

DRAFT SAN FRANCISCO BAY AREA SEAPORT PLAN

San Francisco Bay Conservation and Development Commission

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Introduction

The San Francisco Bay Area is home to five seaports that serve as a critical gateway between Northern California and the global supply chain. These working waterfronts import goods destined for the Bay Area and beyond—everything from food and clothing, to electronics, to cars—and they connect California farmers and other exporters to international markets. Containers, bulk goods, and vehicles (known as roll-on/roll-off, or “Ro-Ro” cargo) moving through the Bay Area are vital to the regional and national economy, and the seaports provide thousands of good jobs for Bay Area residents.

To plan for the Bay Area region’s long-term seaport growth, the San Francisco Bay Conservation and Development Commission (BCDC or Commission) maintains the *San Francisco Bay Area Seaport Plan (Seaport Plan)*. The *Seaport Plan*, which was first adopted by the Commission in 1982, is central to BCDC’s mission to protect and enhance San Francisco Bay and advance the Bay’s responsible, productive, and equitable uses for this and future generations as we face a changing climate and rising sea levels.

The *Seaport Plan* is part of the *San Francisco Bay Plan (Bay Plan)* and is used by BCDC to help guide its regulatory decisions on permit applications, consistency determinations, and related matters. There is not a singular port agency or authority responsible for coordinating the planning and development of San Francisco Bay port terminals. In the absence of a regional seaport plan, uncoordinated development of port facilities could lead to unnecessary Bay fill. The *Seaport Plan* exists to minimize these risks through coordination of the planning and development of port terminals. It complements other regional planning efforts like the Metropolitan Transportation Commission/Association of Bay Area Government’s (MTC/ABAG) *Plan Bay Area* (the Bay Area’s Regional Transportation Plan/Sustainable Communities Strategy), which establishes a forecasted development pattern for housing and jobs and transportation infrastructure across the nine-county San Francisco Bay Area.

Seaport Plan Goals

The Seaport Plan promotes the following goals:

1. Designate and reserve shoreline areas along San Francisco Bay for existing and future growth in maritime cargo, thereby reducing the need for new Bay fill for port development;
2. Minimize pressure for Bay fill by ensuring that marine terminal development is consistent with the *McAteer-Petris Act* and *San Francisco Bay Plan*;
3. Minimize the adverse economic, environmental, and social impacts caused by port development, particularly in disadvantaged and vulnerable communities, within the scope of the Commission’s authority;
4. Coordinate the planning and development of Bay port terminals with regional goods movement and transportation planning efforts, and;
5. Ensure the continuation of the San Francisco Bay port system as a major world port and contributor to the economic vitality of the San Francisco Bay region.

To achieve these goals, the *Seaport Plan* employs land use designations specific to BCDC's law (the McAteer-Petris Act – see below) known as "Priority Use Areas" as well as enforceable policies that BCDC uses in regulatory decisions.

Authority

The McAteer-Petris Act

BCDC's role in planning and regulating seaport developmental activities derives from the McAteer-Petris Act. The McAteer-Petris Act has long served as the key California state law to preserve San Francisco Bay from indiscriminate filling. This law, enacted on September 17, 1965, first established BCDC as a temporary state agency charged with preparing a plan for the long-term use of the Bay. In August 1969, the McAteer-Petris Act was amended to make BCDC a permanent agency and to incorporate the policies of the *Bay Plan* into state law.

The McAteer-Petris Act directs the Commission to exercise its authority to issue or deny permit applications for placing fill, extracting material (dredging), or changing use of any land, water, or structure within the Commission's jurisdiction in conformity with the provisions and policies of both the McAteer-Petris Act and the *Bay Plan*. The law also directs the Commission to keep the *Bay Plan* up to date through a program of continuing review.

The Bay Plan and the Seaport Plan

The McAteer-Petris Act, codified at Government Code section 66602, declares seaports to be among certain water-oriented land uses along the Bay shoreline that are essential to the public welfare of the Bay Area. It requires the *Bay Plan* to provide for adequate and suitable locations for these uses to minimize the future need to use Bay fill. *Bay Plan* maps may include areas both within and outside of BCDC's land-based regulatory jurisdiction (*i.e.*, the shoreline band) as part of Priority Use Area designations. Beyond the shoreline band, Priority Use Area designations are advisory only¹. Within the 100-foot shoreline band (*i.e.*, 100 feet landward and parallel to the Bay), future development proposed in an area subject to a Priority Use Area designation must be consistent with the policies in the *Bay Plan* for that Priority Use Area designation. Boundaries for the Priority Use Areas within the 100-foot shoreline band are established by the Commission in Resolution 16.

The *Seaport Plan* is incorporated into the *Bay Plan* as a plan that addresses special needs in the seaport context. The *Seaport Plan* should be read in conjunction with the provisions of both the *Bay Plan* and the McAteer-Petris Act.

¹ See Government Code section 66653.

Bay Plan Port Policy 1, shown on the right, describes the function of the *Seaport Plan* in relation to the *Bay Plan*.

Coastal Zone Management Act

Under the federal Coastal Zone Management Act of 1972 (CZMA), the McAteer-Petris Act and the *Bay Plan* are components of BCDC's federally certified coastal management program for San Francisco Bay, and BCDC is the agency responsible for administration of the San Francisco Bay segment of California state's certified program. Under the CZMA, federal agencies are required to carry out their activities and

programs in a manner consistent to the maximum extent practicable with the Commission's enforceable state policies of its coastal management program. To implement this law, federal agencies make and submit consistency determinations of their proposed activities, and applicants for federal permits, licenses, other authorization, or federal financial assistance make and submit consistency certifications, for BCDC concurrence. The Commission then has the opportunity to review the consistency determination and certifications and to concur, conditionally concur, or object to them. The Commission's decisions on federal consistency matters are governed by the provisions of the federal Coastal Zone Management Act and the U.S. Department of Commerce regulations.

San Francisco Bay Plan Port Policy 1

Port planning and development should be governed by the policies of the *Seaport Plan* and other applicable policies of the *Bay Plan*. The *Seaport Plan* provides for:

- A) Expansion and/or redevelopment of port facilities at Benicia, Oakland, Redwood City, Richmond, and San Francisco;
- B) Further deepening of ship channels needed to accommodate expected growth in ship size and improved terminal productivity;
- C) The maintenance of up-to-date Cargo Forecasts and existing cargo handling capability estimates to guide the permitting of port terminals; and
- D) Development of port facilities with the least potential adverse environmental impacts while still providing for reasonable terminal development.

Approach to updating the Seaport Plan

The *Seaport Plan* was first published in 1982. The Plan underwent a major update in 1996 and was amended in 2012 and 2022. Earlier versions of the *Seaport Plan* were developed as a cooperative planning effort of BCDC and MTC. The *Seaport Plan* constituted the maritime element of MTC's Regional Transportation Plan and was used by MTC to assist in making project funding decisions and managing the metropolitan transportation system. While the timing for the current update to the *Seaport Plan* in 2023 and the update cycle for the Regional Transportation Plan (now *Plan Bay Area*) did not align, MTC and ABAG's *San Francisco Bay Area Goods Movement Plan (2016)* provided a common foundation for both regional plans.

The *Seaport Plan* is a regional initiative and to achieve the Plan's goals, a Seaport Planning Advisory Committee, or SPAC, provides technical expertise to BCDC on seaport planning. BCDC and MTC created

the SPAC through a memorandum of understanding in 1978. The SPAC oversaw the development of the original *Seaport Plan* in 1982 and its subsequent amendments. The SPAC provides advisory recommendations to the Commission and its staff based on background reports, technical expertise, and public comment.

Beginning in January 2019, BCDC staff worked collaboratively with the SPAC, the ports, state and local agencies, nonprofits, and other stakeholders to undertake the process of creating the new Plan. BCDC also hired independent consultants to develop a new regional 2019-2050 Bay Area Seaport Forecast (*Cargo Forecast*), described further below, to inform the Plan’s findings and policies.

BCDC hosted several public SPAC meetings and Commission briefings throughout the planning process to solicit feedback from the public and receive guidance from SPAC members. Staff reports, presentation materials, and agendas were sent in advance of each meeting, and members of the public had opportunity to provide written and oral comments throughout the planning process. The first several meetings focused on developing the *Cargo Forecast* and later meetings focused on policy changes and updates to the Priority Use Area maps.

Feedback from the five Bay Area ports, SPAC members, public agencies, community groups, and members of the public provided invaluable information on issues ranging from cargo growth to the preservation of historic maritime buildings.

The Bay Area Ports

The Bay Area’s five seaports provide critical logistics and economic connections within the Bay region, with Northern and Central California at large, and with international markets.

