

# **“Considerations Related to Liquefied Natural Gas”**

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# Outline

- I. Port of Oakland Overview
- II. Context: Port of Oakland Strategic Plan
- III. Why LNG Now?
- IV. LNG infrastructure options
- V. Key Considerations

# Port of Oakland: Overview



- **Landlord:** 20 miles of waterfront with an airport, seaport, commercial real estate, utility assets, and public parks and conservation areas
- **Public agency:** Established 1927 as state tidelands trust grantee; Enterprise agency of the City of Oakland (separate budget and no local tax dollars); 7-member Board nominated by the Mayor and appointed by the City Council to 4-year terms

# The Seaport

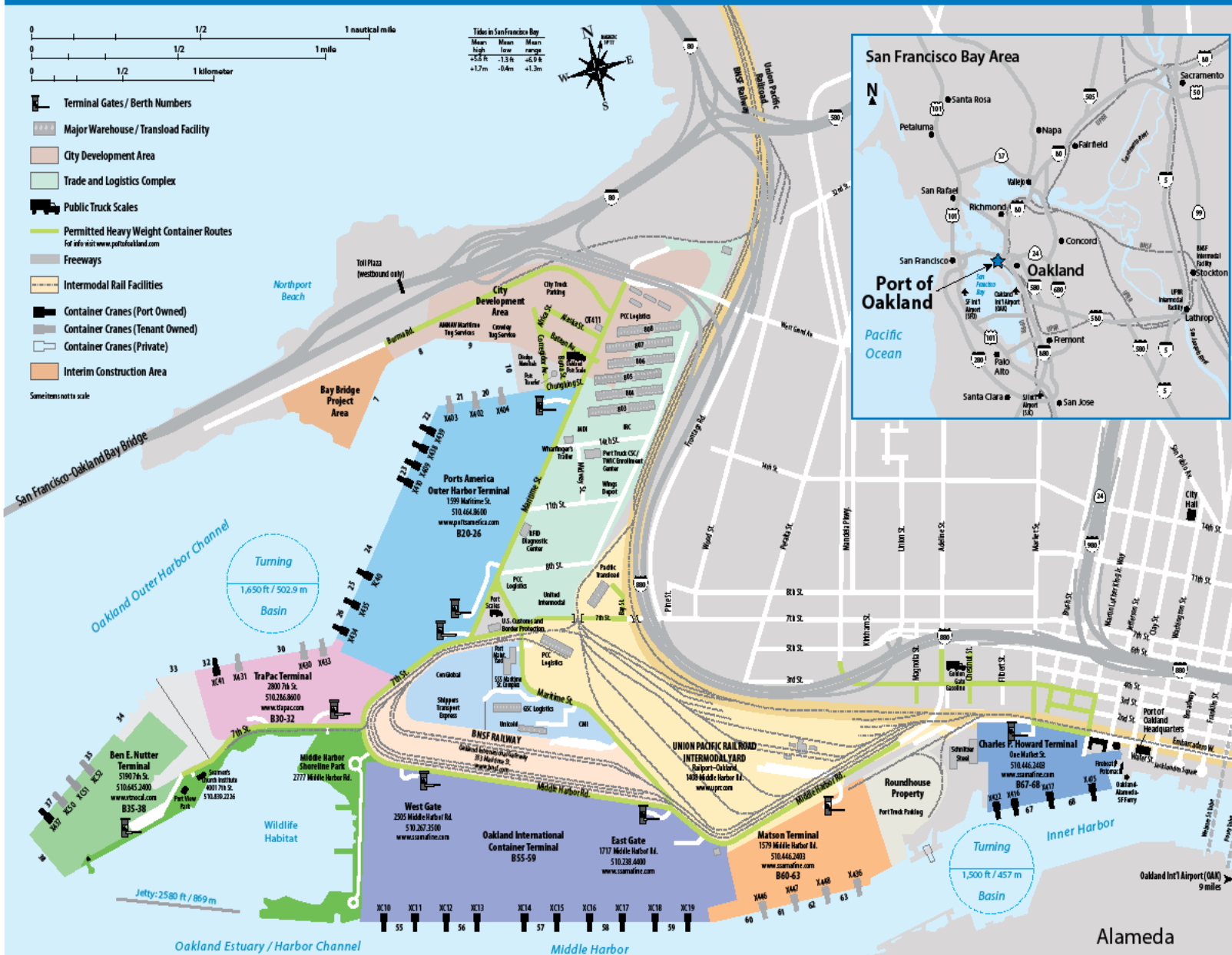
Fifth (5<sup>th</sup>) busiest container port in US, Third (3<sup>rd</sup>) largest on the West Coast, 45<sup>th</sup> largest in the world.

- 1200 acres of container terminals, intermodal facilities, and warehouses
- 5 container terminals
- 36 container cranes  
22 super-post Panamax
- 20 berths, 24,182 linear ft/4.58 miles of wharf
- Draft (-50 ft) MLLW
- 2014 Cargo Volume: 2.4 TEUs (highest ever)
- 45% import/56% export
- 73K regional jobs; 800K national jobs





# Port of Oakland Maritime Facilities



## Berths Terminal

**20-26 Ports America Outer Harbor Terminal**  
 Operator: Ports America  
 Carriers:  
 CCNI Maersk  
 Hamburg Süd MSC  
 Hapag-Lloyd Polynesia  
 Horizon Yang Ming  
 K-Line

**30-32 TraPac Terminal**  
 Operator: TraPac Inc.  
 Carriers:  
 MOL Hyundai  
 APL

**35-38 Ben E. Nutter Terminal**  
 Operator: Seaside Transportation Services (STS)/Evergreen  
 Carriers:  
 Evergreen COSCO  
 China Shipping Hanjin

**55-59 Oakland International Container Terminal**  
 Operator: Stevedoring Services of America, Inc. (SSA)  
 Carriers:  
 APL MOL  
 China Shipping MSC  
 CMA CGM NYK  
 COSCO OOCL  
 Hanjin UASC  
 Hapag-Lloyd Wan Hai  
 Hyundai Zim  
 Maersk

**60-63 Matson Terminal**  
 Operator: Stevedoring Services of America, Inc. (SSA)  
 Carriers:  
 Matson  
 Operations Begin in 2014

**67-68 Charles P. Howard Terminal**  
 Operator: Stevedoring Services of America, Inc. (SSA)  
 Carriers:  
 Matson  
 Available for Lease in 2014

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# How does this fit into the Port of Oakland Strategic Plan?

*“We are an innovative and sustainable Port through and aggressive focus on business and optimal performance.”*

- *“Economic Development is the center of the Port’s work.” (Guiding Principle #1)*
- *“Environmental stewardship is a lens for all Port activities. (Guiding Principle #2)”*

# Why LNG Now?

- CARB low-sulphur rule (0.1% in 2014)
- North America Emission Control Area compliance (0.1% in effect in 2015)
- International Maritime Organization Global Cap (0.5 % in 2020 or 2025)
- Available fuel supply
- Other air quality benefits (NO<sub>x</sub>, PM, GHGs)
- Maritime Air Quality Improvement Plan
- Port Energy Innovation Study (2015)

# LNG Infrastructure Options

- Liquefaction and re-gasification facility
- Marine Terminal: Import/export facility
- Bunkering service



# Key Considerations

- Customer needs
- Space and infrastructure
- Revenue and Cost
- Community and Stakeholders
- Environmental
- Safety
- Regulatory and permitting