



PORT MACKENZIE BUSINESS DEVELOPMENT STRATEGIC ACTION PLAN

October 2021

Prepared for:

Matanuska-Susitna Borough,
Alaska



Prepared by:

**The International Association of
Maritime and Port Executives**

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1. INTRODUCTION

The International Association of Maritime and Port Executives (IAMPE) was engaged by the Matanuska-Susitna Borough (MSB) to undertake a Strategic Action Plan for Business Development for Port MacKenzie. Port MacKenzie is a member of the Association which restricts its management services to only member ports and personnel. The IAMPE is a not-for-profit industry association that provides professional certification to port managers and executives, conducts ongoing research regarding port management and development issues and provides management advisory services as requested by members. The Association has over 2,500 alumni, among which is the Port MacKenzie Port Operations Manager.



Figure 1 Port MacKenzie Dock and Berth

2. EXECUTIVE SUMMARY

At present, Port MacKenzie has very little traffic, inadequate port staff, and limited business development activities. The dock is currently in good condition but will require proper maintenance and improvements to stay in usable condition – ideally funded by revenues generated by the Port as well as grant money provided through government grant programs. The Port’s lack of rail connectivity represents a major hurdle to tapping into potential freight opportunities.

The Matanuska-Susitna Borough is at a crossroads for the future of Port MacKenzie: it can properly empower and resource port staff to capitalize on existing and emerging opportunities so that the Port can generate revenues, or not. Once a port is built, it confers the responsibility of its maintenance and upkeep on its owners, practically in perpetuity. The Port can either be maintained on a proper schedule of preventative maintenance, or maintenance can be deferred which tends to increase its cost exponentially. One needs only look across the Knik Arm at the Port of Alaska to see how the costs of deferred port maintenance can mount to an astounding degree. Accordingly, deferring maintenance is a short-sighted and dramatically more costly approach than keeping a preventative maintenance schedule. Nor is it tenable to lock the gate and stop spending on maintenance: inadequately maintained docks either receive costly repairs or fall into the water.

Stated alternately, a port cannot simply be “mothballed:” it can either be maintained regularly, maintained irregularly at much greater cost, or picked up out of the channel when it collapses. The most viable alternative for a port is to fund a preventative maintenance program with revenues generated by the port.

Port MacKenzie has opportunities to tap into; port staff will need to be expanded and properly resourced in order to capitalize on them. One such opportunity is upcoming reconstruction at the Port of Alaska (Anchorage) which is likely to displace some of that port's current customers. Given its proximity to such customer's existing logistics networks, Port MacKenzie is a potential short-term alternative. Capitalizing on any opportunities, including those presented by Port of Alaska's reconstruction, will require adequate staffing at the port and may require additional equipment (for example, a purchased or rented crane – such needs would be established by communication with prospective customers).

Given the existing conditions at the Port, its staff size, and its governance it is unreasonable to expect that Port MacKenzie is capable of a concerted business development effort. Our recommendation is that the Port Commission be empowered as a decision-making body to which port staff report, and that Port MacKenzie hire additional employees focused primarily on business development, operations, and maintenance. This would put Port MacKenzie into a posture to capture opportunities created by the pending Port of Alaska pier repairs, potential economic upturn, Port of Alaska congestion, and to cultivate freight and tenancy opportunities at the Port.

Recommendations for a path forward can be found in Section 8 on page 29. A few key recommendations are to adjust the Port's governance (including increased staffing), pursue completion of the rail line into the Port, and adopt a strategic action plan. A logical place to start with staffing would be a business development manager, who can capture some of the opportunities available to Port MacKenzie. With regards to governance, a return to the Port's original governance model is recommended: Port Staff report to the Port Commission, and the Port Commission in turn reports to the Borough Assembly. Port Staff must be insulated from political fluctuations and the myriad considerations that face a municipality: they must instead be focused on maximizing the public benefit of the port by driving traffic to it and ensuring it is kept in good condition and in compliance with prevailing regulations. Rail connectivity is crucial to the port's future success: current freight connectivity to prospective consignees, particularly those in Alaska's interior, is greatly constrained without rail access into the Port.

The recommendations laid out in Section 8 are organized as tasks and presented in a Strategic Action Plan in Section 9 on page 32. Adopting a Strategic Action Plan and following through on it is crucial to achieving the vision for a successful port. Without specific objectives and an overarching plan, the pressing issues of the day tend to carry focus and energy away from long-term vision. Within 6 months, the MSB should adopt the strategic action plan, allocate budget for additional port staff, and begin the hiring process for such staff. Within 12 months, the Port should have a business development plan in action, outreach to shippers and carriers underway, contact with Port of Alaska regarding its upcoming repair work, and be exploring grant opportunities for port infrastructure including the completion of the rail line.

Without increased staff and an improved governance structure, it will be difficult for Port MacKenzie to develop new business and/or capitalize on opportunities as they arise. More of the same can be expected: very little activity at the Port, and very little revenue for the Borough.

3. BACKGROUND

The Port District is comprised of approximately 9,033 acres situated on 14 square miles of usable land for development. There are two tenants in the Port District: Central Alaska Energy and Colaska Construction Company. There is a 1,239-acre waterfront dependent zone and a 3,047-acre commercial port district. The Port has a deep water and shallow water dock which is designated as a barge dock. The deep-water dock is 1,200 feet long with an alongside depth of 60 feet at mean lower low water. It has an extraordinary

tidal range of approximately 30-35 feet, with extremes of 41 feet: the highest in the United States, second highest in North America, and among the highest worldwide¹.

There is a natural elevation change between the cargo handling area and the main portion of the Port's property. The cargo area is accessed by a road and the dry bulk handling equipment has a conveyor installation for transferring cargo between the upper and lower elevations. The natural geography of the area extends into the waterway creating areas of naturally deep water² which in most cases eliminates the need for berth dredging. The bottom consists of silt, sand, and gravel and the up-to 6-knot current tends to move silt away from the Port area, largely eliminating the need for maintenance dredging.³



Figure 2 Port MacKenzie General Site

Vessel Classification	Size-Feet (Length X Breadth X Draft)	Capacity	Cargo Type
Handy	800X80X30	60,000 tons or less	Dry/Liquid Bulk/Project
Handymax	900X110X40	65,000-75,000 tons	Dry/Liquid Bulk/Project
Panamax	965X106X40	65,000-85,000 tons	Bulk/Containers/Project
Neo-Panamax	1,200X161X50	85,000-125,000 tons	Containers, Project
Aframax	950X120X45	75,000-115,000 tons	Dry/Liquid Bulk

Table 1 Vessels Able to Use Port's Existing Deep-Water Berth Source: IAMPE

The natural deep water and two berths give the Port flexibility to handle a variety of vessels including some of the larger bulk vessels currently in service and calling on ports in the United States. The Port is also able to handle a variety of feeder ships, also known as sub-Panamax vessels, as well as oceangoing and river barges at a separate and smaller berth. That dock has a length of 500 feet and a draft alongside of 20 feet at Mean Lower Low Water. Feeder vessels and barges are often used for both bulk and

¹ US Army Corps of Engineers Cook Inlet Deep Draft Navigation Report

² US Geological Service

³ US Army Corps of Engineers Cook Inlet Deep Draft Navigation Report

container operations. The barges are either towed by a separate tug or operate as an integrated or articulated tug/barge combination.

The Port's fixed equipment includes a dry bulk handling conveyor extending onto a dock built specifically for dry bulk cargo handling. The Port recently acquired the conveyor system on the terminal which requires extensive repair and has not operated for 10-12 years⁴. There is no vessel-to-shore crane equipment.



Figure 3 Appropriate Vessel Types for Port-Source: IAMPE

While the Port's dock infrastructure was designed with specific vessel types in mind, the infrastructure is suitable to handle a variety of vessel types. The above figure shows appropriate vessel types that can be accommodated at the Port. These include bulk ships (upper left) used for dry bulk cargoes and project

⁴ PND Engineers Port MacKenzie Conveyor Valuation January 2020

cargoes. They are similar in size to larger liquid bulk carriers. Container feeder ship (upper right), multi-purpose or combination ship (middle left), feeder barge (middle right), articulated tug/oil barge (lower left) and articulated tug/container barge (lower right). The two berths provide current capability to handle each of these vessels above.

Tide, current, and weather are significant issues for the region and impact the Port's operations. Extreme cold, significant storms, and waterway conditions can delay or shut down cargo operations. The region is also earthquake prone: on average, there is a magnitude 7.0 or greater earthquake somewhere in or offshore Alaska every one to two years and a magnitude 8.0 or greater quake about every 13 years.⁵ The Port's infrastructure is also subject to harsh river (for example, ice that flows down river, silting, damage from storms, and severe winter weather) and environmental conditions, which necessitate frequent infrastructure monitoring to ensure dangerous and/or costly infrastructure issues do not develop. These conditions have created significant infrastructure deterioration at ports with similar conditions, including the Port of Anchorage (Port of Alaska)⁶, and lead to operational concerns and costly repairs.

The Port has handled a limited number of vessels and cargo since its initial development in 1999. This included eight log and wood chip ships in 2005 and three cement ships between 2009 and 2010. The last deep draft vessel to call was in 2012. After that period, they had not handled a ship in eight years until June of 2020. Historically, the Port has handled cargoes of super-sacks of cement, heavy equipment, and project cargo. Based on existing business, the Port is expected to handle an average of one ship and six barges per year.

In 2017, a report by the MSB⁷ looked at projected cargoes for Port MacKenzie, which included pre-built houses, pump and electrical modules for TAPS, woodchips, saw logs, sand and gravel, heavy equipment, cement, scrap metal, coal, electrical cable, general barge cargoes, concrete coated pipe future exports, fuel, liquefied gases, limestone/cement, copper, lead, zinc, and molybdenum. Most of these cargoes require infrastructure improvements at the Port, which have not been endeavored.

In 2011 a new rail corridor was approved for construction, as part of an effort to improve multimodal capabilities at the port. A 36-mile right-of-way was purchased, and general preparation begun. However, the rail was not completed, and is still awaiting additional funding. The line was expected to generate 90 tons per rail car, 100 rail cars per train, 9,000 tons per train, 88,000 tons per ship, and 3 million tons per year which would generate 34 ships per year.⁸ The delay in completing the nearly \$400 million project has also limited the Port's development. The Port's early plans also included dock expansion and construction of additional docks and berths.

The Port is 75 miles by road from the city of Anchorage and its port (Port of Alaska), approximately 1.5 hours' drive time via State Routes 1 and 3. Although the Port is across the Knik Arm (a branch of the Cook Inlet) from Anchorage, there is no bridge across the Knik Arm, so the route between Port MacKenzie and Anchorage is around the head of the Kink Arm. A proposed bridge and ferry connection were abandoned due to lack of funding.

⁵ US Geological Service

⁶ Alaska Journal.com/2017-11-09/Port-Gets-New-Name-Problems-Remain

⁷ Port MacKenzie, Gateway to the Matanuska-Susitna Borough, Assemblyman Matthew Beck, April 2017

⁸ Port MacKenzie, Gateway to the Matanuska-Susitna Borough, Assemblyman Matthew Beck, April 2017

4. GOVERNANCE

Effective Port business development and marketing are based on effective port governance. Ports are considered as hybrid organizations for three main reasons: first, because of its nature of public service, generally operated by private companies; second, because of its integration with the port-city and/or the municipality where usually a degree of cooperation is needed to integrate both the city and the port development plans; and third, because of the nature of the “product” offered, which is essentially nontangible, based on derived demand and highly dependent on infrastructure (including fixed Infrastructure; equipment; information and electronic data interchange (ICT and EDI); and service performance). In this sense, Port MacKenzie's marketing mix reflects the characteristics of a typical example of a sub-regional hybrid port, which has advantages and disadvantages as will be discussed in the Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis.

Port MacKenzie is - in essence - a “municipal port.” Municipal ports are most common in smaller or regional port areas. The local town or city provides management of public port facilities, and the staff is within a department of the local government. The port is generally funded as part of the municipal budget and may be included in a separate enterprise fund. The primary advantage is cost-effective management because of shared municipal resources. The disadvantage is that the port competes for funding with schools and community services. Municipalities are structured to provide services to their citizens; ports are quasi-commercial, providing a competitive service to businesses and economic benefit to their region. As a result, ports are often outside of the effective management of local public sector governments. To address this, municipal port entities often create organizations under the supervision and control of the municipal’s elected officials but separate from city staff management. In this model, the assembly or council serve as incorporators of the port entity. The Port Commission has the authority to undertake commercial development but remains under the control of the elected officials. The appointed manager of the port entity would report directly to the commission. The bonding and tax incentive efforts of the port could continue to be utilized under the authority and bonding/tax capability of the municipal government.

Port MacKenzie was originally governed by a Port Commission; however, all decision and policy making authority was repealed in 1990, making the Commission an advisory body, before construction on the port began in 1999. The Port is currently governed directly by the Assembly.

Multiple approaches for port governance exist as potential future pathways for Port MacKenzie, each of which is briefly discussed below, and addressed in more detail in Section 8 of this document.

A reestablished Port Commission could be revitalized with new board members and structured to provide oversight to Port staff and Port development. The Commission would be responsible to the Assembly while having a level of authority to maintain oversight of the Port with focus on its growth. This allows the Port to function in industrial circles while keeping it responsible to the Assembly. The Commission would be established under municipal action and board members selected through criteria developed by the Assembly. This represents a short-term opportunity for a beneficial governance shift for the Port.

If port growth is successful and the Port develops a strong cargo and customer base, the potential for developing a regional Port Authority with the Port of Alaska (Anchorage) may exist. Port authorities are self-governing quasi-public corporations, established through state legislation and are appropriate for multi-jurisdictional locations such as between two separate communities. A Port Authority has a great deal of autonomy, can focus on wider development port activity within a region, and operates off the municipal tax rolls, its goals and objectives could exist outside of local control, even with representatives from the involved communities on the governing board. Port authorities are most successful when the

combined port entities can approach this new model with similar advantages and business opportunities. A regional Port Authority represents a potential long-term governance option for the Port and is not likely to be feasible in the short term.

Numerous ports also consider bringing in a commercial port operator to take over all the functions of a public port. While this may appear attractive, key considerations must include the available land and infrastructure, road and rail, intermodal connectivity, waterfront and berth infrastructure and existing and potential business opportunities. With the lack of rail and lack of business at the Port, this appears to be an unlikely option in the near term.

Port MacKenzie's staff consists of one full-time Port Operations Manager and a part-time maintenance worker. There is no operational staff on site, and vessels calling on the Port must hire a third-party stevedore to handle cargo loading and unloading. The Port recently completed a revision of its Port Tariff and Terminal Rules and Regulations, which is pending final approval by the MSB Assembly. Municipal Staff is currently in the process of updating the Port's safety plan. The Facility Security Plan (FSP) is audited annually. It was last updated March 2, 2020 and approved by the USCG. It is valid until April 15, 2025.

Staffing is a critical function of any port development, particularly for small ports like Port MacKenzie. Port Commissions often retain a small staff for small ports due to financial constraints, which creates a heavier dependence on outside studies when funds are available (such as government grants). Ironically, many of these studies and analysis come with recommendations that are unattainable without an increase in personnel resources. Likewise, a small staff is generally forced into a constant state of reactivity: critical requirements are only addressed when they become problems or when a violation of regulations occurs. This is anathema to healthy business development, which requires proactive action and a view to future growth.

Port staffs are required to undertake not just everyday management and business development, but also compliance with overarching federal and state regulations. Regardless of the size of a port, a typical port director encounters myriad issues on a day-to-day basis.

If Port MacKenzie is going to thrive, a financial and staffing commitment must be made to ensure that the Port is able to keep up with the business and regulatory requirements. Many ports fail to grow and be prosperous because they do not follow a methodical process of governance and business development. It is critical to understand that proper planning, and using planning as a management tool, provides the best chance of success. Building new assets does not necessarily lead to new business but having such assets in place is critical when business opportunities become apparent and must be accommodated.

