



moffatt & nichol



Economic Assessment for Port of Alaska Terminals

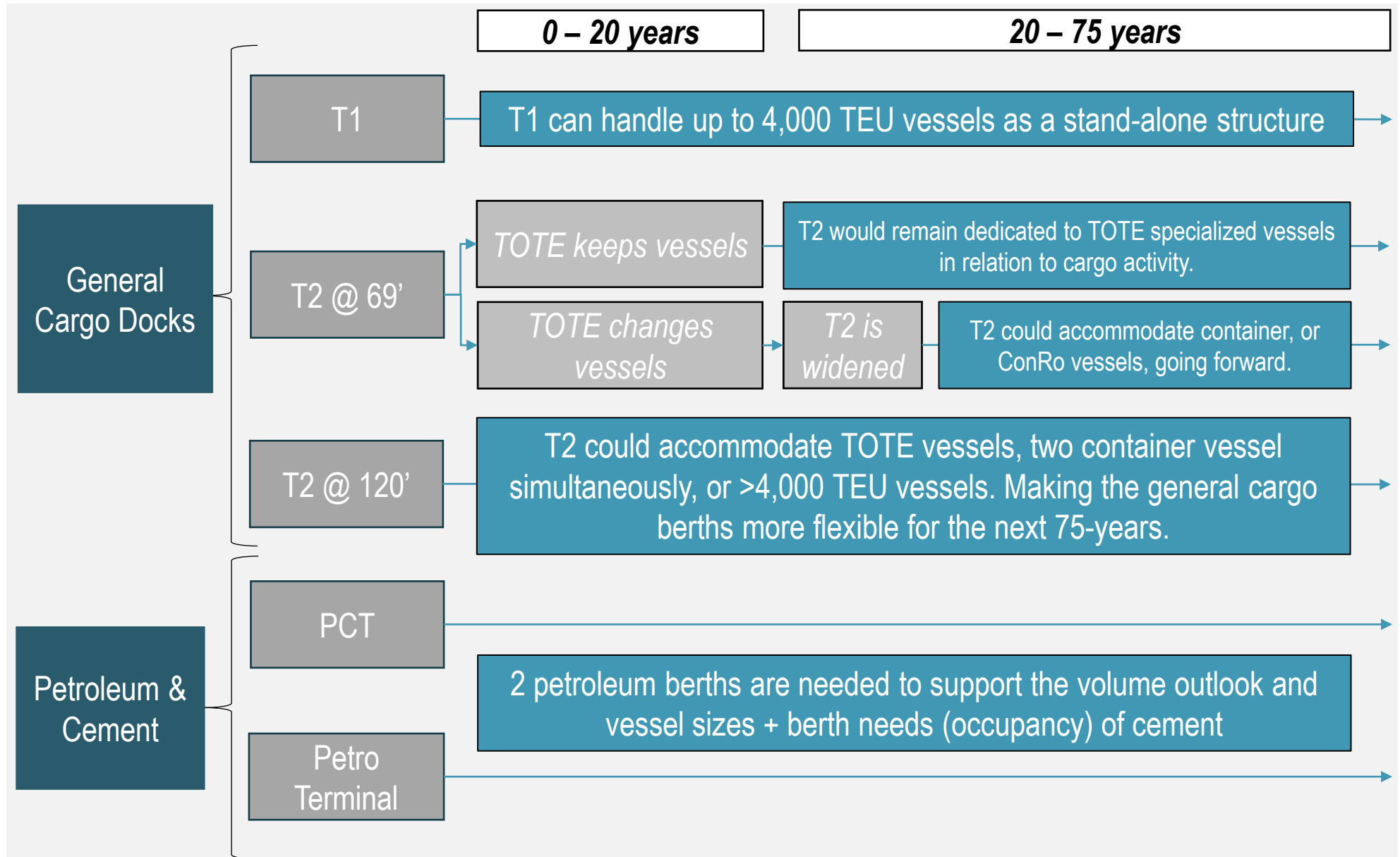
Prepared for Don Young Port of Alaska

Alaska Relies on the Port

- 1. Alaska (Southcentral) needs two container / general cargo berths (and liquid petroleum berths) & PAMP should create redundancy**
 - *Even when considering a stable-to-flat volume outlook*
 - *Conditions will change over the 75-year planning*
- 2. POA is the best location in the state to do this**