Port of Benicia



In Benicia, the Benicia Port Terminal Company (BPTC) owns and operates a 4-berth marine terminal on the Carquinez Straight, west of the Benicia-Martinez Bridge. As of 2023, BPTC handles autos and trucks in Ro-Ro service, predominantly imports. BPTC also exports petroleum coke in bulk from a nearby refinery.

Port of Oakland



The Port of Oakland serves as the San Francisco Bay Area's primary container port, handling 99% of the containerized goods moving through Northern California. It is the fourth busiest container port on the U.S. West Coast and one of the top ten in the U.S. with anticipated growth projections increasing from 2.34 million twenty-foot equivalent units (TEUs) in 2022 to 5.19 million TEUs in 2050.

The Port serves as a critical global gateway for the vast and diverse San Francisco Bay Area and Northern California Megaregion, supporting more than 500,000 jobs in the State of California including the economy of the rural Central Valley farming sector. The Port serves as a primary export gateway for agricultural products from California's Central Valley; the Port exported approximately \$13.6 billion in agricultural products in 2022. Approximately 43% of the loaded TEUs handled at the Port are export commodities including recycled paper, nuts, fruit, meat, grains, iron/steel products, and dairy products, with these products often going to markets in Asia, primarily China, Japan, and Korea. The Port of Oakland is often the last port of call before vessels return to Asia because it offers later and faster shipping options for exporters. As a result, it is one of the few U.S. ports where containerized exports are balanced with imports.

The Port of Oakland is also a center of innovation as it builds for the next generation, implementing new infrastructure and technology to reach its goal of zero emissions from operations. Overall, Port operations play a critical role in facilitating trade and commerce in the San Francisco Bay Area and beyond, supporting regional economic growth and providing essential infrastructure for businesses and consumers alike.

Adjacent to the Port of Oakland, Schnitzer Steel, a privately-owned terminal, recycles and exports scrap steel. Schnitzer steel falls within the Oakland Port Priority Use Area but it is not part of the Port of Oakland.

Port of Redwood City



While in use since 1851, the Port of Redwood City was founded by City Charter in 1937. As the only deep-water port in the South San Francisco Bay, the Port serves Silicon Valley by managing 120 acres of industrial and commercial land, including a municipal marina. Annually, the Port fuels economic impact to the region through facilitating cargo across port docks. Port success funds City services and supports the local

community through investing in local events, over 1 mile of public walkways and trails, art, viewing areas, and offering a public boat launch, dry dock storage and other public amenities. The Port is a public agency that is not funded through local taxes. Instead, the Port generates its own revenue to support its operations in its entirety, averaging 2M metric tons of cargo annually with revenues of nearly \$10M annually. Additionally, in 2017 the Port was designated by FEMA as the only South San Francisco Bay federal staging area for the deployment of regional first responders and emergency resources during catastrophic events. The Port takes this designation seriously and is actively engaged with partner agencies in regular emergency exercises. The future ferry terminal will further strengthen the Port's ability to provide an alternative transportation option for commuters, helping to remove single-occupancy vehicles from congested highways, as well as serve as a key piece of the region's emergency response infrastructure.

Port of Richmond



As of 2023, the Port of Richmond ranks number one in liquid bulk and automobile tonnage among ports on San Francisco Bay. With foundations in petroleum and liquid bulk, the Port of Richmond operates dry bulk, break-bulk, and a state-of-the-art automobile processing facilities with "roll-on and roll-off" design on the City's southern waterfront. The Port of Richmond ranks as one of the top 25 US ports in overall cargo tonnage as defined by TEUs

and Dry bulk cargo tonnage. Richmond's overall tonnage ranged between 25 and 29 million short tons.

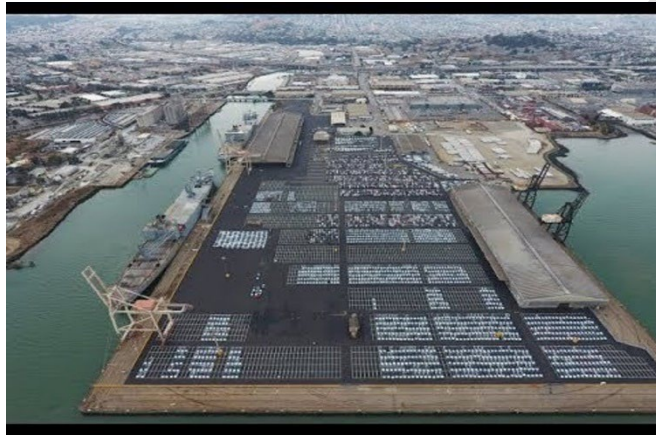
The Port of Richmond is located 9 miles from the Golden Gate on the east shore of San Francisco Bay and is accessed via the Richmond Harbor Channel. The channel was deepened from 35 to 38 feet at Mean Lower Low Water allowing for large vessels to enter and is a deep-water port. Strategically located by land and sea, the port is served by two major railroads, Burlington Northern Santa Fe (BNSF)

and Union Pacific (UP). Highways converge near the port — Transcontinental Interstate 80 leads to Sacramento, Reno, and eastward, while Interstate 580 passes through the port area and connects Interstate 80 with the Richmond-San Rafael Bridge, which leads to US Highway 101. Richmond has 32 miles of shoreline along the northern and eastern reaches of San Francisco Bay.

The Port serves as a critical global connector for global imports to the San Francisco Bay Area, supporting many local and innovative jobs. As of 2023, the Port of Richmond's trade totaled \$9.51 billion, including \$2.01 billion in exports and \$7.51 billion in imports from Japan, Saudi Arabia, and Mexico.

The Port of Richmond plays a critical role in commerce that supports local, regional, and west coast economic growth essential to the San Francisco Bay Area.

Port of San Francisco



The Port of San Francisco is one of the most diverse ports in the country. Passenger cruise, ferries and water taxis, excursion boats, harbor services, commercial fishing and recreational marinas are located primarily in the northern waterfront. Cargo shipping, ship and boat repair, tugs, barges, and harbor services are located in the southern waterfront, which includes a freight rail line connection to the peninsula. Port berths also serve a wide variety of layberthing needs of maritime tenant businesses and visiting vessels.

Cargo shipping occurs at Piers 80, 92, and 94-96 which are located on the north and south sides of Islais Creek in the Bayview Hunters Point district. Pier 80 is used primarily for roll-on/roll-off auto exports, and Piers 92-94 are active dry bulk terminals. Berths at Pier 80 and Pier 96 are currently used for long-term layup of Maritime Administration (MARAD) Ready Reserve Fleet vessels. The Port's cargo terminals also see occasional use for large break-bulk cargoes used for major infrastructure projects throughout the Bay Area. Cargo volumes are dynamic, reflecting swings in the economy including disruptions during the 2019 COVID-10 pandemic. In 2021, Pier 80 handled over 63,000 autos, a decline from 100,000 in 2020 due to supply chain disruptions and semi-conductor shortages. However, auto forecast is strong for 2023. The Port and cargo terminal operator, Pasha, are engaged in other business opportunities to further grow and diversify cargoes handled at Pier 80. From 2018-2021, Piers 92 and 94 dry bulk volumes were just under 1 million metric tons, a trend that is expected to remain stable. Pier 94 and 96 have available capacity to receive more dry bulk and non-container cargoes. The aggregates and sand received over the dock are used to produce concrete to serve the San Francisco and Bay Area construction industry. Two concrete-batch plants are located adjacent to Pier 92, an environmentally effective business arrangement that significantly reduces truck trips and emission impacts in the city and region by receiving raw materials by ship.

The Pier 70 shipyard located near 19th and Illinois Streets was operated by a ship repair operator until 2017. Due to growing vessel size which can exceed the capacity of its drydocks, the Port faces competitive challenges and therefore has adjusted its business plan to solicit other marine repair, and maritime technology and business venture opportunities in addition to ship repair contracts for this facility.

The 2019-2050 Bay Area Seaport Forecast

One of the primary purposes of the *Seaport Plan* is to ensure that the Bay Area maintains sufficient capacity to accommodate regional growth in waterborne cargo into the future to minimize Bay fill. The *Cargo Forecast* was developed to project the growth of major cargo types and provide a high-level review of marine terminal capacity and expansion potential to the year 2050. The previous forecast was last updated in 2011 and it expired in 2020.

The *Cargo Forecast* was developed by an independent consultant with the SPAC, individual ports and the public providing feedback over the course of several public meetings. Evaluation of the draft *Cargo Forecast* also included a blind peer-review process and interviews with terminal operators. Following multiple rounds of review, the SPAC voted to recommend Commission approval of the *Cargo Forecast* at its May 2020 meeting. Several corrections to the *Cargo Forecast* that were identified during the Commission's consideration of Bay Plan Amendment No. 2-19 in 2022 are included in Appendix A.