5. MARKET ASSESSMENT

The IAMPE undertook an initial general business analysis for Port MacKenzie. All data used is based on sources and audited reports either provided by the Port or available in the public domain. Other academic sources, including the IAMPE Management Program, and studies were used to support the analysis and framing of the business case in strategic management. This report section is organized into four parts as follows:

- a) General Business Environment and regional cargo traffic analysis in Alaska (commodity type, vessel type, market share, flows, etc.).
- b) Competitive Situation (The Port's current competitors, potential entrants, substitutes, and suppliers).
- c) Basic Marketing Mix Description
- d) SWOT analysis (product, price, place, and promotion, including social media presence)

a. General Business Environment

The business environment and its main driving forces are presented in the context of the State of Alaska's economic development. These forces represent major influences that any business is subject to but cannot necessarily control. These forces exert direct influence in the company's core marketing mix (also known as the "4Ps:" product, place/distribution, promotion, and price) and in the value proposition that derived from the 4Ps. The figure below is a schematic representation of these forces divided into six categories: economic, social/cultural, political, competition, legal/regulatory, and technological. The remainder of this section presents a sequence of indicators that will shed light on the business environment for Port MacKenzie.



Figure 4 Components of Strategic Marketing
Source: Pride and Ferrell (2020)

Socio Economic Indicators -There are a number of key economic indicators that are drivers of the economic activity and subsequent influence in the Alaska transportation systems, including ports. The data on population growth is particularly relevant for Alaska for two reasons. First, as an indicator of economic activity (overall) and second, as an indicator of consumer goods needs (cargo volume) that will have to be transported, as Alaska has limited manufacturing activity in this sector. The figure below also presents the employment and GDP per capita evolution in the last decade as indicators of consumer power.

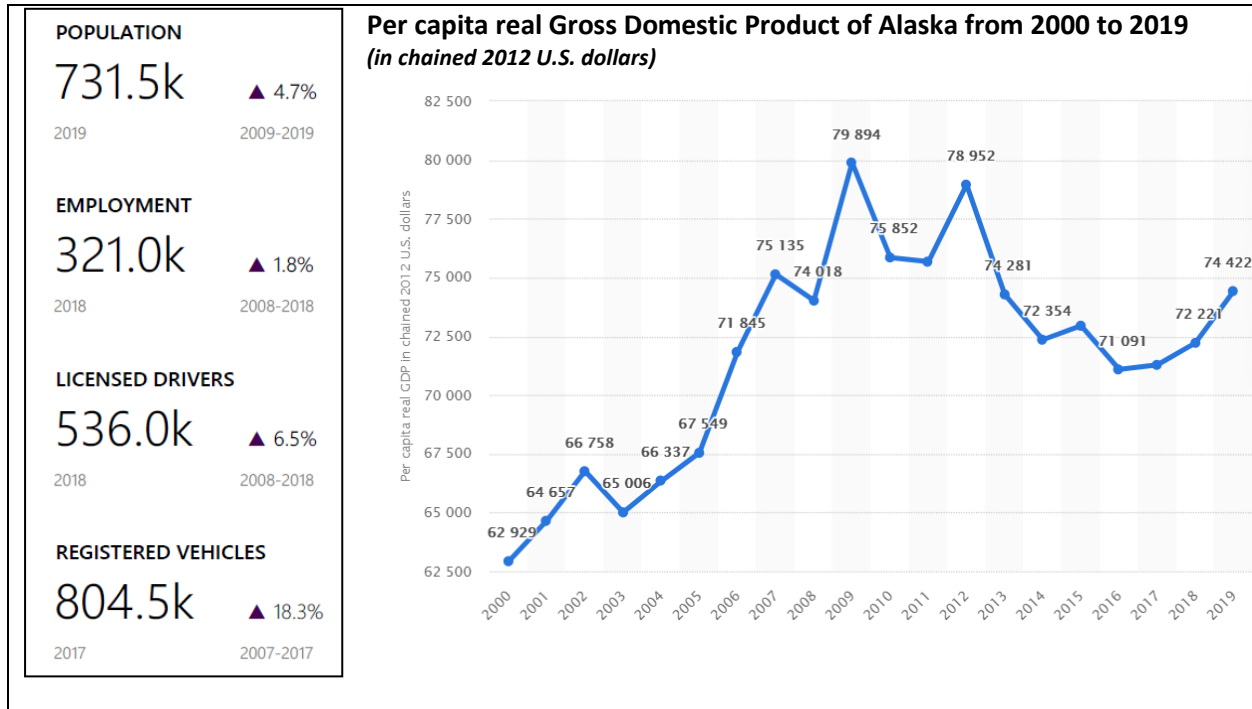


Figure 5 Basic Alaska Demographic Data
Source: U.S. Department of Transportation. Bureau of Transport Statistics (2020)

The demographic data is particularly important in the case of Alaska because of its geographical position and subsequent freight dependence. While transportation issues affect virtually every single sector in the economy, it is possible to distinguish the segments that depend directly on transportation as part of their business from those that use transportation as a complementary service. The Alaska Department of Transportation in its Freight Element of the Alaska Long-Range Transportation Plan (LRTP, 2016) classifies the economic activities in freight-intensive and non-freight intensive as a way to: i) differentiate sectors' dependency on transportation; and ii) to be able to identify the freight driving forces. The below table presents the classification as per LRTP, 2016. Figure 3 presents the contribution in the Alaska State GDP of each of these sectors, and the freight-intensive sectors correspond to almost 50%. While Alaska's – and, in particular, Anchorage's - population and economy has been stagnant since 2019 due to various factors including COVID, an increasing trend has been anticipated in future years and post-COVID. The economy is expected to slowly start regaining jobs lost in 2020 and grow at a rate of 2.2 percent in 2021.⁹

⁹ Alaska Business Magazine, 2021 OUTLOOK, January 2021

Freight-Intensive Industries (Goods and Services)	Non-Freight Industries (Services Only)
Mining (including petroleum, natural gas, and coal)	Health Care and Social Assistance
Construction	Professional, Scientific, Technical
Transportation and Warehousing	Accommodation and Food Services
Retail Trade	Finance and Insurance
Manufacturing (including processing of fish)	Administrative and Waste Services
Utilities	Other Services
Agriculture, Forestry, Fishing, Hunting	Information
	Real Estate, Rental and Leasing
	Management
	Arts, Entertainment, and Recreation
	Educational Services

Table 2 Freight-Intensive and Non-Freight Industries-
Source: WSP | Parsons Brinckerhoff (2016)

Industry	\$ Millions	Share
All Industry, Total	52,804	100.0%
Mining	9,401	17.8%
Transportation and warehousing	6,596	12.5%
Construction	2,432	4.6%
Retail trade	2,253	4.3%
Manufacturing	1,600	3.0%
Wholesale trade	1,300	2.5%
Utilities	744	1.4%
Agriculture, forestry, fishing, and hunting	529	1.0%
Subtotal, Freight-Intensive Industries	24,855	47.1%
Subtotal of Other Industries	17,965	34.0%
Subtotal, Government	9,984	18.9%

Table 3 Alaska Gross State Product, 2015
Source: WSP | Parsons Brinckerhoff (2016)

2012 Rank	Area	2012	2042	Added	% Change	Growth Rate
	Alaska Total	732,298	925,042	192,744	26%	0.8%
3	Matanuska-Susitna Borough	93,801	166,338	72,537	77%	1.9%
1	Anchorage Municipality	298,842	364,871	66,029	22%	0.7%
2	Fairbanks North Star Borough	100,343	132,030	31,687	32%	0.9%
4	Kenai Peninsula Borough	56,756	65,647	8,891	16%	0.5%
6	Bethel Census Area	17,600	23,696	6,096	35%	1.0%
15	Southeast Fairbanks Census Area	7,218	11,112	3,894	54%	1.4%
14	Wade Hampton Census Area	7,700	11,400	3,700	48%	1.3%
10	Nome Census Area	9,869	12,997	3,128	32%	0.9%
13	Northwest Arctic Borough	7,716	9,926	2,210	29%	0.8%
5	Juneau, City and Borough	32,832	33,617	785	2%	0.1%
7	Kodiak Island Borough	14,041	14,435	394	3%	0.1%
19	Dillingham Census Area	4,988	5,341	353	7%	0.2%
26	Lake and Peninsula Borough	1,673	1,779	106	6%	0.2%
28	Skagway Municipality	961	1,005	44	5%	0.1%
11	North Slope Borough	9,727	9,757	30	0%	0.0%
22	Haines Borough	2,620	2,649	29	1%	0.0%
21	Aleutians East Borough	3,227	3,120	(107)	-3%	-0.1%
29	Yakutat, City and Borough	622	459	(163)	-26%	-1.0%
23	Wrangell, City and Borough	2,448	2,243	(205)	-8%	-0.3%
27	Bristol Bay Borough	987	779	(208)	-21%	-0.8%
17	Aleutians West Census Area	5,881	5,639	(242)	-4%	-0.1%
25	Denali Borough	1,871	1,609	(262)	-14%	-0.5%
16	Prince of Wales-Hyder Census Area	6,439	6,027	(412)	-6%	-0.2%
24	Hoonah-Angoon Census Area	2,210	1,534	(676)	-31%	-1.2%
20	Petersburg Borough	3,269	2,574	(695)	-21%	-0.8%
12	Sitka, City and Borough	9,084	8,300	(784)	-9%	-0.3%
9	Valdez-Cordova Census Area	9,953	8,985	(968)	-10%	-0.3%
8	Ketchikan Gateway Borough	13,938	12,762	(1,176)	-8%	-0.3%
18	Yukon-Koyukuk Census Area	5,682	4,411	(1,271)	-22%	-0.8%

Table 4 Projected Alaska Population Growth, 2012 to 2042

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

Commodity Flows -The data about commodity flows to and from Alaska leaves no doubt on the state's dependency on long-distance transportation. The following figures are part of the Alaska Long-Range Transportation Plan (LRTP, 2016 prepared by the Alaska Department of Transportation). The information provided by the USDOT/BTS (2018) presents a summary of main commodities shipped to/from and within Alaska by tonnage and value. A detailed study by the US Army Corps of Engineers about commodity flows confirms that crude oil is still the main volume of Alaska outbound cargo while foodstuff and manufactured goods are the main inbound cargo for the period of 2016 to 2019 (see Appendix IV). Interesting to note is the predominance of domestic trade versus international trade in both inbound and outbound cargo volumes. While some of the information is dated, there is no indication that there are significant changes in some of the presented data.

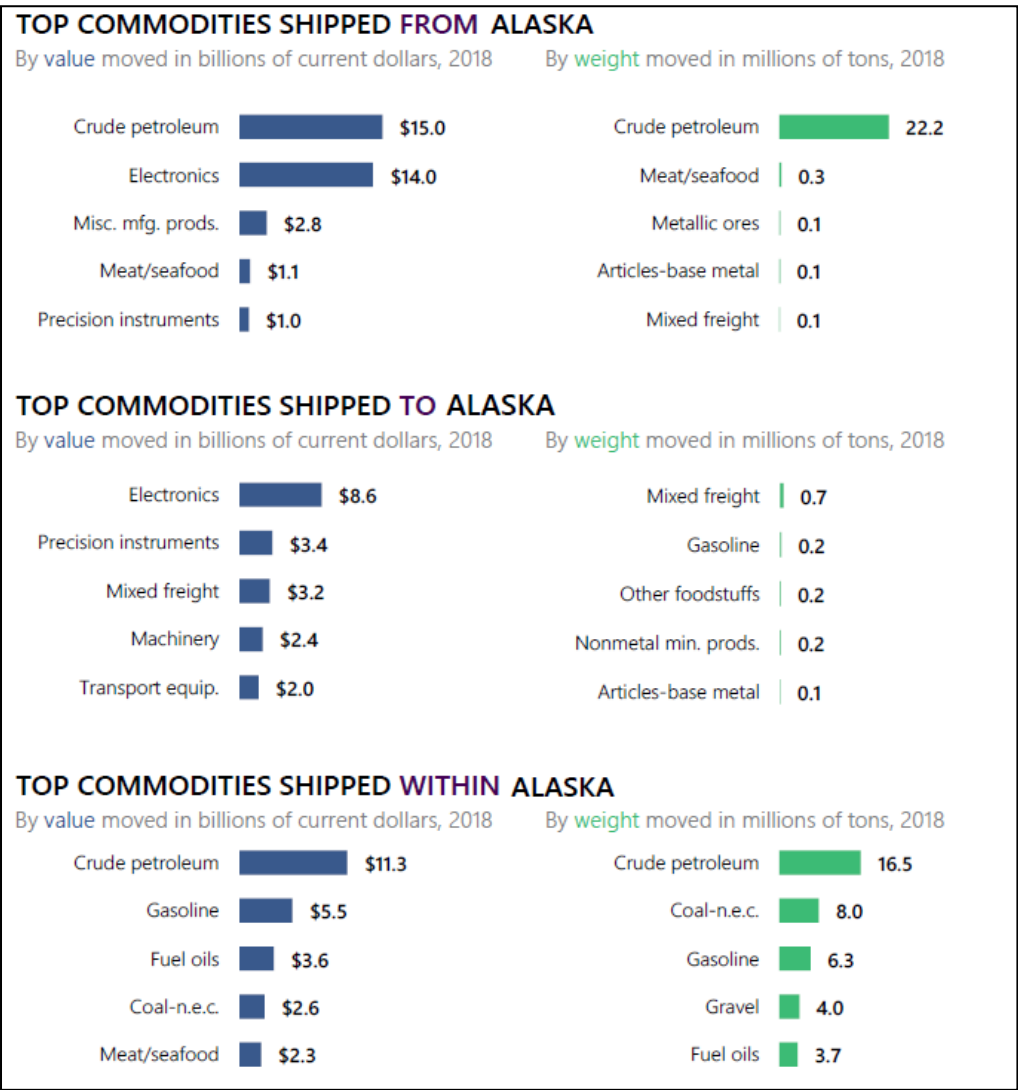


Figure 6 Alaska's Top Commodities
 Source: U.S. Department of Transportation. Bureau of Transport Statistics (2020)

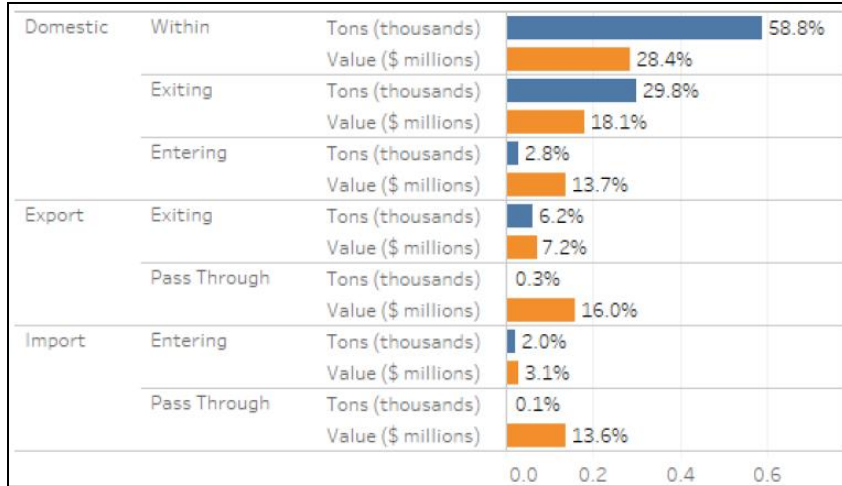


Table 5 Overview of Alaska Tonnage and Value Trade Shares, Year 2015 Estimates
Source: WSP | Parsons Brinckerhoff Analysis of Freight Analysis Framework 4.1 data

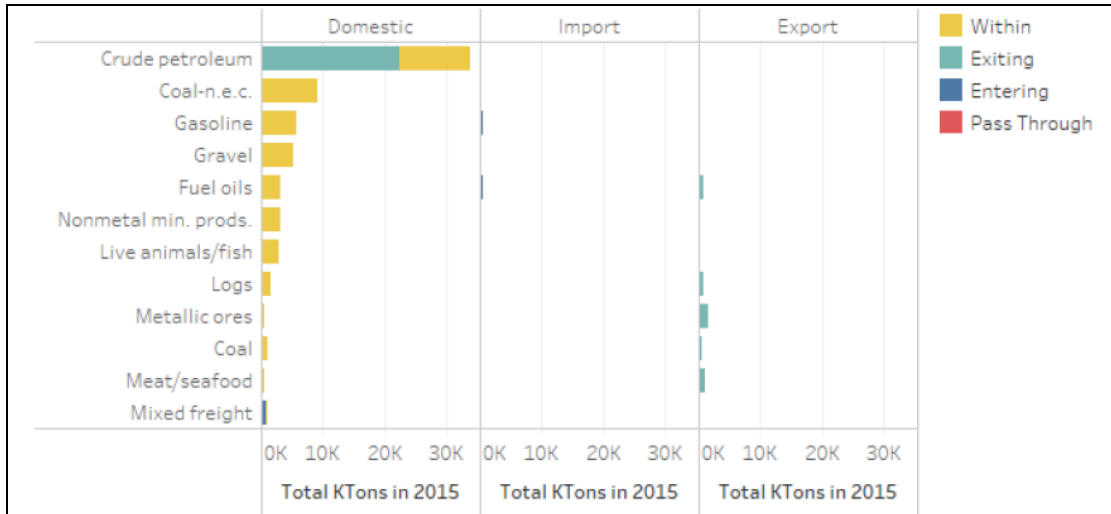


Table 6 Alaska's Leading Commodities by Tons, Direction and Trade Type, Year 2015 Estimates
Source: WSP | Parsons Brinckerhoff Analysis of Freight Analysis Framework 4.1 data