 - *Confirmed by independent analysis and user / tenant engagement*
- 3. The cost of disruption and / or loss of service is significant**
 - *Rerouting through alternative ports and / or highway*

PAMP Assessment

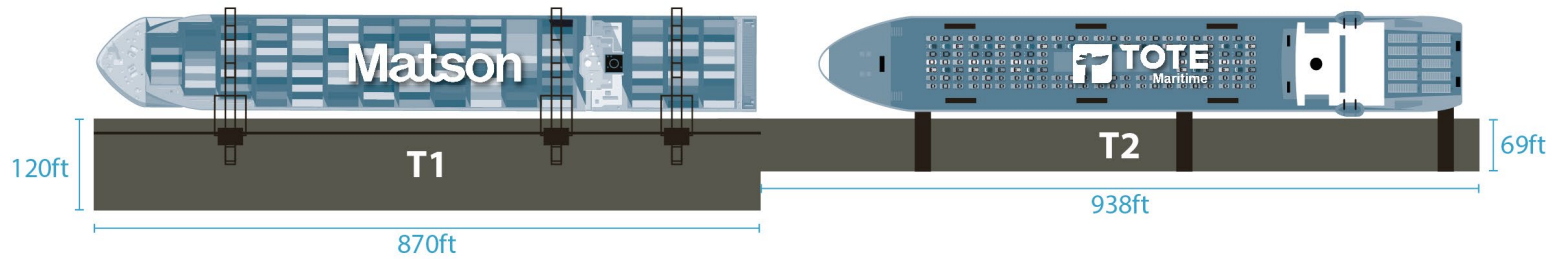
1) Developing T2 as an identical structure as T1 appears supported by the future market conditions, industry standards, observed practices, stakeholder comments and the potential impact on costs related to delay and/or unforeseen operational disruptions