The *Cargo Forecast* was produced using a cargo-specific and commodity-specific methodology. This approach accounts for issues specific to the Bay Area that will affect the flow of several types of cargo. The *Cargo Forecast* includes projections for the three major types of cargo handled by the Bay Area seaports: container, Ro-Ro, and dry bulk. Bay Area ports also handle a limited amount of non-refinery liquid bulk cargo (vegetable oil and chemicals). Growth in these categories is not expected to impact the region's cargo capacity and these cargoes are thus not analyzed in detail.

For each cargo type, a Moderate Growth scenario was developed as the "baseline" forecast. Slow Growth and Strong Growth scenarios were then created by altering variables in the Moderate Growth forecast to illustrate how actual growth could vary depending on distinct factors. The *Cargo Forecast* also accounts for future increases to productivity. Similarly, a "base productivity" scenario was created for each cargo type, and then modified to illustrate how productivity may vary according to different variables. The following sections provide a brief, high-level summary of each of these cargo types and the trends likely to influence trade in the Bay Area, as reflected in the *Cargo Forecast*.

Containerized Cargo

Cargo that is not moved in bulk or roll-on/roll-off vehicle service typically moves in international containers. Container volumes and capacities are usually measured in "twenty-foot equivalent units" (TEU). A 20-foot container is one TEU.

Several Bay Area seaports have handled containerized cargo in the past, including the Port of San Francisco, the Port of Richmond, and the Port of Oakland. Mirroring broader industry trends, container shipping has consolidated. As of 2023, the Port of Oakland handles more than 99% of the containerized goods moving through Northern California. Key findings and trends from the *Cargo Forecast* include:



Several Bay Area seaports have handled containerized cargo in the past, including the Port of San Francisco, the Port of Richmond, and the Port of Oakland. Mirroring broader industry trends, container shipping has consolidated. As of 2023, the Port of Oakland handles more than 99% of the containerized goods moving through Northern California. Key findings and trends from the *Cargo Forecast* include:

- Containerized cargo in the Bay Area is expected to approximately double in annual volume, from 2.5 million TEU in 2020 to 5.2 million TEU in 2050.
- Ports will continue to increase the productivity of container terminals. The *Cargo Forecast* uses industry benchmarks to establish scenarios for increasing productivity at the Port of Oakland.
- There is a worldwide trend toward greater automation and reliance on information technology in container terminals. The trend, however, is not uniform in either its application or its implications. Extensive terminal automation has not consistently generated expected benefits to cargo throughput.
- Average and maximum container ship sizes are both increasing due to the introduction of megaships. There is an associated need for greater berth length and deeper dredging of navigation channels to accommodate bigger ships.

Roll-on roll-off (Ro-Ro) Cargo

Roll-on roll-off, or "Ro-Ro", refers to cars, trucks, and other wheeled cargo that are driven on and off specialized ships on their own wheels or using a platform vehicle. Ro-Ro auto carriers are typically much smaller than container vessels. As of 2023, the Ports of Benicia, Richmond, and San Francisco handle Ro-Ro cargo. Key findings and trends from the *Cargo Forecast* include:



- Imported passenger vehicles accounted for most of the total light-vehicle movements over the past decade. The volume of imported passenger vehicles has increased rapidly over the past decade, substantially outpacing population growth in the region. Richmond and Benicia have also handled smaller volumes of export vehicles.

- The outlook for Ro-Ro cargo through San Francisco Bay depends on the growth in import and export auto volume, on competition, and on how many vehicles can be stored, processed, and moved through Bay Area facilities. Other long-term factors, such as a possible widespread transition to autonomous driving vehicles, may influence the volume and share of Ro-Ro cargo handled by Bay Area seaports.

Dry Bulk Cargo

Dry Bulk cargo refers to any cargo that is transported unpackaged in bulk in solid form. Examples of dry bulk cargo include bulk minerals or agricultural products. As noted in the *Cargo Forecast*:



- The dry bulk imports handled through Bay Area ports have long been dominated by construction industry needs. The major commodities have included, and continue to include, aggregates (sand and gravel), bauxite and slag (used as concrete additives), and gypsum (used in wallboard).
- There is growing demand for sand and gravel and a dwindling regional supply, which is anticipated to increase dry bulk imports through the forecasted horizon.
- Outbound dry bulk cargos include scrap metal, petroleum coke (pet coke, a refinery by-product), and coal, although some of these cargos are expected to decrease or be eliminated entirely due to local legislation banning the handling and storage of coal and pet coke.

The Bay Area's Capacity

In addition to growth and productivity scenarios, the *Cargo Forecast* includes a high-level analysis of the region's ability to accommodate cargo growth through the year 2050. The *Cargo Forecast* discusses three basic strategies to meet growth, which include: 1) Increasing throughput at existing facilities, 2) expanding to adjacent vacant land, and 3) activating dormant marine terminals. The *Cargo Forecast* also includes a review of available terminal expansion sites and their potential uses to illustrate how they might be activated to meet forecasted need.

The *Cargo Forecast* concludes that:

- If the Bay Area experiences Slow Growth to 2050, there will be adequate space within existing Port Priority Use Areas to accommodate cargo.
- If the Bay Area experiences Moderate Growth to 2050, the region will be effectively at capacity.
- If the Bay Area instead experiences Strong Growth, there will be a shortage of Port Priority Use Areas available to meet the region's needs.

There is inherent uncertainty to the practice of forecasting, but the detailed analysis in the *Cargo Forecast* is a critical tool to help the Commission evaluate individual projects and proposals across the five Bay Area seaports to ensure there is enough capacity—at a regional level—to meet the needs of the San Francisco Bay Area’s nine counties.

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Part I: Policies

The following policies are intended to achieve the goals set forth above on page four of this Plan. These policies apply to the Port Priority Use Areas designated in Part II of this plan.

The Seaport Planning Advisory Committee (SPAC)

The SPAC is an advisory body that provides critical technical expertise to the Commission on port-related issues.

Findings

- A. **SPAC composition and assignment.** The SPAC was created through a memorandum of understanding between BCDC and MTC in 1978 that established its duties and the composition of its membership. As of 2023, several updates are needed to fill vacant or obsolete appointments, clarify its purpose and functions, and ensure that its membership reflects the diversity of seaport stakeholders and near-port communities. The composition, appointment, and responsibilities of the SPAC will be set forth in the *Seaport Plan*, rather than by the 1978 memorandum of understanding, going forward.
- B. **The purpose of the SPAC.** The purpose of the SPAC is for the five Bay Area ports and other port experts to provide technical advice to the Commission as it carries out its responsibilities related to port planning and development. Although the SPAC provides an opportunity for some stakeholders to advise the Commission on port-related topics, consultation with the SPAC is not a substitute for the meaningful involvement of near-port communities in the Commission's decision-making process, as described in *Bay Plan* Environmental Justice and Social Equity findings and policies.

Policies

1. **SPAC composition and assignment.** The SPAC should consist of members assigned by the Commission, the five Bay Area ports, and representatives of Bay Area public agencies, nongovernmental organizations, and other seaport experts. The composition of the SPAC should be as follows: two (2) members assigned by BCDC; (1) member each assigned by the Metropolitan Transportation Commission, the Association of Bay Area Governments, the Port of Benicia, the Port of Oakland, the Port of San Francisco, the Port of Redwood City, the Port of Richmond, Caltrans District 4, and the U.S. Army Corps of Engineers- San Francisco District; one (1) member assigned by BCDC from an environmental interest group; two (2) members assigned by BCDC from community-based and/or environmental justice organizations; one (1) member assigned by BCDC from a maritime service organization; and one (1) member assigned by BCDC from a maritime industry stakeholder.

The Commission and the other agencies and ports listed above should assign members with diverse backgrounds reflective of the Bay Area community. Each SPAC member may assign an

alternate to serve in the absence of the member. Membership is intended to be staff-level and each of the entities listed above may assign members in a manner of their own choosing.

2. **Responsibilities of the SPAC.** As a technical advisory body to the Commission, the SPAC should:
 - a. Review general updates to the *Cargo Forecast* and *Seaport Plan*.
 - b. Advise the Commission on issues related to permits or *Bay Plan* amendments, as described in *Seaport Plan* policies or as determined necessary by BCDC staff and the Commission.
 - c. Provide a forum for BCDC, the ports, and maritime stakeholders to coordinate planning when needed.

The agenda for any given meeting will be driven by current issues and SPAC members' interests but should include regular reviews of port activities and *Seaport Plan* implementation, reviews of cargo data and the *Cargo Forecast*, and other topics relevant to the region's port operations (i.e., environmental justice, climate change, and sea level rise).

The SPAC's consideration of issues before it is advisory only. The Commission retains its authority to consider matters within its jurisdiction.

