, fishing operations delivered an estimated 65.3 million pounds of seafood, valued at $76.4 million, to the harbor. The rebuild cost around $40 million, with primary funding from the US Department of Transportation Maritime Administration, supplemented by contributions from the City of Cordova capital improvement project funds, state and federal government funding, and a $5 million voter-approved bond. User fees and taxes will cover the operating costs of the new facility.



Port of Tomorrow, a public/private project consisting of Alaska Railroad Corporation, Royal Caribbean Group, and Turnagain Marine Construction, represented by the Seward Company, reached a significant milestone when the Alaska Railroad Corporation agreed to purchase a new cruise facility (when completed) for $137 million. The new facility will feature a floating double-berth pier engineered to accommodate modern cruise ships. In addition to a new floating pier, Turnagain Marine will build a 68,000-square-foot turn port terminal building that will provide visitors with a seamless transition to an Alaska Railroad Corporation train or other ground transportation.

Photos provided by Turnagain Marine Construction

SIGNIFICANT CHANGES IN SEWARD

With the Cordova project complete, Turnagain Marine Construction will begin work on a new cruise port in Seward. In August, the Alaska Railroad Corporation, or ARRC, agreed to purchase a new cruise facility for $137 million upon completion, including associated debt secured by a thirty-year pier usage agreement with anchor tenant Royal Caribbean Group.

The new facility will feature a floating double-berth pier engineered to accommodate modern cruise ships and facilitate the safe and efficient embarkment and disembarkment of passengers and provisioning vehicles. The pier will have built-in support for provisioning fresh water, fuel from a local vendor, and shore power. In addition, a new 68,000-square-foot turn port terminal building will provide visitors with a seamless transition to an ARRC train or other ground transportation.

"This project has reached many milestones since its inception," says Mickey Richardson, CEO of Port of Tomorrow, a public/private project consisting of ARRC, Royal Caribbean Group, and Turnagain Marine Construction, represented by the Seward Company. "We are in this together, all the way to the grand opening event in May 2026."

Turnagain Marine is currently in the permit and pre-construction phase, with plans to begin construction when the 2024 Alaska cruise season ends. Davis says they are not shutting the cruise port down while building the new facility, which means working in very specific windows across a tight timeline. Once they mobilize, crews will work throughout winter.

According to the Alaska Travel Industry Association, the visitor industry is Alaska's second-largest private-sector employer, with an economic impact of $5.6 billion in 2022/2023. Seward plays a significant role in that industry through cruise ship operations. The purchase agreement signed by ARRC grants Royal Caribbean preferential berth rights; however, ARRC will continue to own and operate the facility as an open dock for multiple brands traveling to Seward.

In a joint effort by the City of Nome and US Army Corps of Engineers, the multi-phased Port of Nome Modification Project will ultimately position the Port of Nome as the northernmost deepwater port in the Arctic. PND Engineers, Inc. completed the design for Phase I of the project, which is currently out to bid.

Rendering by Corvus Design, provided by PND Engineers, Inc.

HARBORING CHANGE IN VALDEZ, WHITTIER AND NOME

PND Engineers, Inc., or PND, a consulting firm with services to match every type of Alaska environment, is currently involved in more than a dozen waterfront projects in Alaska, from Alaska Marine Highway Ferry Terminal Improvements to port and harbor projects in small cities and remote towns. PND Senior Vice President Dempsey Thieman says many of PND's harbor projects are similar to those in Valdez and Whittier. However, a few larger federal projects, such as the Port of Nome Modification Project, are ongoing and will proceed through multiple phases of design and construction over the next few years.

PND is on the verge of completing a small boat harbor project in Valdez that began in 2021. The project includes replacing floats H through K, utility upgrades, new gangways, and a tour dock float system for tour boats. PND provided comprehensive project services such as planning, permitting, and design through construction support. A combination of DOT&PF grants and local money is funding the $12 million project. Thieman expects the project to be completed this fall.

Whittier is in the pre-construction phases of a harbor float replacement project. PND is working with Harris Sand & Gravel and Bellingham Marine, a marine float supplier, to design and install replacement floats for the A, G, and H float systems. They will also upgrade utilities and upland infrastructure. Thieman says DOT&PF transferred ownership of the harbor to Whittier in the early '00s, and the city is now renovating the '80s floats system to continue supporting businesses and other economic enterprises.

The Port of Nome Modification Project is a significant and complex effort aimed at enhancing the port's capabilities to accommodate larger vessels, improving operational efficiency, and becoming the only deep-draft port in the Arctic. The project collaboration between the City of Nome and USACE is making notable progress on Phase I, which will achieve several critical enhancements. The existing armor stone causeway will be extended by 3,500 feet, adding 2,000 feet of new dock and moorage space, along with additional acres of usable uplands area for the port. The water depth will be increased to 40 feet, which will eliminate the need for lightering passengers from larger cruise ships and offloading fuel from tankers that supply the remote community with its energy needs. Thieman says PND is responsible for designing the new dock facilities for Phase I, a crucial component of the broader development led by USACE. Following the first phase, PND will continue with the city and USACE on Phases II and III for further expanding the port's capabilities, ensuring the northernmost deepwater port can efficiently handle larger vessels and increased maritime traffic in the region.

"Ports and harbors are critically important to waterfront communities," says Thieman. "A harbor is the heart of the economic engine for marine communities; having modern and efficient facilities makes it easier to meet the needs of any industry working there."

Rachael Kvapil is a freelance writer from Fairbanks.

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