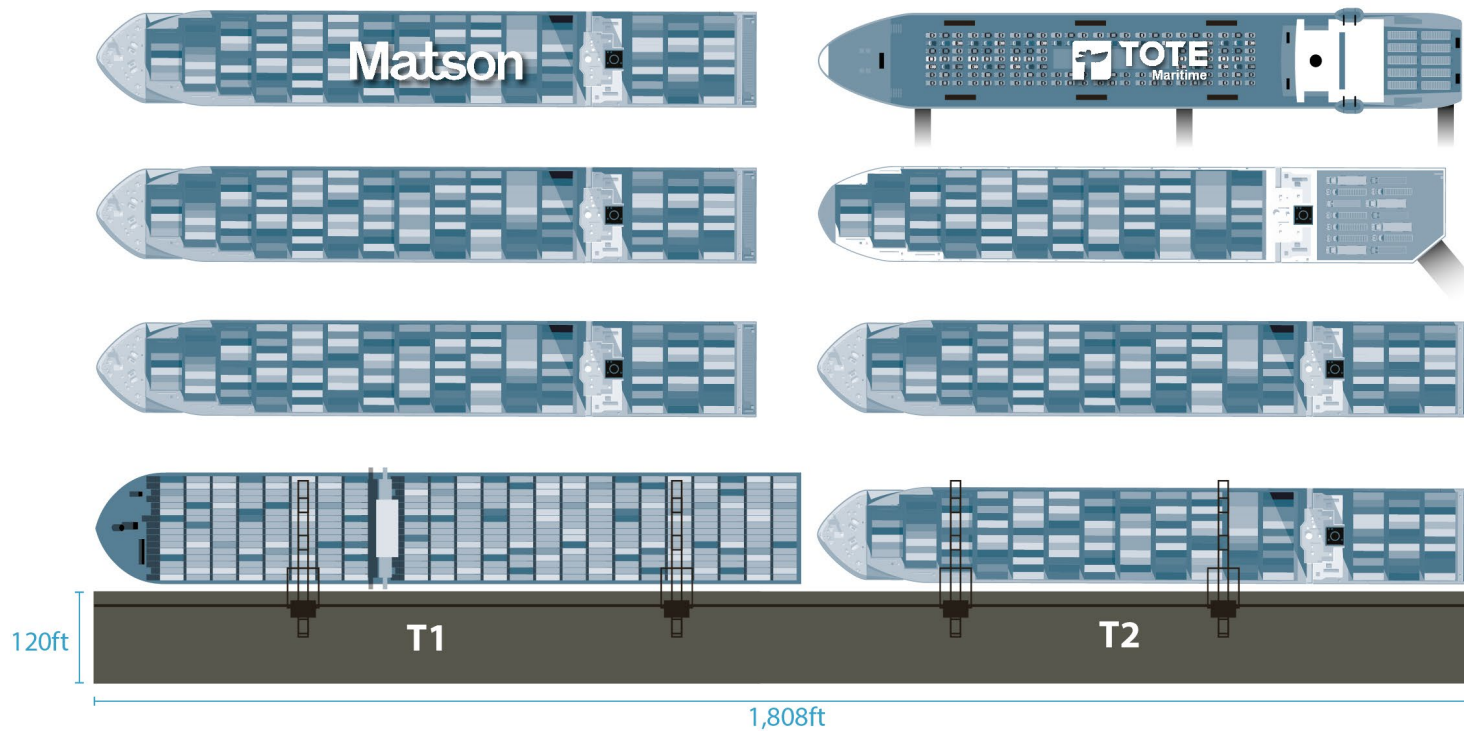
Flexibility of Berths

If the objective of PAMP is to develop modern port infrastructure that will prove to be as necessary and adaptive in 75-years as it would be today, then the utility of the uniform berth offering is apparent

Option 1: Non-Uniform Berth



Option 2: Uniform Berth



Redundancy - What can cause a dock closure

From the small to the catastrophic...