The Cargo Forecast

The [Cargo Forecast](#) provides projections to 2050 for the major types of cargo moving through San Francisco Bay as well as a high-level review of marine terminals and expansion potential within BCDC's jurisdiction. The *Cargo Forecast* provides critical information from which to evaluate individual projects and requests for changes to Port Priority Use Areas. As a 30-year forecast, actual cargo volumes are bound to vary from year to year. The purpose of a long-range forecast is to maintain the best possible information about long-term trends that will impact the Bay Area's capacity to handle cargo growth. The below findings and policies were developed based on the Commission's consideration of information contained in the *Cargo Forecast*.

Findings

- A. **Major cargo types.** There are three major types of cargo handled by the Bay Area's seaports that could stress the region's capacity in the 30-year planning horizon until 2050: containerized cargo, Ro-Ro vehicle cargo, and import dry bulk cargo.
- B. **Water-related industry.** Marine terminals serving an industrial function where the product transferred over the wharf is processed (e.g., sugar and crude oil refineries) are designated as water-related industry in the *Bay Plan*. Water-related industries are addressed by a separate set of *Bay Plan* findings and policies and are not part of the *Seaport Plan*.
- C. **Other cargos.** A limited number of Bay Area seaport facilities also handle non-refinery liquid bulk cargo, including imported vegetable oils and chemicals. Cargo movements in this category may rise or fall on a commodity-by-commodity basis without strong long-term trends.

Accordingly, the *Cargo Forecast* does not analyze the flows of these commodities in detail because cargos in this category are not expected to create pressure for Bay fill.

- D. **Previous Cargo Forecast performance.** Prior to the 2020 update to the *Cargo Forecast*, the container *Cargo Forecast* and terminal capacity estimates were last updated in 2009, and the bulk *Cargo Forecast* was last updated in 2011. While some of the trends documented in those updates have continued, there have since been numerous shifts in both economic development and trade conditions, necessitating the current, updated forecast. The 2009 containerized *Cargo Forecast* reflected widespread expectations for a strong recovery from the 2008-2009 recession. Post-recovery trade grew more slowly than anticipated at that time. Ro-Ro cargo also recovered more slowly than expected from the recession, but nearly caught up to the 2011 forecast by 2018. Dry bulk cargos, which have long been dominated by construction industry needs, generally aligned with, or exceeded the 2011 forecast predictions.
- E. **Composition of Bay Area cargo.** The composition of San Francisco Bay Area cargo flows has changed over time and will continue to shift in response to consumer demand, trade conditions, and competition with other ports. **Table 1** shows the commodities moving through Bay Area ports as of 2023. Levin Richmond is a private multi-purpose port facility adjacent to the Port of Richmond. Schnitzer Steel is a private terminal within the Oakland Harbor but not part of the Port of Oakland. Both of those private facilities are included in the Port Priority Use Areas along with the five ports.

Table 1: Composition of Bay Area Cargo as of 2023.

Commodity	Port of Oakland	Port of Richmond	Port of Benicia	Port of Redwood City	Port of San Francisco	Levin Richmond (private)	Others (private)
Containerized Imports	X	-	-	-	-	-	-
Containerized Exports	X	-	-	-	-	-	-
Containerized Domestic Inbound	X	-	-	-	-	-	-
Containerized Domestic Outbound	X	-	-	-	-	-	-
Import Autos	-	X	X	-	X	-	-
Export Autos	-	X	X	-	X	-	-

Export Scrap Metal	-	-	-	X	-	X	X
Import Veg Oils	-	X	-	-	-	-	-
Import Chemicals	-	-	-	-	-	-	X
Import Gypsum	-	-	-	X	-	-	X
Export Pet Coke	-	-	X	-	-	X	-
Export Coal	-	-	-	-	-	X	-
Import Sand and Gravel	-	-	-	X	X	X	X
Harvested Bay Sand	-	-	-	-	X	-	-
Import Slag	-	-	-	X	-	-	-
Import Bauxite	-	-	-	X	-	-	-

Table 1 was derived from Exhibit 1 of the *Cargo Forecast*. See p. 1 of the *Cargo Forecast* for more information.

- F. **Cargo Growth.** The *Cargo Forecast* indicates that total waterborne cargo for the San Francisco Bay Area will continue to increase through 2050. Containerized cargo is anticipated to approximately double in annual volume, from 2.5 million twenty-foot equivalent unit (TEU) in 2020 to 5.2 million TEU in 2050. Ro-Ro volume is anticipated to increase from approximately 500,000 imported and exported vehicles in 2020 to 718,000 vehicles annually in 2050. Dry bulk volume is anticipated to increase from approximately 8,600,000 annual metric tons in 2020 to 20,700,000 annual metric tons in 2050.

Policies

1. **Monitoring and updating the forecast.** The Commission and the SPAC, in coordination with the Bay Area seaports, should monitor the region's maritime cargo volumes, marine terminal use, and ship calls, as needed. The data collected should be assessed by the SPAC and the Commission to ensure that the Bay Area has adequate areas reserved to accommodate future port and marine terminal development. The Commission may require comprehensive updates to the forecast if cargo growth substantially deviates from expected trends, if proposed changes to Port Priority Use Areas could impact the region's capacity to handle cargo growth, or if the Commission otherwise determines it necessary. At a minimum, the *Cargo Forecast* should be reviewed no less than once every 10 years.
2. **Implementing the forecast.** The *Cargo Forecast* has a Moderate Growth scenario, which was developed as the baseline forecast, with slow and strong growth alternatives to illustrate how

cargo growth may change depending on different factors. The SPAC and Commission should generally rely on the baseline, moderate growth scenario to evaluate issues that come before the Commission. However, the SPAC and Commission may consider new information on cargo growth that deviates from the Moderate Growth scenario to supplement the *Cargo Forecast*. When possible, the *Cargo Forecast* should be updated prior to the Commission's action.

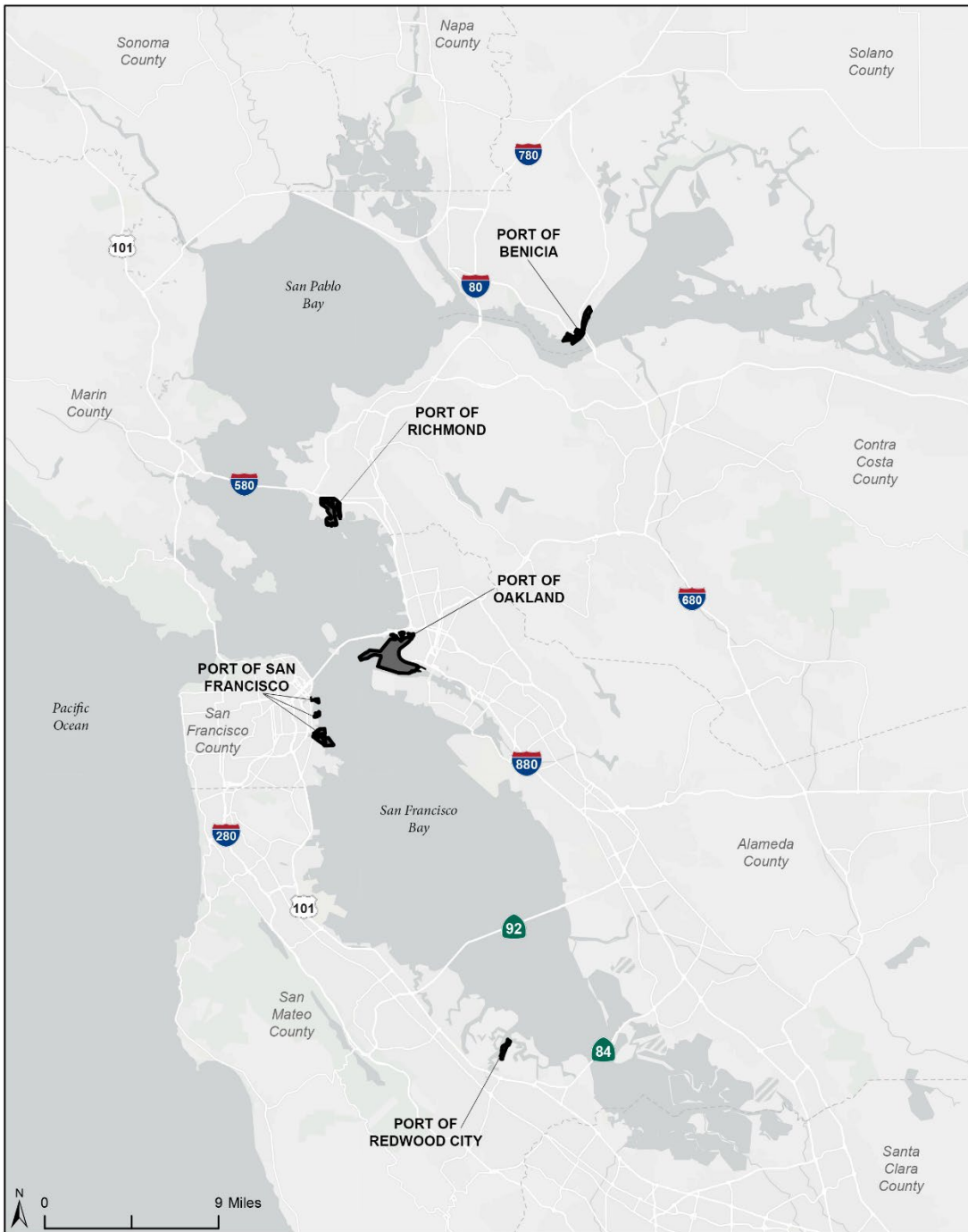
Preserving and enhancing Port Priority Use Areas

To develop the Bay and shoreline to its highest potential, the *Bay Plan* designates Priority Use Areas for certain water-oriented land uses to minimize the need for future filling in the Bay. The existence of Port Priority Use Areas helps to ensure there is adequate space to support the region's port-related needs now and into the future while minimizing future Bay fill.