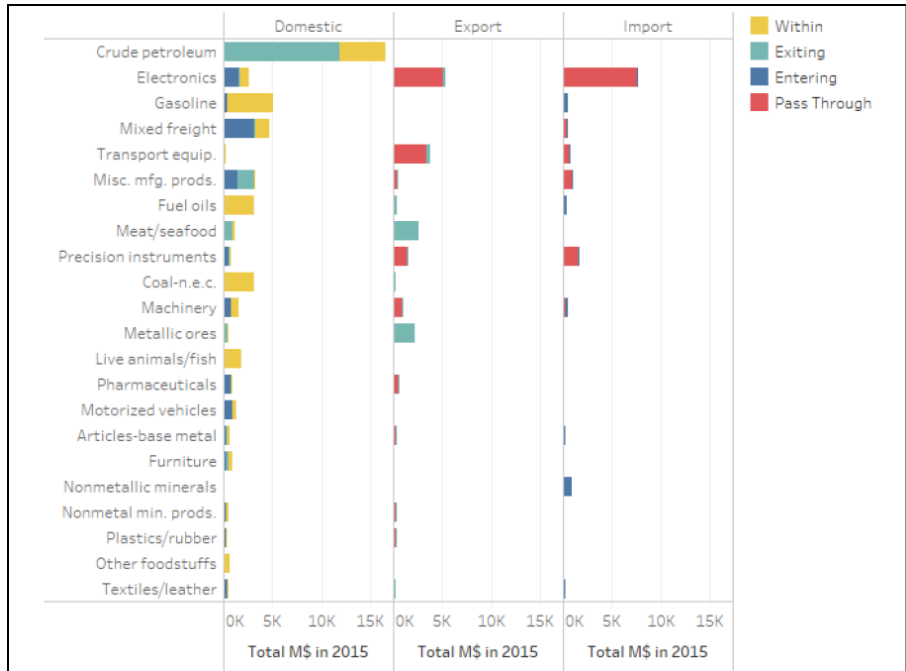


Table 7 Alaska's Leading Commodities by Value, Direction and Trade Type, Year 2015 Estimates
 Source: WSP | Parsons Brinckerhoff Analysis of Freight Analysis Framework 4.1 data

b. Competitive Situation

Competition implies comparable “offerings:” potential customers can access a similar service from multiple, competing providers. Competition conditions depend not only on the product/service attribute, but also on market structures (like pure competition, monopoly, oligopoly etc.). In the case of ports and marine terminals, the competition analysis is complex, as it has to consider also major infrastructure elements (such as access to roads, bridges, rail). In addition, ports operate by and large on a derived demand mode (meaning the demand for port services is a function of trade/commerce). Port competition criteria may vary from goods flows; investment in additional infrastructure; a common hinterland; and increasingly between port ranges, for investments and traffic, particularly from areas where the spheres of influences of port ranges overlap. The table below lists the main variables typically listed in the decision of a port choice by the main port users. While cost and location are at the top of the list, other indicators on performance (efficiency, congestion, and information system) have equal importance. For example, three carriers provide goods and services transport to Alaska: TOTE, handling RO-RO into Anchorage; Matson, providing container service to Anchorage, Kodiak, and Dutch Harbor; and Alaska Marine Lines (Lynden), which is also a freight forwarder, providing twice-weekly barge service into Alaska. Destinations served by these carriers include Juneau, Ketchikan, Petersburg, Sitka, Haines, Skagway, Wrangell, Anchorage, Cordova, and Whittier. Proposed reconstruction of piers and wharves at Port of Alaska (Anchorage) could provide an opportunity for Port MacKenzie’s barge dock. However, a leased or purchased crane would be required.

	Owner/Shipper of Goods	Forwarder	Shipping Company	Terminal Operators
Cost	xx	x	xx	xx
Location	xx	x	xx	xx
Port operations quality and reputation	xx	xx	xx	xx
Speed/time	x	x	x	xx
Infrastructure and facilities availability	x		xx	xx
Efficiency	x	xx	x	xx
Frequency of sailings	x	x	x	
Port information system	x	x	x	xx
Hinterland	x	x	x	xx
Congestion	x	x	x	xx

xx: very important

x: important

Table 8 Decision Variables in Choosing a Port- Source: Meersman et al (2010).

According to the World Port Source (2020) the state of Alaska has 90 ports alongside the coast. Most of them are considered as small or exceedingly small in terms of tonnage moved or volume throughput (as per the Map shown in Figure 9). The USACE classified the ports in Alaska according to their type of hub activity. The summary is presented in the below table. According to the criteria used in this study, regional hubs represent the primary ports of entry for goods moving into or out of the state and region, while subregional hubs represent smaller ports of entry that tend to receive shipments from the regional hubs and distribute goods elsewhere in the region.

Community	Type of Hub	Community	Type of Hub
Arctic		Southeast	
Barrow	Regional	Haines	Subregional
Prudhoe Bay	Regional	Juneau	Regional
Interior		Ketchikan	Regional
Koyukuk	Subregional	Petersburg	Regional
Nenana	Regional	Sitka	Subregional
Tanana	Subregional	Skagway	Subregional
Northwest Arctic		Southwest	
Kotzebue	Regional	Adak	Subregional
Nome	Regional	Dillingham	Subregional
Port Clarence	Subregional	Kodiak	Regional, container
Prince William Sound		Naknek	Subregional
Seward	Regional	Unalaska/Dutch Harbor	Regional, container
Valdez	Regional	Yukon-Kuskokwim	
Whittier	Regional	Emmonak/Alakanuk	Regional
Southcentral		Bethel	Regional
Anchorage	Regional, container		
Homer	Subregional		
Port MacKenzie	Subregional		

Table 9 Alaska Regional and Subregional Hubs

Source: Alaska Regional Ports: Planning for Alaska’s Regional Ports and Harbors Final Report (2011)

In Figure 10, it is possible to see that, considering the proximity factor, Port MacKenzie has a noticeably clear competition case with Anchorage, also known as Port of Alaska. However, because of its unique location, land availability, and cargo typology specialization, Port MacKenzie is in non-direct competition with Anchorage or any other port, leaving room for strategic options in terms of business development. Recently Port of Anchorage has invested in publicity to reinforce its position as “the port of Alaska,” which resulted in the rebranding of the port name. Figures 8 and 9 present some of the indicators used by Port of Anchorage to compare their feature with other main ports in Alaska including Port MacKenzie.

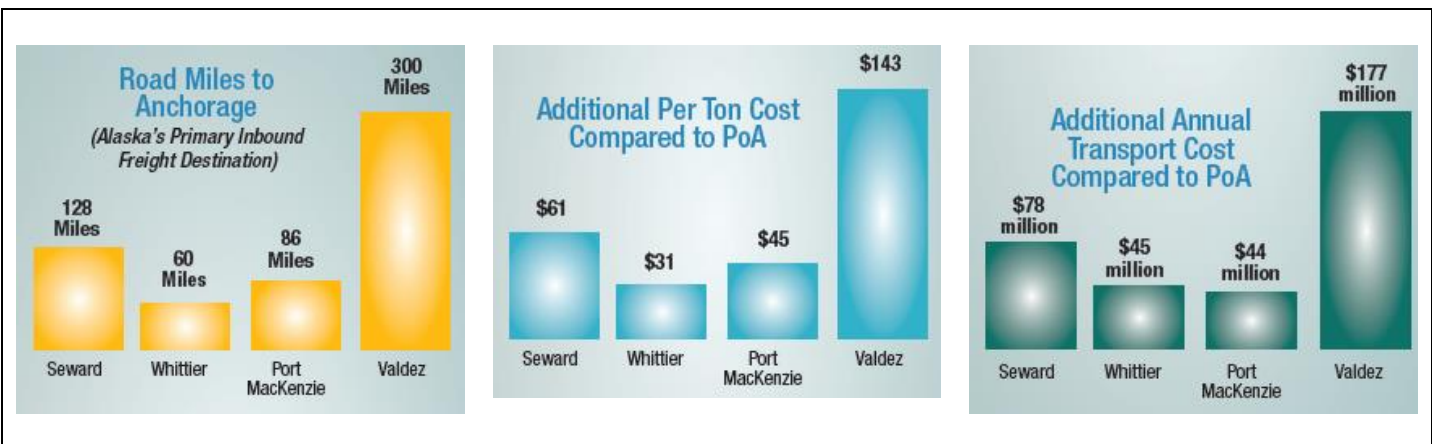


Figure 7 If Port of Alaska needed to be replaced with other ports Source: Port of Alaska. The Logistical and Economic Advantages of Alaska's Primary Inbound Port (2020)

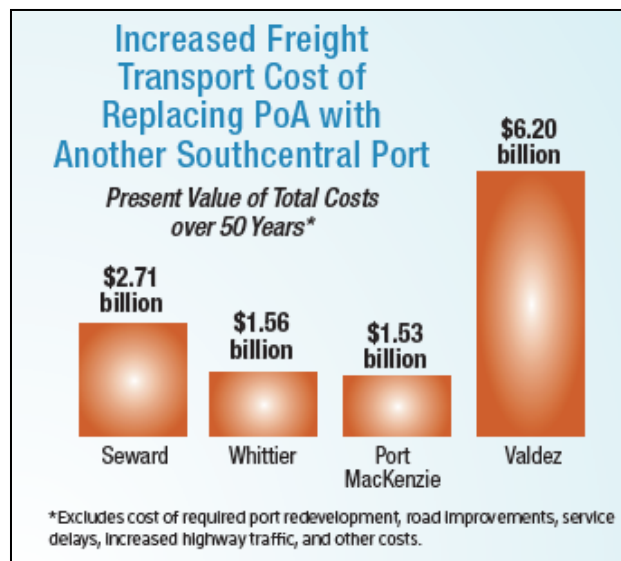


Figure 8 Comparative total cost of replacing Port of Anchorage with other ports in Alaska Source: Port of Alaska. The Logistical and Economic Advantages of Alaska's Primary Inbound Port (2020)

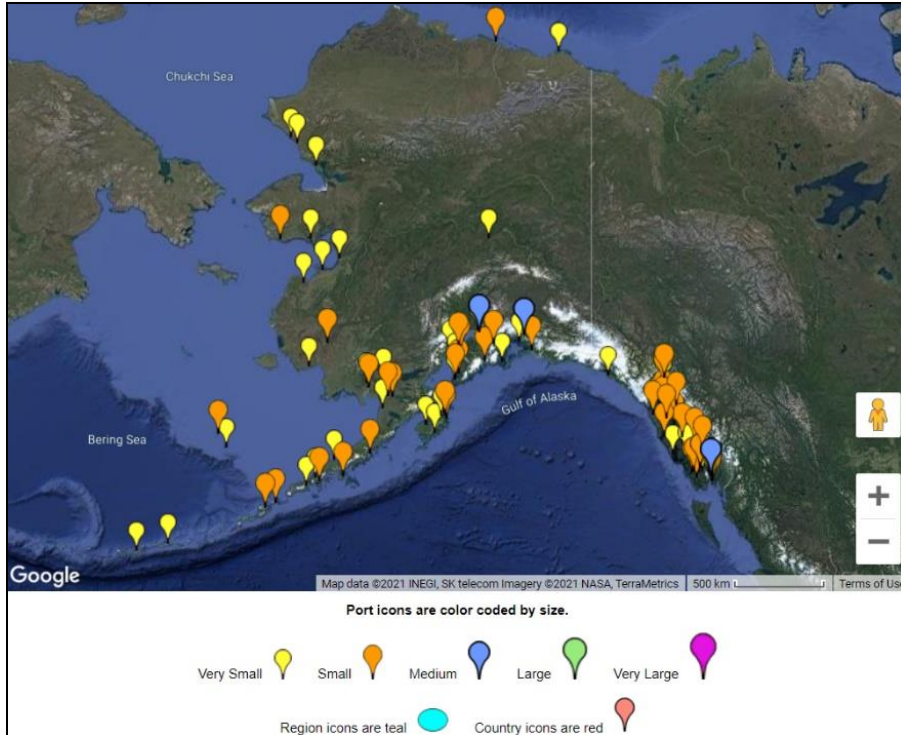


Figure 9 Ports in Alaska-Source: World Port Source (2020)

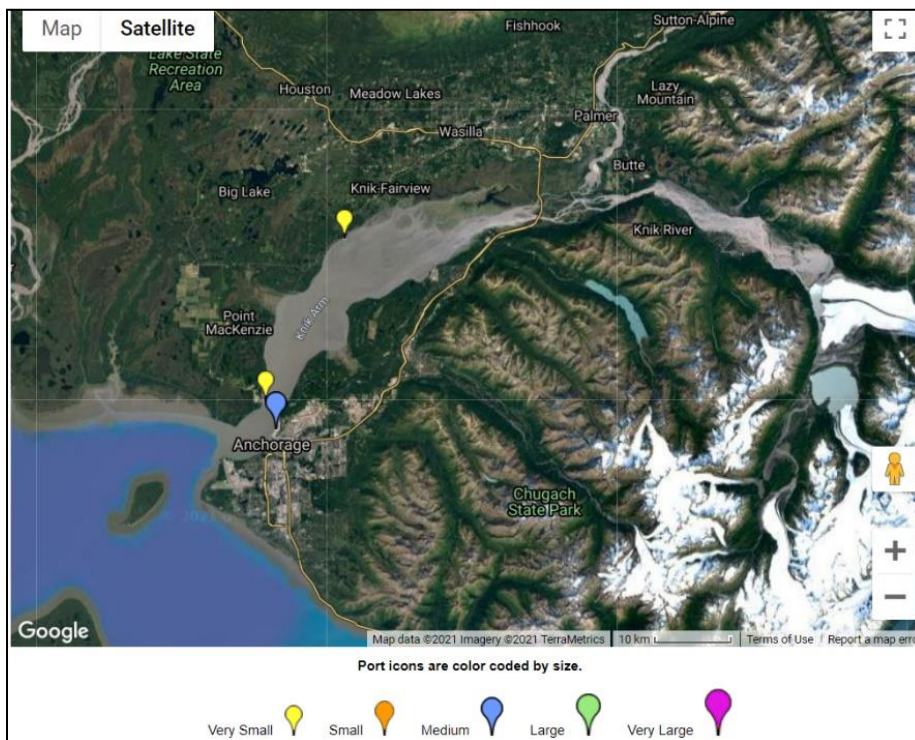


Figure 10 Port MacKenzie Area-Source: World Port Source (2020)

c. Basic Marketing Mix Description

The following section covers the basic components of the marketing mix as applied to Port MacKenzie. The marketing mix concept relates to the elements of marketing management as a “mix of variables” that are under the control of the Port. These are opposed to other variables (such as economic, social, cultural aspects) that in the context of business development, but not necessarily controlled by the Port. The marketing mix is composed of what is popularly known as the “4Ps” which stands for Product (tangible or intangible), Price, Place (or distribution), and Promotion. In the case of Port MacKenzie the 4Ps can be summarized as follows:

Product: The Port MacKenzie product consists of both infrastructure and services. The Port was developed as a multipurpose terminal, composed of two docks (Barge Dock=20’ MLLW and Deep Draft Dock= 60’MLLW) designed for exporting natural resources from Alaska. As mentioned, the 500-foot-long barge dock bulkhead can accommodate barges and small multi-purpose and feeder vessel. The 1,200-foot-long pile-supported deep-draft dock can accommodate Panamax and Post Panamax, as well as Handy, Handymax, and Aframax class vessels. In its 20+ years of existence, the port has handled various types of vessels carrying mainly general or dry bulk cargo such as sand & gravel, cement, scrap metal, coal, heavy equipment and pipes, pumps, electrical modules for taps, woodchips, saw logs. The port is equipped with a conveyor (in need of repair) and a cargo storage area adjacent to the piers detailed below. The Port was also established as a port district with 9,033 acres of land available for future development (see Appendix II). The Port’s services are related to the capability of the infrastructure and equipment as well those services provided by and within the Port district by the tenants and service providers. Specifically, the port’s “product” offerings are currently limited by a lack of cargo handling equipment and intermodal infrastructure (rail connectivity). The Port can offer bulk handling, project cargo handling, open storage, and lay berthing with its current infrastructure and equipment.