Endangered Osprey Nest Port of San Francisco
10/13

.... and everything
in between



Francis Scott Key Bridge Port of Baltimore 3/24



Yang Ming Vessel Strikes Cranes in
Turkey 3/24



Cruise Vessel *Excellent* Strike in Barcelona 3/19

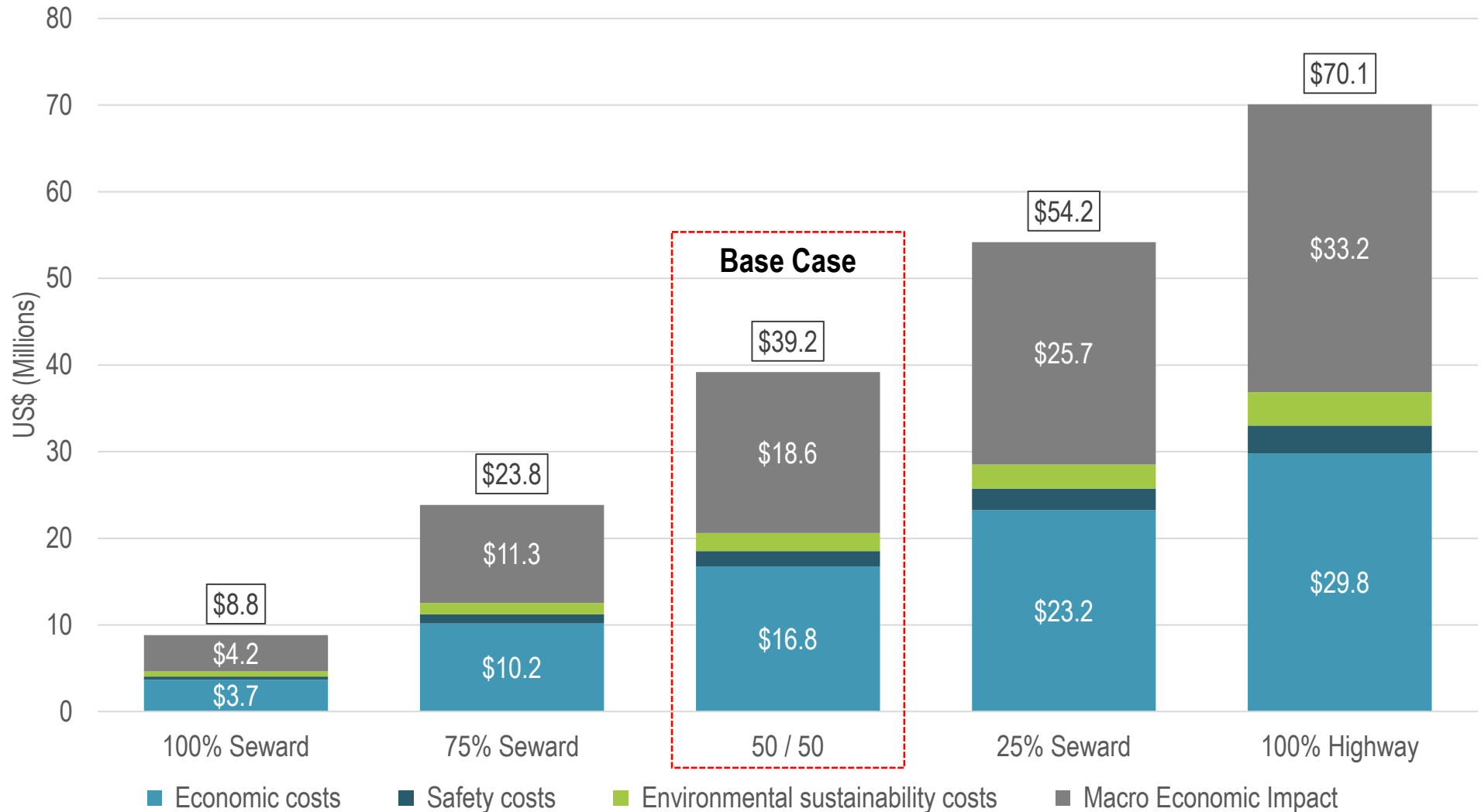


Tornado, Freeport Bahamas 3/10

Economic Cost Analysis




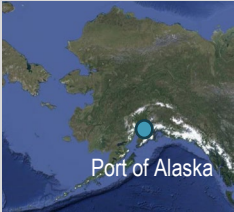
Calculating the economic cost of a service disruption at POA, helps us understand the value of the infrastructure that is being considered under PAMP

ECONOMIC COSTS ASSOCIATED WITH ONE WEEK POA SHUTDOWN



Port of Alaska Benchmarking Analysis

The benchmarks have multiple berths capable of accommodating a variety of cargo vessels simultaneously which creates redundancy and resiliency during natural disasters and other events which could disrupt operations.