Findings

- A. **Port Priority Use Areas.** Ports require a flat, expansive waterfront location on navigable, deep-water channels with excellent ground transportation access and services. Such sites around San Francisco Bay are limited and are a regional economic resource that should be protected and reserved as Port Priority Use Areas. Port Priority Use Areas are defined as marine terminals and directly related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses including truck parking and railroad yards, freight forwarders, government offices related to the port activity, chandlers, and other related marine services. **Figure 1** depicts the ports and Port Priority Use Areas around San Francisco Bay.

Figure 1: San Francisco Bay Area Port Priority Use Areas



- B. **Marine Terminals.** A marine terminal is defined as any public, private, proprietary, or military waterfront facility utilized for the receipt or shipment of waterborne cargo. For purposes of this plan, a marine terminal includes the wharf, storage area, offices, rail and truck facilities, container freight stations, intermodal container transfer facilities, areas for maintenance of containers or container handling equipment, and other functions necessary to the efficient operation of a terminal; it does not include employee parking.
- C. **Existing Active Marine Terminals.** Table 2 designates the existing active marine terminals in San Francisco Bay and lists the current uses of those sites as of 2023.

Table 2: Existing Active Marine Terminals

Location	Acres	Current Use
Benicia		
Ro-Ro terminal	75	Ro-Ro
Pet coke terminal	6	Dry Bulk
Oakland		
Ben E. Nutter	75	Container
OICT 55-56	120	Container
OICT 57-59	170	Container
TraPac	123	Container
Matson	75	Container
Off-dock staging	30	Container
Schnitzer Steel	60	Dry bulk
Redwood City		
Wharves 1 & 2	25	Dry Bulk
Wharves 3 & 4	25	Dry Bulk
Richmond		
Pt. Potrero	80	Ro-Ro
Terminals 2 & 4	52	Dry Bulk
San Francisco		
SF Pier 80	60	Ro-Ro
SF Pier 92A	4	Dry Bulk
SF Pier 94	9	Dry Bulk

- D. **Existing Marine Terminal Expansion Sites.** Existing Marine Terminal Expansion sites are those terminals identified as being used for non-cargo, ancillary use purposes but have the potential to accommodate active cargo handling in response to future demand. The amount of additional active marine terminal space needed in the future will depend on a range of factors relating to economic growth and the ability of the ports to increase productivity. These issues are analyzed in detail in the *Cargo Forecast*. Table 3 shows the existing marine terminal expansion sites and their potential uses, as identified in the *Cargo Forecast*. Any individual site can only be used for one cargo use at a time. The ranges of acres listed in the “available acres” row illustrates the

possible range of acres available for each cargo type across all Bay Area ports capable of handling that cargo type, depending on how individual sites are developed.

Table 3: Existing Marine Terminal Expansion Sites

Site	Acres	Potential use: Container	Potential use: Ro-Ro	Potential use: Dry Bulk
SF Pier 96 & Other	67	-	X	X
Oakland Berths 20-21	20	X	-	X
Oakland Berths 22-24	130	X	-	-
Oakland Berths 33-34	20	X	-	-
Oakland Roundhouse	26	X	-	-
Richmond Terminal 3	20	-	X	X
Redwood City Omni-Terminal	2	-	X	X
Available Acres	283	176-196	0-89	0-109

This table was derived from Exhibit 14 of the *Cargo Forecast*. See p. 12 of the *Cargo Forecast* for more information.

- E. **Changes in Marine Terminal Use.** Ports may need to shift the use of marine terminals from one cargo use to another (for example, from bulk to containerized cargo) to respond to changing market needs and competitive circumstances.
- F. **Marine Terminal Interchangeability.** The infrastructure requirements for marine terminals vary depending on the type of cargo being handled. Typically, there is some amount of long-term interchangeability between cargo types if the terminal remains in port use. Once a terminal has been developed for a “higher” (e.g., more port revenue) use, it is less likely to revert to a lower use. Generally, containerized cargo is higher revenue than Ro-Ro cargo, and Ro-Ro cargo is higher revenue than dry bulk cargo. However, if demand falls or a terminal otherwise becomes vacant, it may become suitable for a lower use. Therefore, the long-term use of marine terminals may change over time.
- G. **Accommodating Cargo Growth.** There are three basic strategies for accommodating cargo growth: increasing throughput at existing facilities; expansion onto vacant land or land in other uses within seaport complexes; and use of dormant marine terminals. Increased throughput at existing terminals is generally the least costly means of accommodating growth. Terminal operators can be expected to expand throughput to the point at which the terminal becomes congested or when substantial capital investment is needed to increase capacity. At that point, a number of tradeoffs will determine how or if they can expand growth. Utilizing all vacant land and dormant terminals, and investing in better technology, will reduce the pressure for Bay fill.
- H. **Ancillary Uses.** Ancillary uses are defined as port-related uses that support the operations of a marine terminal. Examples of ancillary uses include container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses including truck parking and railroad yards, freight forwarders, government offices related to the port activity, chandlers, and other related marine services. For the purposes of this plan, uses that impair or detract from the ability of a port priority use area to handle cargo are not considered ancillary uses. Ancillary uses are an essential component of a functioning port. Some ancillary uses should be located adjacent to marine terminals, while others can be located upland within or outside of Port

Priority Use Areas. Ancillary uses therefore generally have an alternate upland location. Port Priority Use areas designated within the *Seaport Plan* and *Bay Plan* are primarily intended to reserve shoreline areas for maritime terminal use, and ancillary uses are a secondary use within the Port Priority Use area.

- I. **Layberthing.** Berths are sometimes needed for layberthing activities, such as maintenance or temporary docking while waiting for a target berth to become available. Cargo is not loaded or discharged at this time, and minimal services and land side or equipment access may be available, except what is needed to secure the vessel. These activities may occur at several locations across the waterfront as needed.
- J. **Commercial Recreation and Other Interim Uses.** Commercial recreation is defined by the *Bay Plan* as facilities specifically designed to attract large numbers of people to enjoy the Bay and shoreline, such as restaurants, specialty shops, and hotels. In certain Port Priority Use Areas, interim uses, which include commercial recreational establishments, may not significantly impair the efficient use of a Port Priority Use Area for port purposes if allowance of such uses are conditioned appropriately through permits to ensure their interim nature. Such interim uses can serve as a source of revenue to the port or landowner and provide a public benefit until the area is needed for Port Priority Uses.
- K. **Public Access.** Development in the Bay or on the shoreline for port facilities must be consistent with the requirements of *Bay Plan* policies on Public Access. Making ports publicly accessible, when and where possible, is a public benefit that can enable near-port communities to learn about the working waterfront. Due to potential incompatibility of public access with active port operations (such as public safety considerations), however, port-related development often may require in lieu public access, as provided by the *Bay Plan* Public Access policies. In lieu access requirements can still provide an opportunity to improve Bay Area residents' connections with their ports.
- L. **Passenger Ferries.** Some Port Priority Use Areas may offer locations considered appropriate for the development of ferry terminals. Ferry terminals and ancillary uses, such as parking and transit stop facilities, in port areas require careful planning and design to ensure that ferry use is safe and does not interfere with existing or potential port-related uses. This use should not detract from the ability of the site to be used for cargo handling.
- M. **Historic Resources.** Port Priority Use Areas occasionally include historically significant structures (historic structures within National Parks, structures on National Register of Historic Places, California Register of Historical Resources, or a local register of historic resources). These historically significant structures can create barriers for effective maritime use, but they may present opportunities for the preservation of maritime history.

Policies

1. **Preserving Port Priority Use Areas.** Port Priority Use Areas should be protected and reserved for port purposes, as defined in Finding A of this section, and other uses that would not impair existing or future use of the area for port purposes. Potentially allowable interim and non-port uses are described in additional policies below.