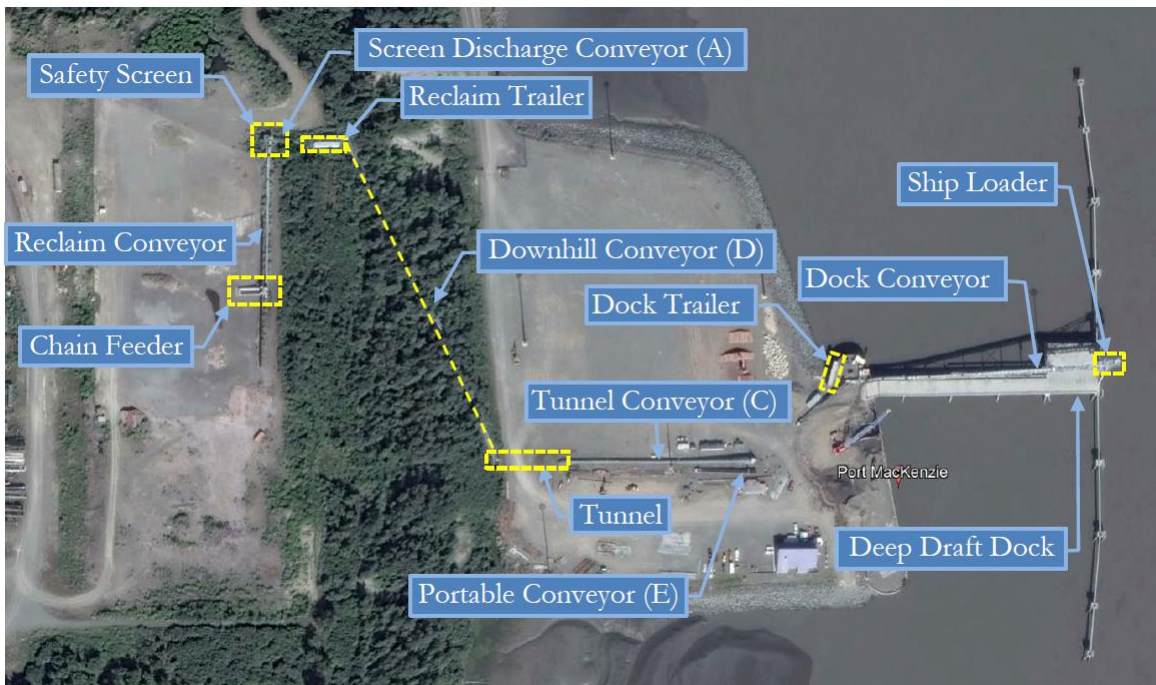


Figure 11 The Cargo Site Layout Source: Inspection and Valuation Report Port MacKenzie Conveyor System (January 2020)

Since a vast majority of consumer goods and fuel enter Alaska through Anchorage, Port MacKenzie's growth may be attained by capturing some of the cargo already passing through Anchorage. Multiple large retail and grocery companies such as Home Depot, Lowes, Kroeger, Albertsons, Costco, Bass, Cabela's, Wal-Mart, Safeway, and Sysco have distribution nodes in the Anchorage area and are highly dependent on product moved in by water. The military and the US Post Office also use Anchorage for a transshipment port.

Place: The Port relies on natural deep water accessible on the east bank of Knik Arm River across from Anchorage, the nearest urban center. The Port is accessible on the land side via Point MacKenzie Road, and it is 75 miles away from Anchorage (an average 90-minute drive using state highway). Access to the Port is limited to a single highway and waterborne access: this would be improved by a bridge over the Knik Arm (reducing road transit time to Anchorage) and/or rail connectivity, however the construction of a new bridge seems unlikely at this time. There is no warehousing or distribution center within the port district boundaries, meaning most retail cargo would need to be drayed to off-site distribution centers before being distributed to point of sale. While proximity to the Anchorage area is an advantage for Port MacKenzie due to Anchorage's population and consumer base, the Port of Alaska is closer to its distribution centers and markets. However, the Port of Alaska has limited space for expansion, so some freight could be captured by Port MacKenzie that cannot be accommodated at the Port of Alaska. In addition, proposed repairs and reconstruction of piers and wharves at the Port of Alaska may constrain the Port of Alaska's ability to handle cargo, some of which may be captured by Port MacKenzie.

Price: The Port MacKenzie Terminal Tariff was adopted by the Matanuska-Susitna Borough Assembly for regulations, requirements, the establishment of user fees, and safety in the use of the Port MacKenzie Dock in September 2000. It was amended October 15, 2002, April 4, 2006, and July 1, 2018. The Port updated the tariff again in 2019 but the new tariff and associated rules and regulations has not been submitted for approval by the Assembly pending the current Strategic Plan study. The tariff essentially covers the cost of operation and maintenance of the equipment and facilities, and rates in the tariff are comparable to other ports in the region. However, due to the additional cost of drayage and distance from Anchorage (as compared to the Port of Alaska), Port MacKenzie is at a slight cost and transit time disadvantage for many cargoes destined to points west of the Knik Arm.

Promotion: Port MacKenzie's promotion mix is essentially composed of the advertisement done through the Matanuska-Susitna Borough web page (<https://www.matsugov.us/port>) and videos on YouTube (see the list on Appendix III). The port does not have its own webpage domain or social media platforms. The commercial responsibilities (sales representative and public relation duties) are carried out as cumulative responsibilities of the Port Operations Manager and the Borough Public Affairs Director: the Port has no dedicated sales or marketing staff. No specific branding or slogan campaigns were identified in recent years.

d. The SWOT Analysis

The SWOT analysis is "a framework for categorizing different factors influencing the strategy." SWOT is an abbreviation that stands for Strengths, Weakness, Opportunities, and Threats. The "Strengths" and "Weaknesses" are analyzed from an internal perspective, while the "Opportunities" and "Threats" are externally originated (typically based on the business environment and competition analysis). The SWOT analysis is a tool largely employed to assist the decision process of strategic resources allocation and setting priorities in a typical budget cycle (12 months) and strategic planning (5 and 10 years). Ideally, the SWOT is based on data (not just perception of management) and the analysis considers both (internal and external) to enable: i) matching market opportunities to the strengths; ii) compensating and balancing

weaknesses; and, iii) identifying the market threats that are most harmful to the business to be better prepared to overcome them in directing future investments and action plans. Commonly used in the strategic planning processes for ports, the below diagrams reflect the dynamics of the analysis.



Figure 12 The SWOT Analysis as Applied to Ports

In its application to port analysis, STRENGTHS include infrastructure and property condition/availability, geography in relation to the supply chain and transportation connections and services. WEAKNESSES include available funds, condition of the infrastructure including its age. OPPORTUNITIES include business, services and low hanging fruit and THREATS include competition, political support, and public perception. In the case of Port MacKenzie’s current situation, the preliminary analysis indicates the following components as part of the SWOT analysis:

STRENGTHS:

- Multiple berths for handling of large and small vessels.
- Natural deep water at the berths.
- No ongoing dredging requirements for the berths.
- Proximity to a major full-service population center.
- Proximity to the largest consumer markets in the most densely populated area in the state (55% of the Alaska population lives in the Anchorage Municipality and Matanuska-Susitna Borough. In the projected population to 2042, Matanuska-Susitna Borough has the highest level).
- A large area of land already incorporated into the port district (enabling greenfield projects and new building).
- Limited gentrification of access roads and Port district property.
- The ability to provide tax incentives through the local municipal government to promote industrial development.
- Bonding capability through the municipality.

WEAKNESSES:

- Major access limitations and no short and direct connection to the Anchorage metropolitan area.
- No rail access for the primary commodity (dry bulk) for which the Port has a good opportunity.
- The “product-centric” approach to export natural resources has created volumes of instabilities and subsequent revenue instabilities.
- Lack of general cargo handling equipment (crane) and terminal operation/stevedoring services.
- Owned conveyor system designed for handling of dry bulk cargoes which requires extensive investment and repairs.
- Harsh environment conditions in winter.

- The deep-water pier structure is currently only able to handle dry (or liquid) bulk cargoes, and is not currently suitable for handling container, RO/RO, or breakbulk cargoes.
- Limited staff resources (impacting sales efforts and marketing intelligence).
- Diffuse, municipal governance structure.
- Limited resources for promotion (sales, social media presence).
- Not certified (ISO certificates for Quality, Security, or Sustainability).
- No clear Corporate Social Responsibilities (CSR) policies or practices.
- Need to update safety plan and receive updated tariff approval.
- No dedicated web domain (with a subsequent negative impact on branding and image).
- Lack of a defined leasehold plan and policy for available property.

OPPORTUNITIES:

- Increasing population with increasing income (meaning increasing need for consumer goods).
- A new urbanization project (Point MacKenzie) potentially bringing the whole new concept of land use near the Port district. This means new opportunities for both cargoes (additional volumes throughput) and warehousing and distribution centers.
- Increased funding availability for infrastructure and/or equipment through AIDEA partnership in addition to the West Susitna Access Project. AIDEA has funded similar projects in other ports and regions of Alaska including, warehousing, dock expansion, terminal construction, equipment purchase, and mining and energy infrastructure.
- Environmental certification which can be the foundation of a more comprehensive CSR (Corporate Social Responsibility) policy.
- The extensive infrastructure investment and improvement plan needed by the Port of Alaska which will have a major impact on the Anchorage's marine operations.
- Potential to expand the deep-water dock for other types of cargo handling besides built cargo.
- Ability to capture ocean carrier cargo in the post-recession period.
- Expansion of the gas and oil industry.
- Military cargo moving into the region.
- Proximity to Asian markets based on ocean routes (3,700 miles to Shanghai compared to 5,600 nautical miles between Vancouver BC and Shanghai and 5,500 nautical miles between LA/Long Beach and Shanghai).

THREATS:

- Direct competition from a large regional port (Anchorage) that already has existing infrastructure.
- Funding competition from other Alaska ports.
- Local political disputes (between Boroughs) not facilitating the use of existing State resources to improve infrastructure (for example, the access via bridge).
- Regional and federal political disputes not facilitating access to new sources of funding for a larger project such as completion of the rail corridor.
- Financial condition of the State of Alaska.
- Perception by the public regarding future Port investments.
- Current ability of the Port to respond to opportunities.

6. FINDINGS

The following areas of interest, concern, or opportunity were found in the course of data gathering and analysis for the project.

- a. **Access issues:** Two major access limitations were identified in the port's current situation: rail connection (mainly to enable business dry bulk to/from north territories of the state); and road/bridge access to Anchorage (that could enable the business of containers and general cargo closer to urban distribution centers). Both cases (rail and bridge) require substantial investment by the federal government and the State of Alaska. Access issues are a major impediment to Port development and sustained growth, particularly when dealing with bulk cargos. In many ports, waterway access and dredging are critical access issues. To its advantage, the Port does not have those issues however unless there is interconnected road, rail, and waterway efficiency, the Port will fail to reach its potential.
- b. **Diversified economic mix:** There is a major need to focus on a diverse economic mix at the Port beyond just water-related activities. Critical to the Port's future appears to be a mix of maritime, industrial, and commercial use based on the development of assets that enhance the growth of shipping activity as well as commercial and industrial tenant development. Critical to port success is a diversified mix of business activities that are compatible (such as a wide range of trucking and warehousing services). It should also be noted that compatible businesses need not always be marine dependent. Ports are transportation facilities engaged in intermodal interchange, and intermodal interchange creates a rich environment for industrial and commercial developments with logistical needs or synergies. This often includes the development of industrial parks, which is a realistic opportunity for Port MacKenzie.
- c. **Equipment/Infrastructure:** The Port is equipped with limited capital equipment: the Port has a conveyor system but does not have any other cargo handling equipment (e.g., a crane, top loader(s), etc.). A recent valuation and condition report was conducted of the conveyor system noting approximately \$500,000 USD in repairs that would be required to put the unit into operational condition.¹⁰ The Port's pier and conveyor system were installed to accommodate dry bulk cargo, but Port throughput has not achieved its full potential due to the lack of efficient connecting surface transportation systems (specifically, rail). Rail connections are critical to the handling of bulk cargos.

Many ports are equipped with ship-to-shore cranes for handling general, bulk, and project cargos. There are several manufacturers that specialize in crane and material handling equipment for smaller ports, some of which could be deployed on the barge/small ship dock at Port MacKenzie. Deep water berths capable of handling dry bulk ships can easily handle liquid bulk ships with tank storage remote from the pier. The pier and dock at Port MacKenzie is adequate for the addition of liquid bulk handling systems, assuming tank storage and pipelines are installed. For all operational equipment (e.g., conveyor system, crane), the Port can charge use fees for the equipment.

The deep-water pier at Port MacKenzie is currently limited (by infrastructure and equipment needs) to the handling of dry bulk cargo. Opportunities for upgrading the infrastructure to

¹⁰ PND Engineers Port MacKenzie Conveyor Valuation January 2020.

accommodate other types of cargo could include the addition of pipelines for liquid bulk or liquefied gas as well as expansion of the apron for container, breakbulk, neo-bulk and project cargos. The deep-water berth, types of ships that call on Anchorage (RO-RO and Panamax container ships) might find Port MacKenzie appropriate for future expansion of services. These operations could be coupled with the development of new distribution centers and warehousing on site.

- d. **Property:** Port MacKenzie has a large amount of property well-suited for the development of industrial park facilities. Combined with good transportation access, industrial park development near large metropolitan areas has been successful. Critical to that development are leasing policies established by the port, clearly defined parcels with utility corridors and road/rail access pathways articulated, and - in many cases - incentives such as Tax Increment Financing (TIF) availability and similar incentives provided through the port or community. The nearly 15-acre cargo area is adequate for the handling of cargo on barges and small ships. Storage for bulk dry or liquid cargo is available on the Port's high ground, which has connections to the pier and deep-water berth. There are established road and rail corridors on the site.
- e. **Port governance structure:** The existing port governance structure may be limiting Port MacKenzie's growth. As mentioned previously, Ports tend to function best with a more commercial set of priorities than municipal departments tend to have. Recommendations regarding governance can be found in Section 8 of this document, and a brief summary of port governance models can be found attached as Appendix VI of this document.
- f. **Staffing:** Current staffing levels are inadequate to undertake all the requirements needed to address port development and management. Port Staffing must be sufficient to not only handle the tasks of day-to-day port management, regulatory compliance, operations, maintenance and business development, but must also have capacity to plan for the future and take proactive steps to promote the health and success of the port.
- g. **Planning:** Successful port development requires strategic and master planning, often with a long-term view for port success. At present, the Port is addressing issues as they present themselves with the occasional aid of the municipality and outside consultants.
- h. **Business development:** At present, the Port does not appear to have a concerted business development effort underway. The Port should employ a methodical approach to business development. All potential Port customers should be included in a Customer Relations Management (CRM) System which can track contacts, customer information, and leads. The gathering prospective port customer data and making informed decisions based on that data is critical. Successful business development methodology is based on the following principles:
 - 1) Best utilization of current assets;
 - 2) Viable opportunities based on good data;
 - 3) Realistic and comprehensive planning;
 - 4) Reasonable and consistent investment;
 - 5) Incorporation of stakeholder relationships;
 - 6) Is customer satisfaction oriented;
 - 7) Is competitive and price sensitive in the Origin and Destination pathway;

- 8) Utilizes targeted marketing that is effectively tracked; and
 - 9) Incorporates a LONG-TERM strategy.
-
- i. **Urbanization projects:** The strategic growth and business development effort should include a focus on major projects such as those similar to the projects funded by the Alaska Industrial Development and Export Authority (AIDEA) in other regions and port areas. The Port must recognize not only the development of what it controls, but also what the Port influences outside of its borders. Proper zoning and planning should include the protection from gentrification of industrial and commercial properties essential to the Port's function.
 - j. **Sustainable practices.** The maritime sector is going through a major effort in becoming more sustainable (economic, social, and environmental), with the introduction of new environmentally sustainable practices. This represents a twofold opportunity: i) to reorient port services and facilities to be more 'eco-friendly' and pursue the corresponding certification (some cargo owners are required to give a preference to do business with ports and terminals that have a clear environmental policy); and, ii) to attract companies/beneficial cargo owners that are looking to serve the lower carbon footprint markets (for example, LNG).
 - k. **Financial Investment:** The Borough will need to plan on initial financial investment in its annual budgeting and capital improvement process. With minimal expenditures, you get minimal results. Planned management along with planned and phased investment is essential to the Port's development and growth. Meeting the Port's goals require a mix of local investment, consistent and diverse revenue streams, diversified business mix, public grants and consistent and phased approaches to meeting financial objectives. Many ports that began as loss leaders have been able to turn their financial conditions around after several years of effective management.
 - l. **Strategic Action Plan:** The Assembly and the Port's management must have a Strategic Action Plan to guide its planning and priorities moving forward. The included Strategic Action Plan can be used not only as a roadmap but also a management tool in setting objectives and measuring progress. Methodical approaches to management and strategic objectives are the most effective way to successfully reach the goals set by the Borough as well as the Port's managers.