	Location	Function	Container Infrastructure				Notes
			Terminal	Depth	Berth Length	Equipment	
Port of San Juan		The Port of San Juan is Puerto Rico's primary container port serving the island's concentrated population	Puerto Nuevo	39 ft.	4,721 ft.	11 STS Cranes	Hurricanes Irma and Maria left extensive damage to Puerto Rico and the Port in 2017. Puerto Rico used the Port of San Juan and Port of Ponce to transport goods
			Isla Grande	36 ft.	2,000 ft.	3 STS Cranes	
Port of Guam		The Port of Guam handles essentially all the of island's freight	3, 4, 5, 6	28-35 ft.	1,970 ft.	3 STS Cranes	An earthquake damaged the container terminal in 1993. Part of 5 and part of 6 were damaged so part of 3, 4 and 5 were able to be worked off of.
Port of Hawaii / Honolulu Harbor		The Port of Hawaii's epicenter is located at the Honolulu Harbor which distributes containerized cargo to the other islands via barge	Sand Island Kapalama (Under Construction)	40 ft. -	4,010 ft. 1,800 ft.	9 STS Cranes No. of STS Cranes TBD	The Port of Hawaii expects to receive larger vessel calls in the future as is undergoing a modernization program to widen its piers. 5 container berths going to 7.
Port of Alaska		Port of Alaska is the primary gateway to the state, connecting the isolated population to supplies from the US mainland	T2 (Matson) T3 (TOTE)	35 ft. 35 ft.	610 ft. 900 ft.	3 STS Cranes RoRo Ramps	Anchorage became the primary cargo port in 1961, after a large earthquake decimated the Seward Harbor

Port of Alaska Competitive Assessment

POA operates within a system of ports that work together to serve the state's widespread population centers. These ports generally do not compete with one another given that they are focused on serving the needs of their immediate / local communities.

SOUTHCENTRAL AND SOUTHEAST ALASKA KEY TRANSPORTATION INFRASTRUCTURE



SOUTHCENTRAL AND SOUTHEAST ALASKA CARGO FACILITIES

Region	Facility	Vessel Type	Inland Connectivity	Primary Market
Anchorage	Port of Alaska	Container, RoRo	● (Green)	Anchorage, Interior
	Ship Creek	Barge	● (Green)	Anchorage, Interior
Kenai Peninsula	Seward	Barge	● (Orange)	Local population
	Whittier	Barge	● (Orange)	Local population
Southeast	Juneau, Ketchikan	Barge	● (Red)	Local population

● Stronger ● Weaker

User / Tenant Outreach

M&N interviewed a number of port users and tenants as part of its economic assessment to better understand their relationship with the Port and how they plan to use its facilities in the future.

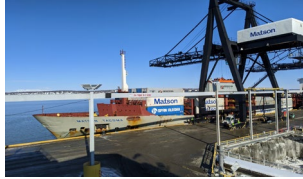







Stakeholders Interviewed To-Date	Port Uses
	Cargo Docks
	Cargo Docks
 	Cargo Docks Petroleum Berths
	Petroleum Import / Export
	Jet Fuel Imports
	Petroleum Import
	Inland Cargo Movement

1. PoA's importance in the economy of the region cannot be overstated.
2. Need for reliability for both liquid bulk and cargo operations is a key area of interest for all users.
3. There are no economically viable alternatives to PoA from both a maritime infrastructure and inland connectivity standpoint.