2. **Role of Local Government.** Local governments and the Bay Area ports should protect Port Priority Use Areas for marine terminal uses and other directly related port activities through their land use planning and regulatory authority.
3. **Adding or Removing Port Priority Use Areas.** Requests to add or remove Port Priority Use Areas should:
 - a. Include a justification. The justification should analyze the need for the Port Priority Use Area based on meeting the regional *Cargo Forecast* and minimizing the need for Bay fill. The justification should include an environmental assessment that evaluates the reasonably foreseeable direct and indirect environmental impacts of adding or removing the Port Priority Use Area designation, including any environmental impacts associated with:
 - i. Increased port-related activity or necessary improvements which may potentially result from newly designated areas.
 - ii. New use(s) or development which may potentially result from removal of the Port Priority Use Area designation and any new Bay fill which may be needed to offset the removal of the Port Priority Use Area designation.
 - b. Requests to remove Port Priority Use Areas should not occur unless the person or organization requesting the deletion can demonstrate to the satisfaction of the Commission that the deletion does not detract from the region's ability to meet the projected growth in cargo. If the request is to remove a designated Marine Terminal (see Table 2 and Table 3), then the justification should demonstrate that the *Cargo Forecast* can be met with existing marine terminals, and an update to the *Cargo Forecast* may be first required to ensure the removal would minimize the need for Bay fill.
 - c. Include meaningful community engagement and an assessment of consistency with *Bay Plan* Environmental Justice and Social Equity Policy 4.
 - d. Include consultation with the relevant port or property owners.
 - e. Include consultation with the SPAC.
4. **Bay Fill to Develop Existing Designated Marine Terminal Sites.** Bay fill to develop existing marine terminal sites (see Table 2 and Table 3) should be consistent with the requirements of the McAteer-Petris Act and the *Bay Plan*, including that the Bay fill proposed meets the requirements of Government Code section 66605.
5. **Bay Fill for New Marine Terminals.** The development of new marine terminals should be based on the projected regional need for new facilities as provided in the *Cargo Forecast*. Bay fill should not be approved unless the project proponent can demonstrate to the satisfaction of the Commission that:
 - a. All available existing berths and terminals capable of handling the type of cargo in question have reached their capacity;
 - b. All reasonable investments to maximize cargo efficiency have already been made;
 - c. No other feasible alternative to construction of new terminals exists; and
 - d. The development is consistent with the requirements of the McAteer-Petris Act and the *Bay Plan*, including that the Bay fill proposed meets the requirements of Government Code Section 66605.

6. **Changes to Marine Terminal Use.** When a BCDC permit is required for the development of a marine terminal for cargo use, applicants should demonstrate that the change in terminal use would not detract from region's ability to accommodate the projected growth in cargo, as provided in the *Cargo Forecast*, and minimize the need for Bay Fill. Such requests should also include meaningful community engagement, commensurate with the nature of the request and consistent with *Bay Plan* policies on Environmental Justice and Social Equity.
7. **Layberthing.** Where and when available, the SPAC, the Commission, and the ports should support layberthing activities, particularly during times of emergencies and incident response operations.
8. **Commercial Recreation and Other Interim Uses.** Interim uses should be of a nature that allows for the site to be converted to port use when it is needed for marine terminal development or other port priority use and is assured through appropriate conditioning of BCDC permit required for the proposed interim use. The length of the interim use period should be determined on a case-by-case basis for each site and proposed use. Factors to be considered in determining the length and conditions of the interim use should include but are not limited to: (1) the nature and size of the use; (2) the amortization period of investments associated with the proposed use; (3) the lead time necessary to convert the site to the designated marine terminal or port use; and (4) the need for the site as described in the *Cargo Forecast*.
9. **Public Access.** Public access amenities that enhance the public's access to or understanding about the working waterfront, including visual corridors, temporary access, or other programmatic elements should be encouraged, provided that such proposals are consistent with all applicable Bay Plan Public Access policies.
10. **Passenger Ferries.** Within Port Priority Use Areas, passenger ferry terminals and related ancillary uses may be allowed, provided that the development and operations of the ferry facilities do not interfere with ongoing or potential future port-related uses, and navigational and passenger safety can be assured.
11. **Historic Resources.** The development of non-maritime uses at historically significant structures should only be allowed where the use is compatible with an active maritime environment and would not interfere with surrounding maritime operations or create risks to safety or security. Such uses could include commercial or light industrial uses.

Climate Change

Findings

- A. **Importance of the Seaports.** The Bay Area's five seaports provide critical logistics and economic connections within the Bay region, with Northern and Central California at large, and with international markets. Seaports are important to the regional economy of the Bay Area and beyond and serve as major job centers. Due to the size and specialized role of each port, there is little redundancy within the port system. A disruption at one of these ports could have significant and negative implications for the region's economy, the environment, and communities' access to products and jobs. By their nature, seaports must be located on the

shoreline, putting them at increased risk for flooding due to sea level rise. However, unlike other land uses, seaports have more limited adaptation options.

- B. **Seaport Vulnerabilities.** Several initiatives have been completed or are underway to assess port vulnerabilities associated with climate change and sea level rise. Assembly Bill 691 (Muratsuchi, 2013), which added section 6311.5 to the Public Resources Code, required State Lands Commission (SLC) trustees to make addressing sea level rise a management priority and submit assessments to the SLC on how the trustees propose to address sea level rise. An August 2022 Synthesis Report prepared by the SLC found that across the individual assessments submitted by trustees, the most identified vulnerable assets are those associated with vessel infrastructure. In addition to Marine Terminals, seaports require on-site and off-site facilities and services that can be disrupted or damaged by temporary flooding or permanent flooding, such as utilities, storm water, pipelines, and transportation infrastructure. Available data from the Bay Area ports indicates that at low levels of sea level rise, there may not be major impacts to port operations. However, beyond mid-century, the risk of extreme storm flooding and daily tidal inundation will begin to dramatically increase. Regional impacts to railroads and highways that serve the ports may also pose a threat to port operations. Ports, by their nature, may not be able to relocate and may need to adapt in place. Costly upgrades and investments will be required to support port operations into the future.
- C. **BCDC-led Climate Adaptation Efforts.** Adapting to climate change at the Bay Area ports will require coordination across local, state, and federal levels. *Bay Plan* Climate Change Policy 6 requires the Commission, in collaboration with an array of other entities, to formulate a regional sea level rise adaptation strategy that, in part, protects infrastructure crucial to public health or the region's economy, including ports and regional transportation. BCDC's Adapting to Rising Tides program provides tools, maps, research, analysis, and technical assistance to support sea level rise adaptation across the Bay Area. In 2021, the Commission adopted *Bay Adapt: Regional Strategy for a Rising Bay*, a consensus-driven strategy developed with public, private, and non-profit sector leaders and adopted or endorsed by over 50 local, regional, state and other organizations. The Bay Adapt Joint Platform lays out a set of guiding principles, priority actions, and vital tasks whose implementation will enable the region to adapt faster, better, and more equitably to a rising San Francisco Bay. When fulfilled, it will reduce flood risks for communities, businesses, infrastructure, and habitat; protect natural areas and wildlife; recognize and equitably support low-income, frontline communities; robustly integrate adaptation into community-focused local plans; accelerate permitting and project construction; and increase technical assistance for local governments and funding for adaptation.
- D. **Emergency Response.** Bay Area seaports have played a key role in emergency response during catastrophic events, serving as a first line of defense. Some ports are designated as Federal Staging Areas (FSAs) by the Federal Emergency Management Agency (FEMA) to be activated during an emergency. This critical role can help to move first responders, residents, and critical supplies by water when land-based transportation modes are unavailable or overwhelmed.

Policies

1. **Adaptation to Rising Sea Levels.** The Bay Area ports should be included as critical stakeholders in existing and future planning efforts for a regional adaptation plan, and the SPAC should be a primary point of contact to provide technical expertise and facilitate access to sea level rise data and other port-related information. The ports should continue to update their vulnerability assessments and adaptation plans in line with best available science.
2. **Seaport Plan and Cargo Forecast Updates.** Future updates to the *Cargo Forecast* or *Seaport Plan* should incorporate updated findings and policies for sea level rise based on regional adaptation plan or plans, continued work under AB 691, and individual initiatives undertaken by the ports.
3. **Disaster Response.** The role of seaports in responding to incidents and disasters should be recognized as a regional and national strategic asset.