7. PORT DEVELOPMENT SCENARIOS

The data presented in this report and the analysis of data provided by Port MacKenzie officials and IAMPE research indicates the projection of four potential scenarios to be considered in the future business development process that will provide the basis for the Strategic Action Plan. The scenarios are presented in the degree of complexity of investments required.

In any scenario, it is imperative that the target markets/customers are properly identified so that the port service features must be redesigned to match the market needs. In the case of Port MacKenzie, that means investing in focused marketing intelligence to be able to tackle a more diversified customer base and fully exploring its condition as a subregional hub port. This also provides the basis for qualified investment in infrastructure.

Potential Scenario #1:

Basic assumption: no changes in the **existing infrastructure** (dock, pier, terminal building, yard) and no changes in the access (water, rail, road, bridge)

Focus market: business-to-business markets (mining, oil & gas, housing, etc.)

Basic approach: change the marketing approach from a “product-centric” to a “customer-centric” approach, with the corresponding implementation of a CRM (Customer Relationship Management) system to improve docks utilization and performance (higher productivity).

Immediate consequence: reorientation of the port services from “export of natural resources” to “inbound general cargo” breakbulk and resupply of project cargo, including possibly military and other similar operations. A more aggressive Sales and Marketing strategy will have to be implemented to reach out to potential customers that are not necessarily at “arm’s length.”

Potential Scenario #2:

Basic assumption: no changes in the **existing infrastructure** (dock, pier, terminal building, yard), but with improved accessibility (pipeline corridors and rail connection).

Focus market: dry and liquid bulk, consumer goods, and industrial goods

Basic approach: In this scenario, in addition to the business-to-business cargo types, Port MacKenzie should be able to attract the segment of consumer and industrial goods by offering competitive port rates by reaching out to the existing warehousing and distribution managers or by partnering with major retailers to lease space for a new warehousing and distribution development within the port district. Distribution for products through the Anchorage greater metropolitan area is strong to all parts of Alaska. Product moves by both rail and truck where accessible. Rail access into Port MacKenzie would connect the Port to the Alaska Railroad system and new distribution centers could be developed on the Port’s property for transshipment throughout the State. In addition, the Port is well suited for the handling of liquid bulk, liquefied gas and dry bulk commodities if pipelines, tank storage dry bulk sheds, and a rail connection are developed.

Immediate consequence: overcoming the accessibility issues is imperative in this scenario. Funding, financing, and political articulation will be required on an intense basis so that the infrastructure can enable the reorientation of the port services to be geared towards containers and trucking, as the primary mode of transport of consumer goods.

Potential Scenario #3:

Basic assumption: major changes in the **existing infrastructure** to add new docks, terminals, and piers (LNG, liquid bulk, passenger) with improved accessibility (rail connection and/or bridge to Anchorage side).

Focus market: multiple, multi-purpose general services

Basic approach: In this scenario, Port MacKenzie will be more directly competing with existing businesses at Anchorage, which would require a more detailed analysis of freight demand to properly dimension the investments and mitigate risks of overcapacity.

Immediate consequence: massive reorientation of the port services and resources (including financial, legal, sales) would have to be restructured towards a multipurpose port operating multiple cargo types (and possibly passengers).

Potential Scenario #4:

Basic assumption: The MSB leases out the port to a third-party operator.

Focus market: Freight activity would be driven by the operator

Basic approach: In this scenario, Port MacKenzie would execute an agreement with a third-party operator, likely a ground lease for the port. The operator would then use the port facility for its own operations and pay Port MacKenzie according to the terms of its agreement.

Immediate consequence: No infrastructure changes necessary, though a carefully considered agreement would be necessary. In order to ensure public benefit, the lease or agreement would need to ensure return to Port MacKenzie and ensure that the port facilities are properly maintained. A ground lease, with small wharfage and dockage charges and a minimum annual freight guarantee would be a sensible approach. However, it would likely be difficult to find an operator/lessee who would be interested in the financial commitment without any guarantee of return. A Request For Expressions of Interest (RFEI) could be employed to gauge market interest in this scenario.

8. RECOMMENDATIONS

- a. Governance: The governance of the Port should be modified to allow the Port to undertake the range of development requirements needed without being encumbered by considerations unrelated to the port.

Recommendation: The original Port Commission model be reinstated, whereby Port Staff reports to a Port Commission, which in turn reports to the Borough Assembly. The Port Commission would be empowered as a decision-making body to provide oversight and focused management to port staff, allowing port staff to focus on the growth of the port, and insulating the port from political fluctuations. This Port Commission model would enjoy the benefit of being part of the municipality, can function with more flexibility in the quasi-public/commercial environment, and yet remains under the full control of the Assembly. Port Commission models are the most common in these circumstances. Likewise, we recommend that the Assembly evaluate how Port Commissioners are selected, institute terms for commissioners, and expand the range of responsibilities the Commission would be allowed to undertake. Other governance structures, such as the potential for a multi-jurisdictional Port Authority with Anchorage or outsourcing Port operations to a third party, could be considered as prospective long-term alternatives, but do not appear to hold any short-term promise. A brief overview of port governance structures and their benefits and drawbacks is attached as Appendix VI of this document.

- b. Staffing: The Assembly should expand the staff in a graduated fashion to accommodate the critical management responsibilities of the Port. Each position should have a job description.

Recommendation: The Assembly should have the Port Director report to a newly empowered Port Commission and establish the positions of Business Development Manager, Property and Operations Manager and initial administrative and maintenance support staff under the supervision of the Port Director. Salary and benefits should be determined consistent with current municipal position levels and included in the 2023 Fiscal Year Budget.

- c. Equipment/Infrastructure: Rail access is critical to the future success of the port: all efforts must be made to bring rail connection into the port. A repair and maintenance plan should be undertaken regarding the conveyor to put it back into safe and operational condition or a planned disposal of the equipment undertaken. The acquiring of crane equipment or material handler should be investigated, as well as the expansion and improvement of the deep-water dock.

Recommendation: Commence a phased repair plan in the upcoming fiscal year for the conveyor or undertake a disposal plan which would involve a request for proposal to remove the unit for operations at another location or selling the unit for scrap through a metals dealer. Commence the investigation of grant sources from the federal government including application requirements. This would be undertaken by a new Property and Operations Manager. Pursue grant funding opportunities to complete rail connection into the Port. The Port should also undertake an application for a designated Marine Highway Project from the US Maritime Administration. (A partial guide to federal grants is included in the Appendix and a full copy of the Committee for the Marine Transportation System Grant Guide will be provided with this report under separate cover).

- d. Industrial Park Development: In order to execute nimbly on opportunities for industrial park development inside the Port Commercial District, the Port Commission, once empowered as a decision-making body, should develop and execute a leasing policy specific to the Port.

Recommendation: Conceptual plot plans were developed by Millcreek Engineers for the MSB as part of the most recent Port Master Plan and provide a conceptual framework for an industrial park with leasable parcels within the Port Commercial District in order to attract industrial park tenants and execute competitive leases on timelines conducive to working with businesses. The MSB's leasing policy as written may introduce some roadblocks to industrial development at the Port, so a distinct policy executed by the Port Commission would be preferable. Critical to industrial development is a low cost of energy. The attraction of industrial users that may also handle specific cargoes may provide a potential solution. Natural gas, biomass, wind farms and solar energy installations can reduce the cost of electricity for industrial and municipal users. The large amount of undeveloped property available within the municipal borders would lend itself toward these types of installation. In addition, if rail infrastructure was completed, the movement of biomass through the Port as well as availability for Port industrial activities could reduce energy costs overall.

- e. Business Development Plan: A methodical Business Development Plan is essential to the growth of the Port as well as its financial stability. The Plan should include all of the considerations included in the marketing section including the development of a Customer Relations Management System. It should also be noted that business development goes far beyond marketing which is only a single tool in the business development process.

Recommendation: Develop a Customer Management Database and undertake the development of an information-based Business Development Plan which is integrated into the Strategic Action Plan. This would be undertaken by the Port Director and Business Development Manager. Primary objectives would be to develop customer databases, maintain customer contact, develop business proposals, develop business targets, market the services of the port, promote the image of the port, handle customer relationships and coordinate public relations. A concerted business development effort should commence with a focus on potential customers such as petroleum companies, liquefied gas handlers, and retail/consumer shippers.

- f. Strategic and Master Plan: Strategic Planning is goal based with an associated timeline. Master Planning deals with the development of the port's infrastructure. Both are essential in the growth and development of the port, utilizing and sustaining financial resources and tracking the effectiveness of the management process. Strategic Planning is a dynamic tool used on the regular management of the Port. It creates a vision, quantifies the vision with data and provides a pathway for the port's development. The Strategic Plan is a roadmap to meet planning and development requirements. It is also an investment plan for ports and facilities, provides a means of getting stakeholders involved, gets port staff and the public on the same page, is a measure of success or failure, creates a long-term vision with short steps, looks at goals holistically, provides a high-level view of objectives and sets the path for the organization. Master Planning builds the vision into a tangible asset, serves as a project plan for ports and facilities, uses infrastructure to develop efficiencies, identifies major capital equipment needs, creates long term improvement

parameters, establishes a phased approach to full build-out, provides for adaptability to address changes and lays the foundation and anticipates expansion.

Recommendation: Implement the recommended time-based Strategic Action Plan after Assembly review and approval. Utilize the plan as a management tool on a regular basis to track progress and to stay focused on a methodical approach to achieving the specific goals of the plan. Adjust as necessary and utilize updated data to quantify aspects of the plan. When appropriate, institute the Master Plan update. The Port needs to have its own policies, procedures, and research to address ongoing challenges. Infrastructure, business arrangements, and investment must be conducted in the context of a long-term plan, rather than be reactions to perceived business opportunities. As part of the governance and business development efforts, the Port needs to develop ongoing plans to address financial; physical resources; human resource policies; legal and regulatory aspects, marketing, leasing and development policies. There will be a need in the future to address changes in consumer habits that influence trade and cargo flow, and more recently Covid-19 impacts. This will require an ongoing tracking and research effort on the part of the Port.

9. STRATEGIC ACTION PLAN

Six Months (beginning November 1, 2021)

- a) Review and have the Assembly approve this Strategic Action Plan, making it a policy document of the Port.
- b) Establish a municipal budget reflective of expanded staff and resources.
- c) Finalize and approve the proposed Port Tariff and Terminal Rules and Regulations
- d) Develop a phased repair and maintenance plan or arrange for disposal of the terminal conveyor system.
- e) Develop job descriptions for and commence the hiring process for the Business Development Manager, Property and Operations Manager and support staff.
- f) Develop a Port MacKenzie employee policy manual for Assembly approval.
- g) Manage vessel operations as opportunities become available.

12 Months

- a) Revise the Port's Safety and Security Plan.
- b) Create a Business Development plan and Customer Database and commence business development efforts.
- c) Establish contact with eligible retail shippers and ocean carriers (including steamship lines and barge lines).
- d) Update the Port Master Plan.
- e) Expand the Port's efforts to have the proposed rail line completed.
- f) Develop an Industrial Park Development Plan including leasehold grids, leasing policies, and rate structures.
- g) Identify appropriate federal grant opportunities and undertake appropriate applications with the aid of a grant writer.
- h) Identify suitable port partners and formulate a Marine Highway Project concept.
- i) Complete the initial phases of the conveyor repair plan.
- j) Identify potential crane equipment for use at the Port and suitable grants to obtain such equipment.
- k) Commence discussions with the Port of Alaska to determine how Port MacKenzie may support Port of Alaska during their infrastructure rebuild project including accommodation of ships and construction staging.
- l) Working with the liquid bulk tenant, develop initial plans to install a pipeline on the existing deep-water dock.
- m) Review the Port Tariff rate structure and revise as appropriate.
- n) Commence discussions with potential business partners.
- o) Develop an updated Port website and expand into an active social media presence.
- p) Manage vessel operations as opportunities become available.

18 Months

- a) Commence the process for purchasing a Port Ship to Shore (STS) Crane with appropriate spreaders and attachments (approximately \$4-\$6 million).
- b) Continue the conveyor repair and maintenance effort.
- c) Commence the preliminary planning for the potential expansion of the deep-water dock.

- d) Commence Industrial Park Development including installation of access and utility corridors.
- e) Review and revise the Business Development Plan.
- f) Commence an updated market assessment to develop new business partners.
- g) Manage vessel operations as opportunities become available.

24 Months

- a) Develop a 25-Year Vision for the Port
- b) Review and revise the Port's Tariff Rates Structure.
- c) Purchase and install a Ship to Shore Crane.
- d) Review and revise the Strategic Action Plan.
- e) Apply for Marine Highway Project designation.
- f) Complete the conveyor repair and implement an ongoing maintenance plan.
- g) Manage vessel operations as opportunities become available.
- h) Review Port staffing requirements and expand staffing as appropriate.
- i) Institute the design and costs for the deep-water dock if deemed viable.
- j) Seek funding source for the deep-water dock expansion if viable.
- k) Issue RFP for the construction of the expanded deep-water dock if deemed viable and funding determined.

36 Months

- a) Review the Port's Tariff rate structure and revise as appropriate.
- b) Review and revise the Strategic Action Plan.
- c) Review and revise the Port Vision.
- d) Commence and complete construction of the expanded deep-water dock if viable.

48-60 Months

- a) Review and revise the Port's Tariff Rates Structure annually.
- b) Review and revise the Strategic Action Plan annually.
- c) Expand business development efforts.
- d) Investigate the addition of dock cranes at the deep-water berth.
- e) Explore the potential for a joint Port Authority with the City of Anchorage or the potential for outsourcing operation of the Port to a commercial entity.