Vessel Operations at Port of Alaska

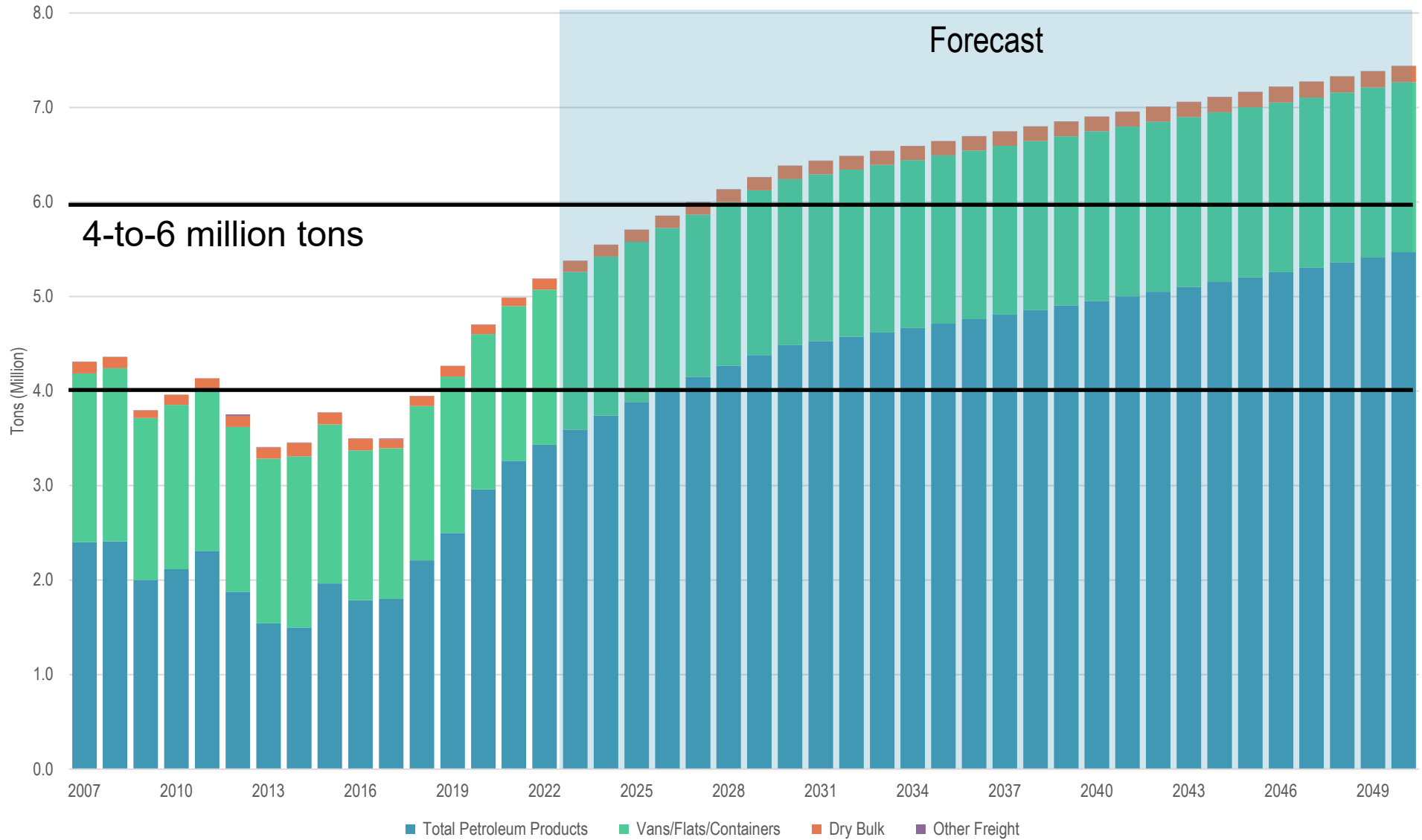
POA supports several vessel types including container, specialized roll on roll off, cruise, oil tankers and bulk cement.

PORT OF ALASKA PRIMARY VESSEL TYPES

Terminal	Vessel Type		Vessel Calls (2023)	Operations	Notes	
T2	Container			99	Containers lifted on and off vessel by STS cranes	Vessel size will increase
T3	RoRo			87	Trailers, containers, vehicles and equipment driven on and off vessel using special ramps	RoRo specially designed for Port of Alaska
T2 / T3	Cruise			3	Passengers disembark at cargo terminals	Expected to visit Anchorage more
PCT / POL2	Liquid Bulk Tanker			37	Unloading at POL2	Facing depth restrictions at the Port
PCT	Dry Bulk / Cement			5	Unloading at new Petroleum Cement Terminal	Spending a long time at Port, will eventually share the terminal with liquid bulk tankers
Military	Mixed Use / LMSR			4	Roll-On Roll-Off & Lift-On Lift-Off	Can rely at times on Port cranes to service as tidal swings limit utility of ramps

Volume Outlook

Building for the base



Thank You



moffatt & nichol