Environmental Justice and Social Equity

Findings

- A. **Port-related Environmental Health Impacts.** Port operations and associated cargo transportation activities contribute to disparities in health outcomes for port-adjacent communities. Low-income communities of color are often located adjacent to ports, resulting from historical segregation and discriminatory policies such as redlining. Health-related impacts can include:
 - a. **Air Pollution.** Ships, equipment, and trucks at the port emit diesel particulate matter, fine particulate matter (PM 2.5), and toxic air contaminants (TACs). These types of emissions have been connected to higher rates of asthma, cancer, heart disease, and stroke.
 - b. **Water Pollution.** Port operations can impair neighborhood water quality. Runoff from impervious surfaces can carry pollutants that impact the ability of adjacent communities to safely recreate or eat fish or shellfish.
 - c. **Light and Noise Pollution.** Light and noise pollution from port operations can contribute to hearing impairment, high blood pressure, and sleep deprivation.
 - d. **Additional cumulative impacts.** Beyond direct health disparities, environmental justice communities often experience cumulative stressors including neighborhood disinvestment, income inequality, public safety concerns related to truck routes and rail crossings, and coastal-related threats from climate change and extreme weather events.
 - e. **Climate change.** Climate Change will exacerbate existing environmental justice health impacts and introduce new challenges too. For example, groundwater rise has the potential to inundate contaminated sites and hazardous facilities in low-lying coastal communities, creating new risks to public health.
- B. **Efforts to Reduce Environmental Burdens.** Mitigating port-related environmental burdens requires action at local, state, and federal levels, and the ports, public agencies, and nonprofit organizations have all worked to address these issues. Responsibility for regulatory issues such

as air pollution and water pollution may fall into the jurisdiction of several different agencies and authorities. For example, the Bay Area Air Quality Management District (BAAQMD) primarily regulates stationary sources of air pollution, while emissions from ocean-going vessels are regulated by the California Air Resources Board (CARB). Water quality is primarily regulated by the State Water Resources Control Board, the San Francisco Bay Regional Water Quality Control Board, the U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers. In addition, the San Francisco Bay Plan includes policies related to Water Quality. Local governments also have direct and indirect roles in regulating and reducing port-related environmental burdens through building codes, zoning ordinances, and other local laws.

- C. **BCDC's Role and Authority.** As stated in the *Bay Plan*, BCDC has played a role in approving development for port and other industrial-related projects through its permitting authority. The *Bay Plan* states that “the Commission’s Priority Use Areas, intended to minimize the necessity for future Bay fill, has also facilitated the aggregation of pollution sources within areas designated for Port and Water-Related Industry Priority Use Areas.” The scope of BCDC’s regulatory authority is defined by the McAteer-Petris Act, which is most directly concerned with minimizing Bay fill and associated environmental impacts of new fill, as well as increasing public access to the shoreline. However, even where BCDC does not have direct authority to regulate issues like air pollution, BCDC has a responsibility to ensure that local governments and the Commission take measures through environmental review and permitting processes, within the scope of their respective authorities, to require mitigation for disproportionate adverse project impacts on the identified vulnerable or disadvantaged communities in which the project is proposed (see *Bay Plan* Environmental Justice and Social Equity Policy 4).

Policies

1. **Bay Plan Policies.** The *Bay Plan’s* Environmental Justice and Social Equity findings and policies apply to all the Commission’s actions and activities. These policies are especially critical in and adjacent to Port Priority Use Areas.
2. **Projects to Reduce Air Emissions.** Port development that supports the transition to zero-emissions seaports (e.g., shore power improvements or other infrastructure modifications) should be encouraged and facilitated whenever possible.
3. **Regional Collaboration and Seaport Plan Updates.** BCDC and the SPAC should explore opportunities to collaborate with the ports, public agencies, and other regional partners to support and expand efforts to address environmental justice concerns. *Seaport Plan* updates should include equitable, culturally relevant community outreach and engagement with nearby communities, particularly underrepresented, vulnerable and/or disadvantaged communities.

Regional Coordination and Future Seaport Plan Updates

Findings

- A. **Transportation Planning.** The Port Priority Use designation reserves certain areas for port uses, but those areas need access to a robust regional ground transportation network. Coordination between BCDC and local and regional transportation planning agencies is necessary to maximize the efficiency and benefits of port operations.
- B. **Plan Bay Area Growth Geographies.** MTC's *Plan Bay Area 2050* contains four categories of Growth Geographies, which MTC defines as areas used to guide where future growth in housing and jobs would be focused under the plan's strategies over the next 30 years. One category, Priority Production Areas (PPAs) is of especial relevance to the *Seaport Plan*. PPAs are "Locally identified places for job growth in middle-wage industries like manufacturing, logistics or other trades. An area must be zoned for industrial use or have a predominantly industrial use to be a PPA". There is some overlap between PPAs and Port Priority Use Areas.
- C. **San Francisco Bay Area Goods Movement Plan.** In 2016, MTC released the *San Francisco Bay Area Goods Movement Plan* to outline a long-range strategy for how to move goods effectively within, to, from and through the Bay Area. Building on this work, in 2019, MTC released the *Northern California Megaregion Goods Movement Study*. This study proposed three investment strategies aimed at advancing megaregional coordination, funding competitiveness, and climate resilience across the Northern California Megaregion. The study found that collaborative planning across the megaregion could produce more cost-effective outcomes. Alignment of Port Priority Use Areas can be a critical part of the goods movement network.
- D. **Regional Coordination.** While the *Seaport Plan* primarily reflects BCDC's role in regional port planning, to fully realize the plan's goals, coordination on a regional level is needed. Ensuring that the San Francisco Bay port system is a major world port and contributor to the economic vitality of the San Francisco Bay region is the shared responsibility of the region's ports, regional, state, and federal agencies, local governments, and private sector.

Policies

1. **Preserving Ground Transportation Access to Marine Terminal Sites.** Local, state, and federal government actions, such as land use decisions, public works projects, or rail abandonments, should improve, and not impede, access to the marine terminal sites identified in the *Seaport Plan*.
2. **Ground transportation and circulation.** The Bay Area ports, local governments and marine terminal operators should take steps to make the best possible use of existing ground transportation facilities and should employ measures to mitigate any significant adverse environmental effects of increased traffic at existing and proposed marine terminal facilities.
3. **MTC and BCDC Coordination.** When MTC amends its Growth Geographies as part of future *Plan Bay Area* updates, or when BCDC updates the *Seaport Plan*, MTC and BCDC should coordinate to align Port Priority Use Areas and PPAs where feasible and should work to reduce potential conflicts between other categories of Growth Geographies and Port Priority Use Areas if they arise.

4. **Updating the Seaport Plan.** The *Seaport Plan* should be updated as needed to reflect changes to the *Cargo Forecast* and to address emerging policy issues. When possible, updates should be synchronized with the planning cycle of MTC’s *San Francisco Bay Area Goods Movement Plan* or/and *Plan Bay Area* to coordinate changes to BCDC policies and Priority Use Area boundaries with regional planning initiatives being led by MTC. At a minimum, the *Seaport Plan* should be updated prior to the expiration of the *Cargo Forecast* in 2050.

DRAFT

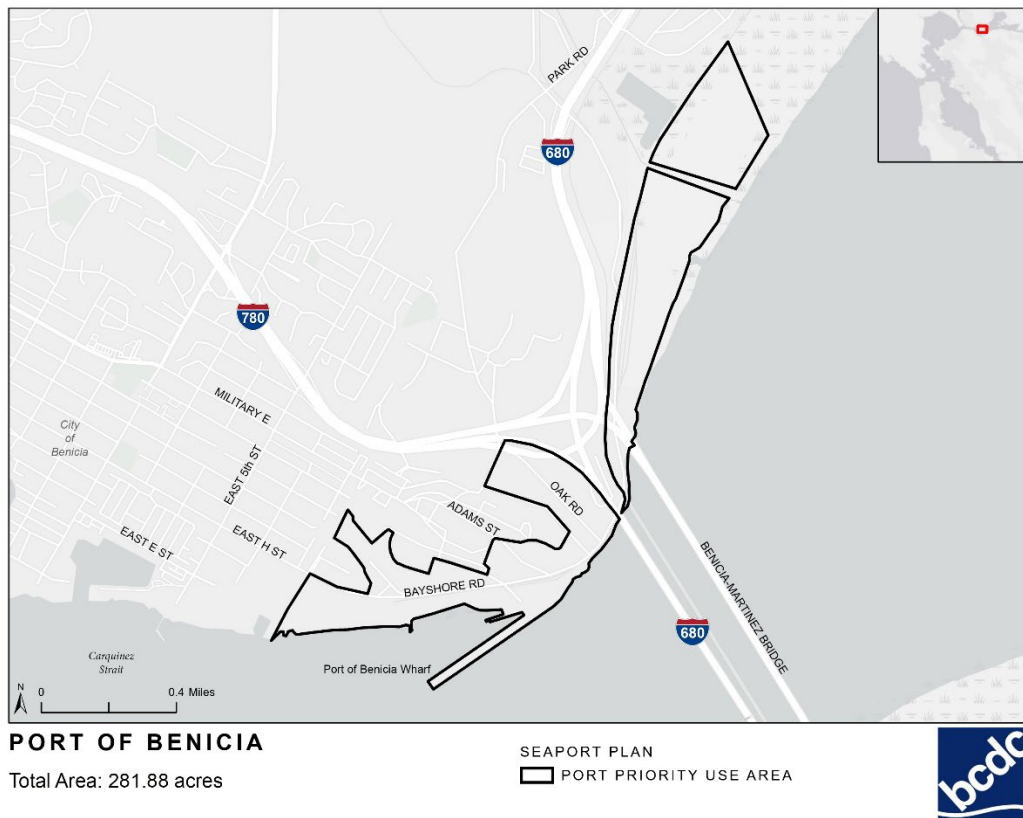
Part 2: Designations

This section of the *Seaport Plan* contains maps of the five designated Bay Area Port Priority Use Areas. By ensuring that these sites are reserved for existing and future maritime development, the *Seaport Plan* will facilitate regional economic development, help to make efficient use of limited fiscal and geographic resources, and protect San Francisco Bay and its natural resources by minimizing the need for future Bay fill for port use over the horizon of the *Cargo Forecast*.