APPENDIX I - PARTIAL LIST OF FEDERAL GRANTS UTILIZED FOR PORT INFRASTRUCTURE

Grant #	Info
6. Economic Development Assistance Programs	<p>Keywords: Economic Development, Job Creation, Rural</p> <p>Assistance Type: Grant/Cooperative Agreement</p> <p>Agency: Department of Commerce, Economic Development Administration</p> <p>Purpose: To support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in urban and rural distressed communities. EDA solicits applications from applicants in rural and urban areas to provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects under EDA’s Public Works and Economic Adjustment Assistance programs. Grants made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities. EDA provides strategic investments on a competitive- merit-basis to support economic development, foster job creation, and attract private investment in economically distressed areas of the United States.</p> <p>Award Ceiling: N/A</p> <p>Authorization: EDA's Public Works and Economic Adjustment Assistance Programs 13</p> <p>Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=290874</p> <p>Contact Information: State-Specific Economic Development Representatives. See EDA's website at http://eda.gov/Contact Information.htm or email: http://www.eda.gov/Contact Information/.</p>
9. General Small Business Loans (7A)	<p>Keywords: Economy, Business</p> <p>Assistance Type: Loan</p> <p>Agency: Department of Commerce, Small Business Administration</p> <p>Purpose: To help start-up and existing small businesses with financing guaranteed for a variety of general business purposes. See the website for more information on the different types of SBA Small Business Loans (7A).</p> <p>Award Ceiling: 7(a) loans have a maximum loan amount of \$5 million. SBA does not set a minimum loan amount. The average 7(a) loan amount in fiscal year 2015 was \$371,628.</p> <p>Authorization: Small Business Act</p> <p>Website: https://www.sba.gov/7a-loan-program</p> <p>Contact Information: disastercustomerservice@sba.gov</p>
13. Planning Program & Local Technical Assistance Program	<p>Keywords: Economic Development, Resilience</p> <p>Assistance Type: Grant</p> <p>Agency: Department of Commerce, Economic Development Administration 15</p> <p>Purpose: To provide investments supporting planning and technical assistance projects under EDA’s Planning and Local Technical Assistance programs. Under the Planning program EDA assists eligible recipients in creating regional economic development plans designed to build capacity and guide the economic prosperity and resiliency of an area or region.</p> <p>Award Ceiling: N/A</p> <p>Authorization: Sections 203 (42 U.S.C. § 3143) and 207 (42 U.S.C. § 3147) of PWEDA</p> <p>Website: http://www.eda.gov/funding-opportunities/ https://www.grants.gov/web/grants/view-opportunity.html?oppId=280447</p> <p>Contact Information: https://www.eda.gov/contact/</p>

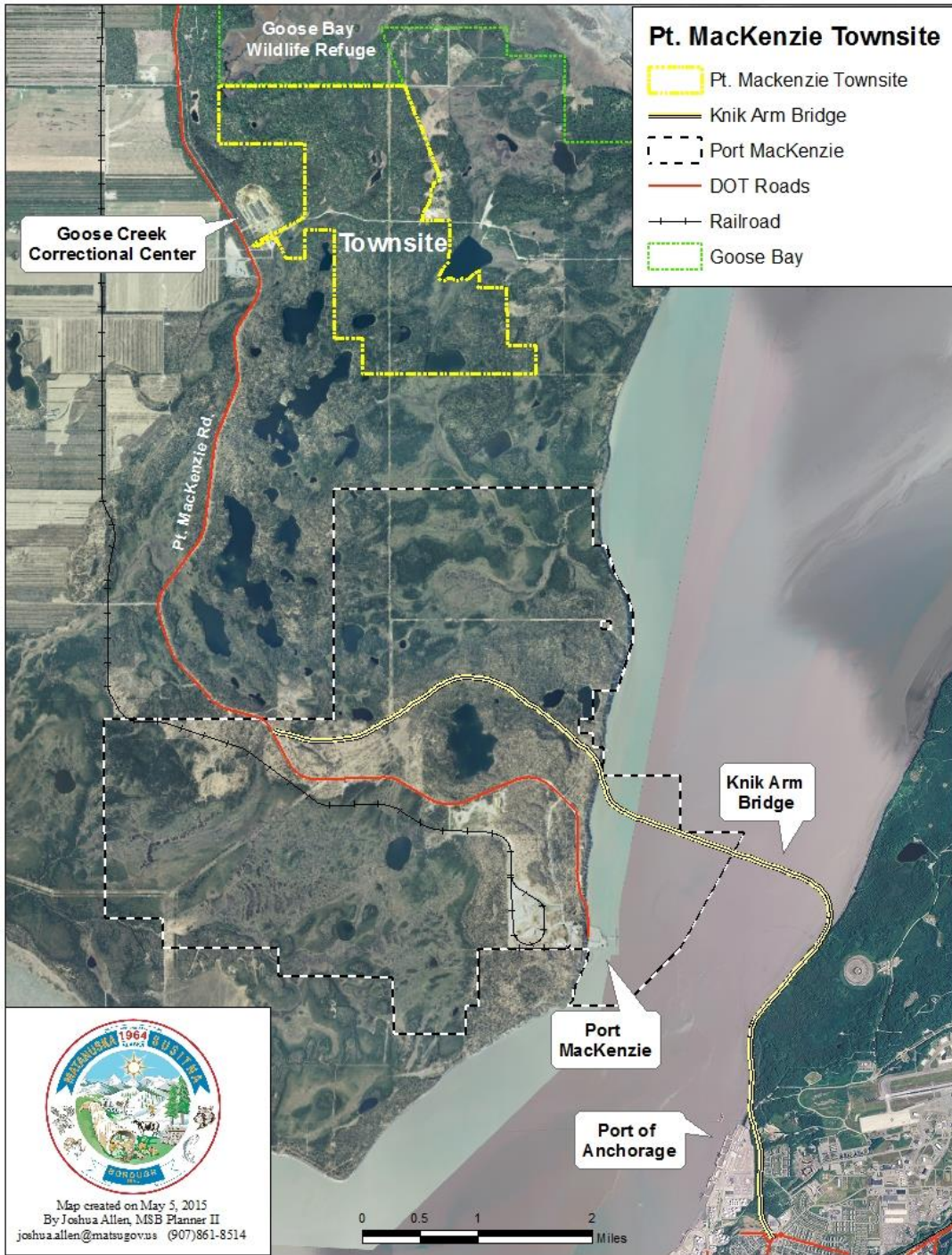
Grant #	Info
15. Real Estate & Equipment Loans (CDC/504)	<p>Keywords: Business, Economy, Real Estate, Loans Assistance Type: Loan Agency: Department of Commerce, Small Business Administration Purpose: To provide financing for major fixed assets such as equipment or real estate. Award Ceiling: Maximum loan amounts are determined by whether funds will be used to support job creation, public policy and/or small manufacturing. For more information, visit the program page. Website: https://www.sba.gov/Keywords/navigation-structure/loans-grants/small-business-loans/sba-loan-programs/real-estate-and-eq Contact Information: To connect with SBA approved lenders, visit the program page.</p>
43. Coastal Impact Assistance Program	<p>Keywords: Environment, Coast, Wetlands, Marine, Conservation, Infrastructure Assistance Type: Formula Grant Agency: Department of the Interior, Fish & Wildlife Service Purpose: To conserve, restore or protect coastal areas including wetlands; mitigation of damage to fish, wildlife, or natural resources; planning assistance and the administrative costs of complying with these objectives; implementation of a federally-approved marine, coastal, or comprehensive conservation management plan; and mitigation of the impact of outer Continental Shelf activities through funding of onshore infrastructure projects and public service needs. Award Ceiling: N/A Authorization: Outer Continental Shelf (OCS) Lands Act, as amended; 31 U.S.C. 6301-6305 Website: https://www.cfda.gov/index?s=program&mode=form&tab=core&id=89f617f13fd878451c0c080281d1dd7f Contact Information: Program office can be contacted by emailing: r9wsfr_programs@fws.gov.</p>
52. Civil Infrastructure Systems	<p>Keywords: Infrastructure, Resilience Assistance Type: Discretionary Grant Agency: National Science Foundation Purpose: To support fundamental and innovative research necessary for designing, constructing, managing, maintaining, operating and protecting efficient, resilient and sustainable civil infrastructure systems. Award Ceiling: N/A Authorization: N/A Website: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13352 Contact Information: Cynthia Chen, qchen@nsf.gov, 703-292-2563</p>
59. Grant Anticipation Revenue Vehicles (GARVEES)	<p>Keywords: Transportation, Roads, Rail Assistance Type: Bonds Repaid, all or in part, by future Federal-aid funds Agency: Department of Transportation, Federal Highway Administration Purpose: To allow states to loan their Federal-aid formula funds to public or private borrowers to build an eligible surface transportation facility. States have the flexibility to negotiate interest rates, repayment schedules, and other loan terms, except that repayments must begin within five years after project completion and be repaid within 30 years after Federal funds were authorized. Amounts repaid to a State can be spent on further eligible projects without further Federal requirements. Award Ceiling: N/A Authorization: National Highway System Designation Act of 1995, Section 123 of Title 23 Website: http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/garvees/index.htm Contact Information: Mark Sullivan, FHWA Center</p>

Grant #	Info
60. Infrastructure for Rebuilding America (INFRA) Grants	<p>Keywords: Ports, Transportation, Infrastructure, Maritime, Roads, Rail</p> <p>Assistance Type: Discretionary Grant</p> <p>Agency: Department of Transportation, Office of the Secretary of Transportation</p> <p>Purpose: INFRA advances a pre-existing grant program established in the FAST Act of 2015 and utilizes updated criteria to evaluate projects to align them with national and regional economic vitality goals and to leverage additional non-federal funding. This program was previously known as TIGER (Transportation Investment Generating Economic Recovery) Discretionary Grants.</p> <p>Award Ceiling: Approximately, \$710 million of FY 2017 funds are available for INFRA awards. The Department anticipates that approximately \$810-855 million of FY 2018 funds will be available for awards, but that total is uncertain because the Department is issuing this notice before appropriations legislation has been enacted for FY 2018.</p> <p>Authorization: Fixing America’s Surface Transportation (FAST) Act, 2015</p> <p>Website: https://www.transportation.gov/buildamerica/infragrants https://www.transportation.gov/buildamerica/infra/infra-notice-funding-opportunity</p> <p>Contact Information: For information about highway projects, Contact Information Crystal Jones, crystal.jones@dot.gov, 202-366-2976. For information about maritime projects, Contact Information Robert Bouchard, Robert.bouchard@dot.gov, 202-366-2976. For information about rail projects, Contact Information Stephanie Lawrence, Stephanie.lawrence@dot.gov, 202-493-1396. For all other questions, Contact Information Howard Hill, howard.hill@dot.gov, 202-366-0301.</p>
62. Marine Highway Grants	<p>Keywords: Ports, Infrastructure, Maritime, Development</p> <p>Assistance Type: Cooperative Agreements/Project Grants</p> <p>Agency: Department of Transportation, Maritime Administration</p> <p>Purpose: Assistance will be used to expand the use of water transportation through designated Marine Highway Projects to create new or expand existing services along designated Marine Highway Routes. Components of projects that are eligible for grant funding include the following: port and terminal infrastructure, cargo, efficiency or capacity improvements, investments that improve environmental sustainability, new or used vessel purchase, lease or modification, Marine Highway demonstration projects of a limited duration, and planning, preparation and design efforts in support of Marine Highway Projects. Only sponsors of designated Marine Highway Projects are eligible to apply for Marine Highway Grants.</p> <p>Award Ceiling: N/A</p> <p>Authorization: The Consolidated Appropriations Act of 2017, Pub. L. 115–31. This authorization appropriated \$5,000,000 to the Short Sea Transportation Program, commonly referred to as “America’s Marine Highway Program” (AMHP).</p> <p>Website: https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=de139bdf330cdf8166d8eedfc0437c3f</p> <p>Contact Information: Fred Jones, Fred.Jones@dot.gov, 202-366-1123</p>
64. National Highway Performance Program	<p>Keywords: Transportation, Roads, Highway</p> <p>Assistance Type: Formula Grant</p> <p>Agency: Department of Transportation, Federal Highway Administration 32</p> <p>Purpose: (1) to provide support for the condition and performance of the National Highway System (NHS); (2) to provide support for the construction of new facilities on the NHS; and (3) to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.</p> <p>Award Ceiling: N/A</p> <p>Authorization: Fixing America’s Surface Transportation (FAST) Act, 2015</p> <p>Website: https://www.fhwa.dot.gov/specialfunding/nhpp/160309.cfm</p> <p>Contact Information:</p>

Grant #	Info
67. Private Activity Bonds (PABs)	<p>Keywords: Transportation, Infrastructure, Roads, Rails, Port Development Assistance Type: Tax Exempt Bond Issuance Agency: Department of Transportation, Federal Highway & Transit Administrations Purpose: To provide maximum flexibility in the Secretary's award of the \$15 billion bonding authority and increase public-private partnerships or essentially private involvement in infrastructure development. Award Ceiling: N/A Authorization: Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), 2005 33 Website: http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/private_activity_bonds/ Contact Information: Mr. Paul Baumer, paul.baumer@dot.gov, 202-366-1092</p>
68. Railroad Rehabilitation & Improvement Finance (RRIF)	<p>Keywords: Transportation, Rail Assistance Type: Direct Loans/Loan Guarantees Agency: Department of Transportation, Federal Railroad Administration Purpose: To provide financing for the development of railroad infrastructure. Under this program the FRA Administrator is authorized to provide direct loans and loan guarantees up to \$35 billion to finance development of railroad infrastructure. Not less than \$7 billion is reserved for projects benefiting freight railroads other than Class I carriers. The funding may be used to:</p> <ul style="list-style-type: none"> • Acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops; • Refinance outstanding debt incurred for the purposes listed above; and • Develop or establish new intermodal or railroad facilities • Direct loans can fund up to 100 percent of a railroad project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the government. <p>Award Ceiling: N/A Authorization: Title V of the Railroad Revitalization and Regulatory Reform Act of 1976, as amended (45 U.S.C. § 821 et seq.) Website: https://www.transportation.gov/buildamerica/programs-services/rrif Contact Information: BuildAmerica@dot.gov, 202-366-2300</p>
71. State Infrastructure Banks (SIBs)	<p>Keywords: Transportation, Public-Private-Partnerships, Roads, Rail Assistance Type: Loan Leverage Tool Agency: Department of Transportation, Federal Highway Administration Purpose: State Infrastructure Banks are revolving infrastructure investment funds for surface transportation that are established and administered by states. A SIB, much like a private bank, can offer a range of loans and credit assistance enhancement products to public and private sponsors of title 23 highway construction projects, Title 49 transit capital projects, and Title 49 (subtitle V) railroad projects. The requirements of titles 23 and 49 apply to SIB repayments from Federal and non-Federal sources. All repayments are considered to be Federal funds. Award Ceiling: N/A Authorization: Title 23 of the U.S. Code Website: https://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_credit_assistance/sibs/ Contact Information: Frederick Werner, Frederick.werner@dot.gov, 404-562-3680</p>

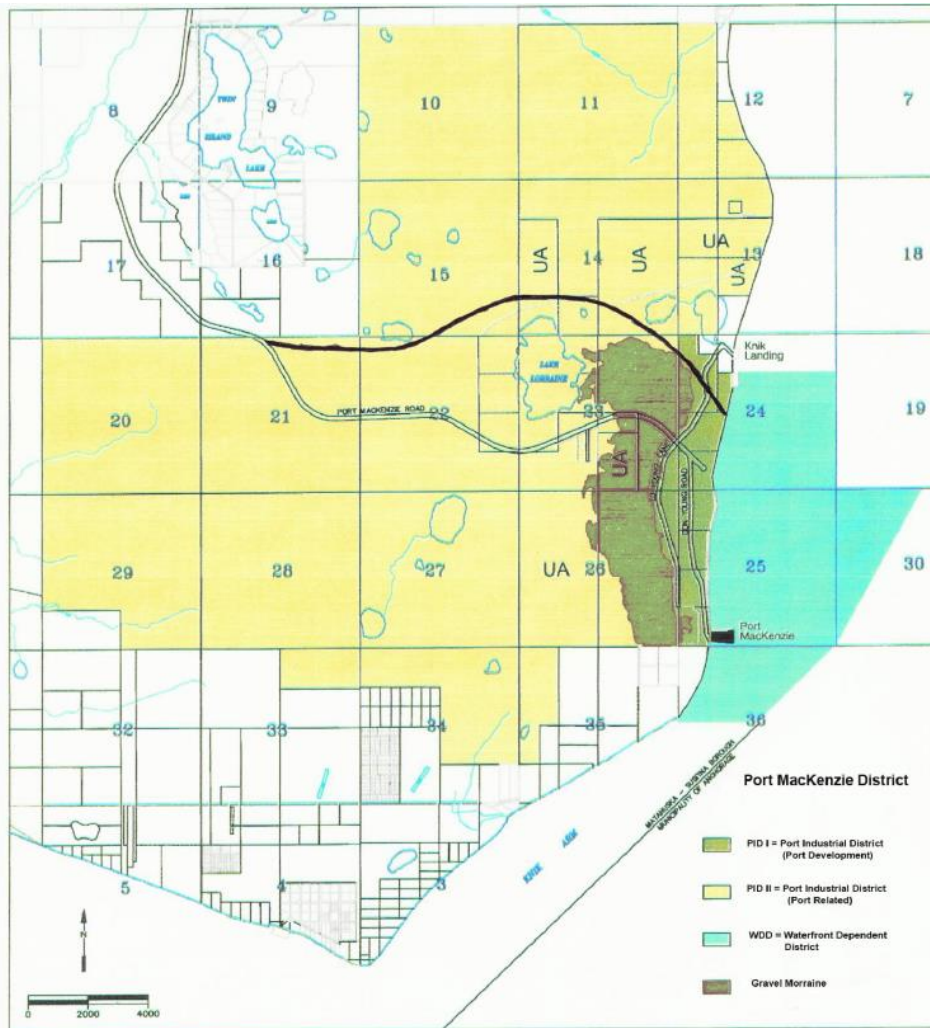
Grant #	Info
72. Structural and Architectural Engineering and Materials (SAEM)	<p>Keywords: Infrastructure, Environment, Resilience, Research Assistance Type: Discretionary Grant Agency: National Science Foundation Purpose: The goal of PD 15-1637, the Structural and Architectural Engineering and Materials (SAEM) program is to enable sustainable buildings and other structures that can be continuously occupied and/or operated during the structure’s useful life. The SAEM program supports fundamental research for advancing knowledge and innovation in structural and architectural engineering and materials that promotes a holistic approach to analysis and design, construction, operation, maintenance, retrofit, and repair of structures. Award Ceiling: N/A Authorization: N/A Website: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13358 Contact Information: Yick G. Hsuan, yhsuan@nsf.gov, 703-292-8360</p>
74. Transportation Alternatives Set-Aside	<p>Keywords: Transportation, Bicycles, Pedestrian, Roads, Rail, Ports 35 Assistance Type: Formula Grant Agency: Department of Transportation, Federal Highway Administration Purpose: To provide funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities such as historic preservation and vegetation management, and environmental mitigation; recreational trails program projects; safe routes to school projects; and projects for the planning, design, or construction of boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways. Award Ceiling: N/A Authorization: Fixing America’s Surface Transportation (FAST) Act, 2015 Website: https://www.fhwa.dot.gov/environment/transportation_alternatives/ Contact Information: Christopher Douwes, FHWA, Community Planner, Christopher.Douwes@dot.gov, 202-366-5013</p>

APPENDIX II – POINT MACKENZIE PROJECT AREAS



Source: <https://www.matsugov.us/economy/pointMacKenzietawnsite#maps>

APPENDIX III - PORT MACKENZIE DISTRICT AREA



Source: Port MacKenzie standard presentation (2020)

APPENDIX IV – PORT MACKENZIE MARKETING AND MEDIA LINKS

Sep 2009 – Anchorage Daily News Article

<https://www.adn.com/economy/article/ship-brings-tons-cement-valley-along-roughly-35000/2009/09/30/>

May 2010 - Rail Extension

https://www.youtube.com/watch?v=woam_gpaUgl

Sep 2010 – Super Sacks of Cement

https://www.youtube.com/watch?v=aJQ_JDGuwMU

Dec 2010 - Rail Extension

Part I - Uncertain Alaska economy gets boost from Port Mac

<https://www.youtube.com/watch?v=XIHpV51mZKU>

Part II - Only Alaska port with 100-rail car loop

<https://www.youtube.com/watch?v=lvx5EnGNlG>

July 2012 – Heavy Lift

<https://www.youtube.com/watch?v=-6syjpwPzmc>

Sep 2013 - Rail Ext Groundbreaking

<https://www.youtube.com/watch?v=EKfWpUNIOmg>

July 2014 – Concrete Coated Pipe

<https://www.youtube.com/watch?v=uAYsxD1j-A>

Dec 2016 - Scrap Metal

<https://www.youtube.com/watch?v=EA5gkMWULYA>

Feb 2021 - Frontiersman Article

https://www.frontiersman.com/news/assembly-updated-on-port-MacKenzie/article_5b1281ae-6844-11eb-baf6-b34dab82f793.html

APPENDIX V – COMMODITY FLOWS 2016 TO 2019

Year	OrigCode	Origin	DestCode	Destination	CommCode	CommodityGroup	ShortTons	share
2016	AK	Alaska	AK	Alaska	2100	Crude Petroleum	2,718,079	23.6%
2016	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	1,506,077	13.1%
2016	AK	Alaska	AK	Alaska	2229	Petroleum Products	1,286,794	11.2%
2016	WA	Washington	AK	Alaska	7000	Manufactured Goods	1,232,768	10.7%
2016	FO	Foreign	AK	Alaska	2229	Petroleum Products	1,145,994	9.9%
2016	WA	Washington	AK	Alaska	2229	Petroleum Products	664,802	5.8%
2016	WA	Washington	AK	Alaska	6168	Food and Food Products	409,631	3.6%
2016	FO	Foreign	AK	Alaska	2100	Crude Petroleum	363,105	3.2%
2016	AK	Alaska	AK	Alaska	6168	Food and Food Products	281,218	2.4%
2016	AK	Alaska	AK	Alaska	7000	Manufactured Goods	269,255	2.3%
2016	CN	Canada	AK	Alaska	2229	Petroleum Products	263,939	2.3%
2016	WA	Washington	AK	Alaska	5354	Primary Metal Products	210,945	1.8%
2016	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	208,523	1.8%
2016	WA	Washington	AK	Alaska	5155	Primary Non-Metal Products	173,203	1.5%
2016	WA	Washington	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	164,113	1.4%
2016	FO	Foreign	AK	Alaska	5155	Primary Non-Metal Products	124,118	1.1%
2016	WA	Washington	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	87,945	0.8%
2016	CA	California	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	61,652	0.5%
2016	AK	Alaska	AK	Alaska	5354	Primary Metal Products	55,509	0.5%
2016	GU	Guam	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	41,009	0.4%
2016	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	35,627	0.3%
2016	WA	Washington	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	27,579	0.2%
2016	AK	Alaska	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	27,332	0.2%
2016	WA	Washington	AK	Alaska	3200	Chemicals excluding Fertilizers	25,223	0.2%
2016	FO	Foreign	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	22,165	0.2%
2016	FO	Foreign	AK	Alaska	7000	Manufactured Goods	21,503	0.2%
2016	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	18,119	0.2%
2016	CN	Canada	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	14,853	0.1%
2016	FO	Foreign	AK	Alaska	3200	Chemicals excluding Fertilizers	13,398	0.1%
2016	CN	Canada	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	12,220	0.1%
2016	FO	Foreign	AK	Alaska	6168	Food and Food Products	9,658	0.1%
2016	OT	Other	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	9,224	0.1%
2016	CN	Canada	AK	Alaska	5155	Primary Non-Metal Products	3,052	0.0%
2016	FO	Foreign	AK	Alaska	5354	Primary Metal Products	2,919	0.0%
2016	CN	Canada	AK	Alaska	3200	Chemicals excluding Fertilizers	2,782	0.0%
2016	CN	Canada	AK	Alaska	7000	Manufactured Goods	1,508	0.0%
2016	CN	Canada	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	1,073	0.0%
2016	CN	Canada	AK	Alaska	3100	Chemical Fertilizers	629	0.0%
2016	FO	Foreign	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	494	0.0%
2016	FO	Foreign	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	367	0.0%
2016	CN	Canada	AK	Alaska	6168	Food and Food Products	130	0.0%
2016	CN	Canada	AK	Alaska	5354	Primary Metal Products	31	0.0%
2016	FO	Foreign	AK	Alaska	4400	Iron Ore, Iron, and Steel Waste and Scrap	3	0.0%
						total	11,518,568	100.0%

Year	OrigCo	Origin	DestCo	Destina	CommC	CommodityGroup	ShortTons	share
2016	AK	Alaska	WA	Washington	2100	Crude Petroleum	12,025,961	32.9%
2016	AK	Alaska	CA	California	2100	Crude Petroleum	11,121,878	30.5%
2016	AK	Alaska	AK	Alaska	2100	Crude Petroleum	2,718,079	7.4%
2016	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	1,506,077	4.1%
2016	AK	Alaska	HI	Hawaii	8099	Unknown and Not Elsewhere Classified Products	1,455,567	4.0%
2016	AK	Alaska	FO	Foreign	4600	Non-Ferrous Ores and Scrap	1,364,593	3.7%
2016	AK	Alaska	AK	Alaska	2229	Petroleum Products	1,286,794	3.5%
2016	AK	Alaska	FO	Foreign	6168	Food and Food Products	911,756	2.5%
2016	AK	Alaska	FO	Foreign	4142	Lumber, Logs, Wood Chips, and Pulp	574,704	1.6%
2016	AK	Alaska	FO	Foreign	2100	Crude Petroleum	494,458	1.4%
2016	AK	Alaska	WA	Washington	2229	Petroleum Products	461,957	1.3%
2016	AK	Alaska	FO	Foreign	2229	Petroleum Products	443,808	1.2%
2016	AK	Alaska	WA	Washington	6168	Food and Food Products	431,398	1.2%
2016	AK	Alaska	AK	Alaska	6168	Food and Food Products	281,218	0.8%
2016	AK	Alaska	AK	Alaska	7000	Manufactured Goods	269,255	0.7%
2016	AK	Alaska	WA	Washington	7000	Manufactured Goods	221,831	0.6%
2016	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	208,523	0.6%
2016	AK	Alaska	CA	California	8099	Unknown and Not Elsewhere Classified Products	124,434	0.3%
2016	AK	Alaska	WA	Washington	8099	Unknown and Not Elsewhere Classified Products	110,111	0.3%
2016	AK	Alaska	WA	Washington	4400	Iron Ore, Iron, and Steel Waste and Scrap	96,853	0.3%
2016	AK	Alaska	FO	Foreign	1000	Coal, Lignite, and Coal Coke	71,650	0.2%
2016	AK	Alaska	AK	Alaska	5354	Primary Metal Products	55,509	0.2%
2016	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	35,627	0.1%
2016	AK	Alaska	WA	Washington	4142	Lumber, Logs, Wood Chips, and Pulp	33,285	0.1%
2016	AK	Alaska	WA	Washington	3200	Chemicals excluding Fertilizers	28,215	0.1%
2016	AK	Alaska	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	27,332	0.1%
2016	AK	Alaska	CN	Canada	4142	Lumber, Logs, Wood Chips, and Pulp	24,963	0.1%
2016	AK	Alaska	OR	Oregon	8099	Unknown and Not Elsewhere Classified Products	22,513	0.1%
2016	AK	Alaska	FO	Foreign	8099	Unknown and Not Elsewhere Classified Products	20,874	0.1%
2016	AK	Alaska	FO	Foreign	7000	Manufactured Goods	20,294	0.1%
2016	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	18,119	0.0%
2016	AK	Alaska	WA	Washington	5155	Primary Non-Metal Products	13,685	0.0%
2016	AK	Alaska	WA	Washington	5354	Primary Metal Products	12,276	0.0%
2016	AK	Alaska	WA	Washington	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	6,442	0.0%
2016	AK	Alaska	GU	Guam	8099	Unknown and Not Elsewhere Classified Products	690	0.0%
2016	AK	Alaska	FO	Foreign	5354	Primary Metal Products	105	0.0%
2016	AK	Alaska	FO	Foreign	3200	Chemicals excluding Fertilizers	28	0.0%
							36,500,862	100.0%

Year	OrigCode	Origin	DestCode	Destination	CommCode	CommodityGroup	ShortTons	share
2017	AK	Alaska	AK	Alaska	2100	Crude Petroleum	3,049,971	26.3%
2017	WA	Washington	AK	Alaska	7000	Manufactured Goods	1,460,846	12.6%
2017	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	1,323,101	11.4%
2017	AK	Alaska	AK	Alaska	2229	Petroleum Products	1,156,992	10.0%
2017	FO	Foreign	AK	Alaska	2229	Petroleum Products	1,095,195	9.4%
2017	AK	Alaska	AK	Alaska	7000	Manufactured Goods	462,217	4.0%
2017	WA	Washington	AK	Alaska	2229	Petroleum Products	419,375	3.6%
2017	WA	Washington	AK	Alaska	6168	Food and Food Products	399,121	3.4%
2017	AK	Alaska	AK	Alaska	6168	Food and Food Products	375,670	3.2%
2017	CN	Canada	AK	Alaska	2229	Petroleum Products	303,214	2.6%
2017	WA	Washington	AK	Alaska	5354	Primary Metal Products	208,936	1.8%
2017	AK	Alaska	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	202,193	1.7%
2017	FO	Foreign	AK	Alaska	2100	Crude Petroleum	144,988	1.2%
2017	WA	Washington	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	126,125	1.1%
2017	WA	Washington	AK	Alaska	5155	Primary Non-Metal Products	108,582	0.9%
2017	FO	Foreign	AK	Alaska	5155	Primary Non-Metal Products	101,100	0.9%
2017	WA	Washington	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	98,952	0.9%
2017	CA	California	AK	Alaska	2229	Petroleum Products	76,595	0.7%
2017	CA	California	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	75,589	0.7%
2017	WA	Washington	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	74,668	0.6%
2017	AK	Alaska	AK	Alaska	5354	Primary Metal Products	51,774	0.4%
2017	FO	Foreign	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	37,903	0.3%
2017	FO	Foreign	AK	Alaska	7000	Manufactured Goods	35,138	0.3%
2017	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	33,010	0.3%
2017	GU	Guam	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	31,424	0.3%
2017	CN	Canada	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	30,508	0.3%
2017	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	25,007	0.2%
2017	WA	Washington	AK	Alaska	3200	Chemicals excluding Fertilizers	23,977	0.2%
2017	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	19,331	0.2%
2017	OT	Other	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	16,543	0.1%
2017	FO	Foreign	AK	Alaska	3200	Chemicals excluding Fertilizers	11,410	0.1%
2017	FO	Foreign	AK	Alaska	6168	Food and Food Products	7,105	0.1%
2017	CN	Canada	AK	Alaska	5155	Primary Non-Metal Products	4,962	0.0%
2017	FO	Foreign	AK	Alaska	5354	Primary Metal Products	4,961	0.0%
2017	CN	Canada	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	3,172	0.0%
2017	CN	Canada	AK	Alaska	3200	Chemicals excluding Fertilizers	3,052	0.0%
2017	CN	Canada	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	897	0.0%
2017	CN	Canada	AK	Alaska	3100	Chemical Fertilizers	839	0.0%
2017	CN	Canada	AK	Alaska	7000	Manufactured Goods	432	0.0%
2017	FO	Foreign	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	370	0.0%
2017	CN	Canada	AK	Alaska	6168	Food and Food Products	336	0.0%
2017	CN	Canada	AK	Alaska	5354	Primary Metal Products	27	0.0%
2017	FO	Foreign	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	4	0.0%
						total	11,605,612	100.0%

Year	OrigCo	Origin	DestCo	Destina	CommC	CommodityGroup	ShortTons	share
2017	AK	Alaska	CA	California	2100	Crude Petroleum	12,608,848	34.8%
2017	AK	Alaska	WA	Washington	2100	Crude Petroleum	11,256,832	31.0%
2017	AK	Alaska	AK	Alaska	2100	Crude Petroleum	3,049,971	8.4%
2017	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	1,323,101	3.6%
2017	AK	Alaska	FO	Foreign	4600	Non-Ferrous Ores and Scrap	1,218,649	3.4%
2017	AK	Alaska	AK	Alaska	2229	Petroleum Products	1,156,992	3.2%
2017	AK	Alaska	FO	Foreign	6168	Food and Food Products	927,695	2.6%
2017	AK	Alaska	HI	Hawaii	2100	Crude Petroleum	853,008	2.4%
2017	AK	Alaska	FO	Foreign	2229	Petroleum Products	568,621	1.6%
2017	AK	Alaska	FO	Foreign	4142	Lumber, Logs, Wood Chips, and Pulp	484,101	1.3%
2017	AK	Alaska	AK	Alaska	7000	Manufactured Goods	462,217	1.3%
2017	AK	Alaska	AK	Alaska	6168	Food and Food Products	375,670	1.0%
2017	AK	Alaska	WA	Washington	2229	Petroleum Products	366,700	1.0%
2017	AK	Alaska	WA	Washington	6168	Food and Food Products	335,495	0.9%
2017	AK	Alaska	WA	Washington	7000	Manufactured Goods	292,326	0.8%
2017	AK	Alaska	FO	Foreign	2100	Crude Petroleum	264,908	0.7%
2017	AK	Alaska	CA	California	8099	Unknown and Not Elsewhere Classified Products	221,413	0.6%
2017	AK	Alaska	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	202,193	0.6%
2017	AK	Alaska	WA	Washington	8099	Unknown and Not Elsewhere Classified Products	69,162	0.2%
2017	AK	Alaska	AK	Alaska	5354	Primary Metal Products	51,774	0.1%
2017	AK	Alaska	WA	Washington	4400	Iron Ore, Iron, and Steel Waste and Scrap	38,491	0.1%
2017	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	33,010	0.1%
2017	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	25,007	0.1%
2017	AK	Alaska	OR	Oregon	8099	Unknown and Not Elsewhere Classified Products	20,459	0.1%
2017	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	19,331	0.1%
2017	AK	Alaska	FO	Foreign	7000	Manufactured Goods	13,763	0.0%
2017	AK	Alaska	FO	Foreign	8099	Unknown and Not Elsewhere Classified Products	13,119	0.0%
2017	AK	Alaska	WA	Washington	4142	Lumber, Logs, Wood Chips, and Pulp	9,922	0.0%
2017	AK	Alaska	WA	Washington	5354	Primary Metal Products	8,262	0.0%
2017	AK	Alaska	FO	Foreign	5354	Primary Metal Products	581	0.0%
2017	AK	Alaska	OT	Other	8099	Unknown and Not Elsewhere Classified Products	413	0.0%
2017	AK	Alaska	GU	Guam	8099	Unknown and Not Elsewhere Classified Products	408	0.0%
2017	AK	Alaska	FO	Foreign	5155	Primary Non-Metal Products	228	0.0%
2017	AK	Alaska	FO	Foreign	3200	Chemicals excluding Fertilizers	128	0.0%
2017	AK	Alaska	HI	Hawaii	8099	Unknown and Not Elsewhere Classified Products	58	0.0%
						total	36,272,856	100.0%

Year	OrigCode	Origin	DestCode	Destination	CommCod	CommodityGroup	ShortTons	share
2018	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	4,243,836	38.9%
2018	WA	Washingtc	AK	Alaska	7000	Manufactured Goods	1,667,613	15.3%
2018	FO	Foreign	AK	Alaska	2229	Petroleum Products	1,368,233	12.5%
2018	AK	Alaska	AK	Alaska	2229	Petroleum Products	845,962	7.8%
2018	AK	Alaska	AK	Alaska	7000	Manufactured Goods	439,807	4.0%
2018	WA	Washingtc	AK	Alaska	6168	Food and Food Products	387,061	3.5%
2018	CN	Canada	AK	Alaska	2229	Petroleum Products	366,014	3.4%
2018	AK	Alaska	AK	Alaska	6168	Food and Food Products	341,030	3.1%
2018	WA	Washingtc	AK	Alaska	2229	Petroleum Products	209,710	1.9%
2018	CA	California	AK	Alaska	2229	Petroleum Products	157,661	1.4%
2018	WA	Washingtc	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	157,360	1.4%
2018	FO	Foreign	AK	Alaska	5155	Primary Non-Metal Products	137,163	1.3%
2018	WA	Washingtc	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	86,049	0.8%
2018	WA	Washingtc	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	69,493	0.6%
2018	WA	Washingtc	AK	Alaska	5155	Primary Non-Metal Products	64,175	0.6%
2018	AK	Alaska	AK	Alaska	5354	Primary Metal Products	38,527	0.4%
2018	CN	Canada	AK	Alaska	6168	Food and Food Products	37,088	0.3%
2018	WA	Washingtc	AK	Alaska	5354	Primary Metal Products	34,760	0.3%
2018	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	29,061	0.3%
2018	FO	Foreign	AK	Alaska	7000	Manufactured Goods	27,825	0.3%
2018	WA	Washingtc	AK	Alaska	3200	Chemicals excluding Fertilizers	27,572	0.3%
2018	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	27,570	0.3%
2018	GU	Guam	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	27,271	0.2%
2018	FO	Foreign	AK	Alaska	3200	Chemicals excluding Fertilizers	25,776	0.2%
2018	CN	Canada	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and Slag	18,472	0.2%
2018	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	18,306	0.2%
2018	CN	Canada	AK	Alaska	5155	Primary Non-Metal Products	11,087	0.1%
2018	FO	Foreign	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	10,789	0.1%
2018	CN	Canada	AK	Alaska	3100	Chemical Fertilizers	8,276	0.1%
2018	CN	Canada	AK	Alaska	3200	Chemicals excluding Fertilizers	7,944	0.1%
2018	FO	Foreign	AK	Alaska	6168	Food and Food Products	7,063	0.1%
2018	CN	Canada	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	5,065	0.0%
2018	OT	Other	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	4,282	0.0%
2018	CN	Canada	AK	Alaska	5354	Primary Metal Products	4,069	0.0%
2018	CN	Canada	AK	Alaska	7000	Manufactured Goods	705	0.0%
2018	FO	Foreign	AK	Alaska	5354	Primary Metal Products	680	0.0%
2018	CN	Canada	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	194	0.0%
2018	FO	Foreign	AK	Alaska	3100	Chemical Fertilizers	132	0.0%
						2018 inbound total	10,913,681	100.0%

Year	OrigCode	Origin	DestCode	Destination	CommCod	CommodityGroup	ShortTons	share
2018	AK	Alaska	CA	California	2100	Crude Petroleum	11,748,165	36.1%
2018	AK	Alaska	WA	Washington	2100	Crude Petroleum	10,262,039	31.5%
2018	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	4,243,836	13.0%
2018	AK	Alaska	HI	Hawaii	8099	Unknown and Not Elsewhere Classified Products	1,080,892	3.3%
2018	AK	Alaska	FO	Foreign	6168	Food and Food Products	860,967	2.6%
2018	AK	Alaska	AK	Alaska	2229	Petroleum Products	845,962	2.6%
2018	AK	Alaska	FO	Foreign	4142	Lumber, Logs, Wood Chips, and Pulp	443,010	1.4%
2018	AK	Alaska	AK	Alaska	7000	Manufactured Goods	439,807	1.4%
2018	AK	Alaska	WA	Washington	2229	Petroleum Products	378,004	1.2%
2018	AK	Alaska	AK	Alaska	6168	Food and Food Products	341,030	1.0%
2018	AK	Alaska	FO	Foreign	2229	Petroleum Products	340,988	1.0%
2018	AK	Alaska	CA	California	8099	Unknown and Not Elsewhere Classified Products	334,704	1.0%
2018	AK	Alaska	WA	Washington	7000	Manufactured Goods	321,258	1.0%
2018	AK	Alaska	WA	Washington	6168	Food and Food Products	305,666	0.9%
2018	AK	Alaska	FO	Foreign	2100	Crude Petroleum	249,648	0.8%
2018	AK	Alaska	WA	Washington	8099	Unknown and Not Elsewhere Classified Products	99,673	0.3%
2018	AK	Alaska	FO	Foreign	4600	Non-Ferrous Ores and Scrap	61,268	0.2%
2018	AK	Alaska	AK	Alaska	5354	Primary Metal Products	38,527	0.1%
2018	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	29,061	0.1%
2018	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	27,570	0.1%
2018	AK	Alaska	WA	Washington	4142	Lumber, Logs, Wood Chips, and Pulp	22,866	0.1%
2018	AK	Alaska	OR	Oregon	8099	Unknown and Not Elsewhere Classified Products	20,704	0.1%
2018	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	18,306	0.1%
2018	AK	Alaska	FO	Foreign	7000	Manufactured Goods	10,349	0.0%
2018	AK	Alaska	FO	Foreign	8099	Unknown and Not Elsewhere Classified Products	1,297	0.0%
2018	AK	Alaska	GU	Guam	8099	Unknown and Not Elsewhere Classified Products	991	0.0%
2018	AK	Alaska	FO	Foreign	5354	Primary Metal Products	104	0.0%
2018	AK	Alaska	FO	Foreign	3200	Chemicals excluding Fertilizers	64	0.0%
						2018 outbound total	32,526,756	100.0%

Year	OrigCode	Origin	DestCode	Destination	CommCod	CommodityGroup	ShortTons	share
2019	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	3,573,689	34.2%
2019	WA	Washingtc	AK	Alaska	7000	Manufactured Goods	1,348,091	12.9%
2019	FO	Foreign	AK	Alaska	2229	Petroleum Products	1,283,576	12.3%
2019	AK	Alaska	AK	Alaska	2229	Petroleum Products	1,203,355	11.5%
2019	CN	Canada	AK	Alaska	2229	Petroleum Products	550,845	5.3%
2019	AK	Alaska	AK	Alaska	6168	Food and Food Products	416,961	4.0%
2019	AK	Alaska	AK	Alaska	7000	Manufactured Goods	416,586	4.0%
2019	WA	Washingtc	AK	Alaska	6168	Food and Food Products	410,618	3.9%
2019	OR	Oregon	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	185,555	1.8%
2019	FO	Foreign	AK	Alaska	5155	Primary Non-Metal Products	125,701	1.2%
2019	WA	Washingtc	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pul	95,008	0.9%
2019	WA	Washingtc	AK	Alaska	5155	Primary Non-Metal Products	77,907	0.7%
2019	CA	California	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	77,713	0.7%
2019	WA	Washingtc	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and	76,821	0.7%
2019	FO	Foreign	AK	Alaska	2100	Crude Petroleum	70,113	0.7%
2019	FO	Foreign	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and	66,590	0.6%
2019	TX	Texas	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	47,464	0.5%
2019	AK	Alaska	AK	Alaska	5354	Primary Metal Products	45,733	0.4%
2019	WA	Washingtc	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	42,553	0.4%
2019	WA	Washingtc	AK	Alaska	5354	Primary Metal Products	38,871	0.4%
2019	FO	Foreign	AK	Alaska	7000	Manufactured Goods	37,462	0.4%
2019	WA	Washingtc	AK	Alaska	2229	Petroleum Products	35,911	0.3%
2019	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	32,581	0.3%
2019	FO	Foreign	AK	Alaska	3200	Chemicals excluding Fertilizers	30,430	0.3%
2019	GU	Guam	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	28,056	0.3%
2019	WA	Washingtc	AK	Alaska	3200	Chemicals excluding Fertilizers	26,842	0.3%
2019	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	25,414	0.2%
2019	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pul	22,711	0.2%
2019	CN	Canada	AK	Alaska	4349	Sand, Gravel, Shells, Clay, Salt, and	14,119	0.1%
2019	FO	Foreign	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	9,069	0.1%
2019	CN	Canada	AK	Alaska	5155	Primary Non-Metal Products	8,601	0.1%
2019	OT	Other	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	7,548	0.1%
2019	CN	Canada	AK	Alaska	8099	Unknown and Not Elsewhere Classifi	7,050	0.1%
2019	CN	Canada	AK	Alaska	3200	Chemicals excluding Fertilizers	5,910	0.1%
2019	FO	Foreign	AK	Alaska	6168	Food and Food Products	5,201	0.0%
2019	CN	Canada	AK	Alaska	7000	Manufactured Goods	2,116	0.0%
2019	CN	Canada	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pul	1,426	0.0%
2019	CN	Canada	AK	Alaska	3100	Chemical Fertilizers	1,187	0.0%
2019	CN	Canada	AK	Alaska	5354	Primary Metal Products	681	0.0%
2019	AK	Alaska	AK	Alaska	4400	Iron Ore, Iron, and Steel Waste and	657	0.0%
2019	CN	Canada	AK	Alaska	6168	Food and Food Products	565	0.0%
2019	FO	Foreign	AK	Alaska	5354	Primary Metal Products	515	0.0%
						total	10,457,802	100.0%

Year	OrigCode	Origin	DestCode	Destination	CommCod	CommodityGroup	ShortTons	share
2019	AK	Alaska	CA	California	2100	Crude Petroleum	11,160,186	33.9%
2019	AK	Alaska	WA	Washington	2100	Crude Petroleum	9,154,985	27.8%
2019	AK	Alaska	AK	Alaska	8099	Unknown and Not Elsewhere Classified Products	3,573,689	10.9%
2019	AK	Alaska	HI	Hawaii	8099	Unknown and Not Elsewhere Classified Products	1,524,129	4.6%
2019	AK	Alaska	FO	Foreign	4600	Non-Ferrous Ores and Scrap	1,436,973	4.4%
2019	AK	Alaska	AK	Alaska	2229	Petroleum Products	1,203,355	3.7%
2019	AK	Alaska	FO	Foreign	2100	Crude Petroleum	919,976	2.8%
2019	AK	Alaska	FO	Foreign	6168	Food and Food Products	784,680	2.4%
2019	AK	Alaska	WA	Washington	2229	Petroleum Products	610,890	1.9%
2019	AK	Alaska	FO	Foreign	4142	Lumber, Logs, Wood Chips, and Pulp	517,209	1.6%
2019	AK	Alaska	AK	Alaska	6168	Food and Food Products	416,961	1.3%
2019	AK	Alaska	AK	Alaska	7000	Manufactured Goods	416,586	1.3%
2019	AK	Alaska	WA	Washington	6168	Food and Food Products	303,762	0.9%
2019	AK	Alaska	WA	Washington	7000	Manufactured Goods	291,838	0.9%
2019	AK	Alaska	CA	California	8099	Unknown and Not Elsewhere Classified Products	261,276	0.8%
2019	AK	Alaska	WA	Washington	8099	Unknown and Not Elsewhere Classified Products	90,377	0.3%
2019	AK	Alaska	FO	Foreign	2229	Petroleum Products	86,584	0.3%
2019	AK	Alaska	AK	Alaska	5354	Primary Metal Products	45,733	0.1%
2019	AK	Alaska	AK	Alaska	3200	Chemicals excluding Fertilizers	32,581	0.1%
2019	AK	Alaska	AK	Alaska	5155	Primary Non-Metal Products	25,414	0.1%
2019	AK	Alaska	AK	Alaska	4142	Lumber, Logs, Wood Chips, and Pulp	22,711	0.1%
2019	AK	Alaska	FO	Foreign	7000	Manufactured Goods	12,103	0.0%
2019	AK	Alaska	WA	Washington	4142	Lumber, Logs, Wood Chips, and Pulp	9,646	0.0%
2019	AK	Alaska	FO	Foreign	3200	Chemicals excluding Fertilizers	3,143	0.0%
2019	AK	Alaska	GU	Guam	8099	Unknown and Not Elsewhere Classified Products	2,698	0.0%
2019	AK	Alaska	AK	Alaska	4400	Iron Ore, Iron, and Steel Waste and Scrap	657	0.0%
2019	AK	Alaska	FO	Foreign	8099	Unknown and Not Elsewhere Classified Products	589	0.0%
2019	AK	Alaska	OT	Other	8099	Unknown and Not Elsewhere Classified Products	357	0.0%
2019	AK	Alaska	FO	Foreign	5155	Primary Non-Metal Products	50	0.0%
2019	AK	Alaska	UM	U.S. Minor	8099	Unknown and Not Elsewhere Classified Products	34	0.0%
2019	AK	Alaska	FO	Foreign	5354	Primary Metal Products	14	0.0%
						total	32,909,186	100.0%

Source: USACE (2016-2019). State-to-State Commodity Tonnage Public Domain.

APPENDIX VI - GOVERNANCE MODELS-ADVANTAGES AND DISADVANTAGES

A. Governance Types

- Municipal Ports
- State, or County Ports
- Quasi-Governmental Ports or Commissions
- Public Port Authorities
- State or Regional Port Councils

B. Municipal Ports

- Most common in smaller or regional port areas
- The local town or city, provides management of public port facilities
- Staff within a department of the local government
- Funded as part of the municipal budget
- Advantage: cost effective management-local control
- Disadvantage: port competes for funding with schools and community services

C. State or County Ports

- Operated under State/county DOT
- Managed or staffed with State/county employees
- Many State-owned facilities in local communities
- May be leased to a public or private entity
- State role: port promotion or infrastructure investment
- Advantage: coordinated transportation programs under a single State entity
- Disadvantage: political funding competition

D. Port Commissions

- Ports created by state or provincial legislatures, counties, or municipal councils
- Have a form of separate governance
- Dependent on the state or local government for funding, asset value and project approvals
- Allow government entities to exert a level of control over waterfront property in a community
- Advantage is the involvement of government in decision making
- Disadvantage is that the waterfront issues can be so diverse, that progress is often slow for industrial or commercial development when other than commercial business is involved (marinas, parks, trails)

E. Public Port Authorities

- Created or enabled by a government's legislative action
- Have independent management and bonding authority
- Focus on commercial marine terminal activities ,,
- Often include other operations such as airports, marinas, real estate development, rail or highway infrastructure

- Advantage is that they can promote their business activities with limited involvement from local government processes
- Disadvantage is that they can have diverse policy from their host communities

F. State or Regional Port Councils

- Includes independent port agencies that work together to achieve common state-wide goals
- Each port is represented along with key public officials who have regulatory or development responsibilities for port areas
- Acts like a Metropolitan Planning Organization (MPO)
- Reviews projects, coordinates State's response and allocates funding
- Policy development coordinated with other State agencies

APPENDIX VII - REFERENCES

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