Benicia Port Priority Use Area

The Benicia Port Terminal Company (BPTC) owns and operates a 4-berth marine terminal on the Carquinez Strait, west of the Benicia-Martinez Bridge. As of 2023, the Port of Benicia handles autos and trucks in Ro-Ro service (predominantly imports). BPTC also exports petroleum coke in bulk from a nearby refinery. The Benicia Port Priority Use Area is illustrated in Figure 2.

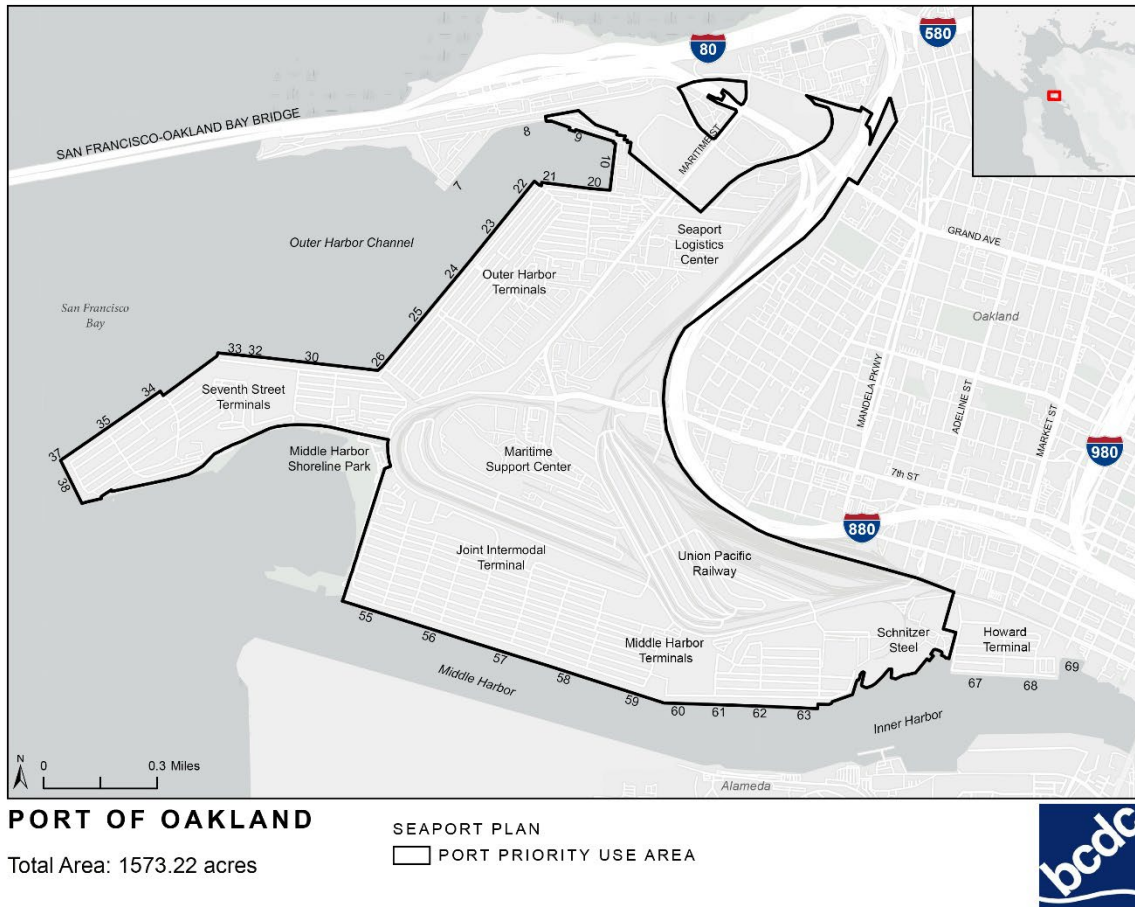
Figure 2: Benicia Port Priority Use Area



Oakland Port Priority Use Area

The Oakland Port Priority Use Area encompasses the Port of Oakland as well as a private terminal within the Oakland Harbor currently owned and operated by Schnitzer Steel. The Oakland Port Priority Use Area is illustrated in Figure 3.

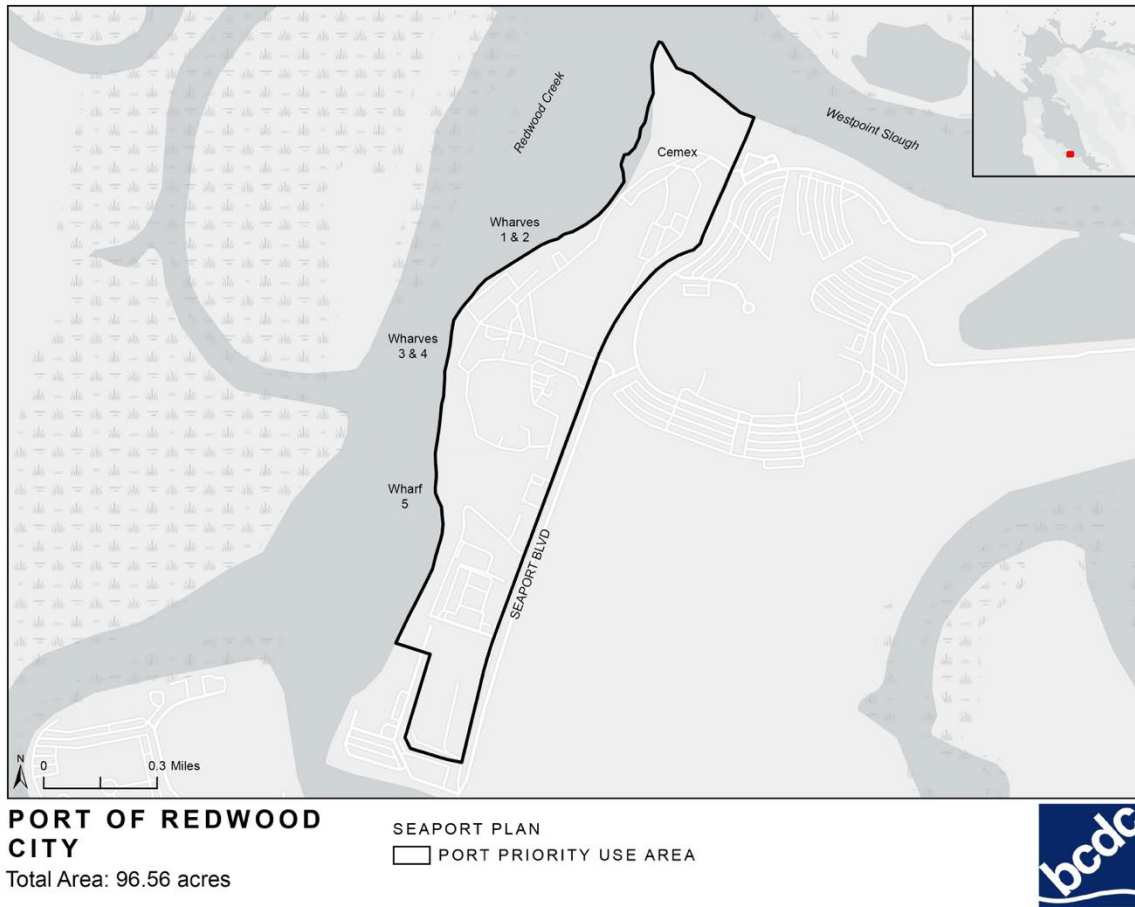
Figure 3: Oakland Port Priority Use Area



Redwood City Port Priority Use Area

The Port of Redwood City is the only deep-water port in the South San Francisco Bay, consisting of four berths along the Redwood Creek Channel. The port accommodates dry bulk, liquid bulk, and other cargos. The Redwood City Port Priority Use Area is illustrated in Figure 4.

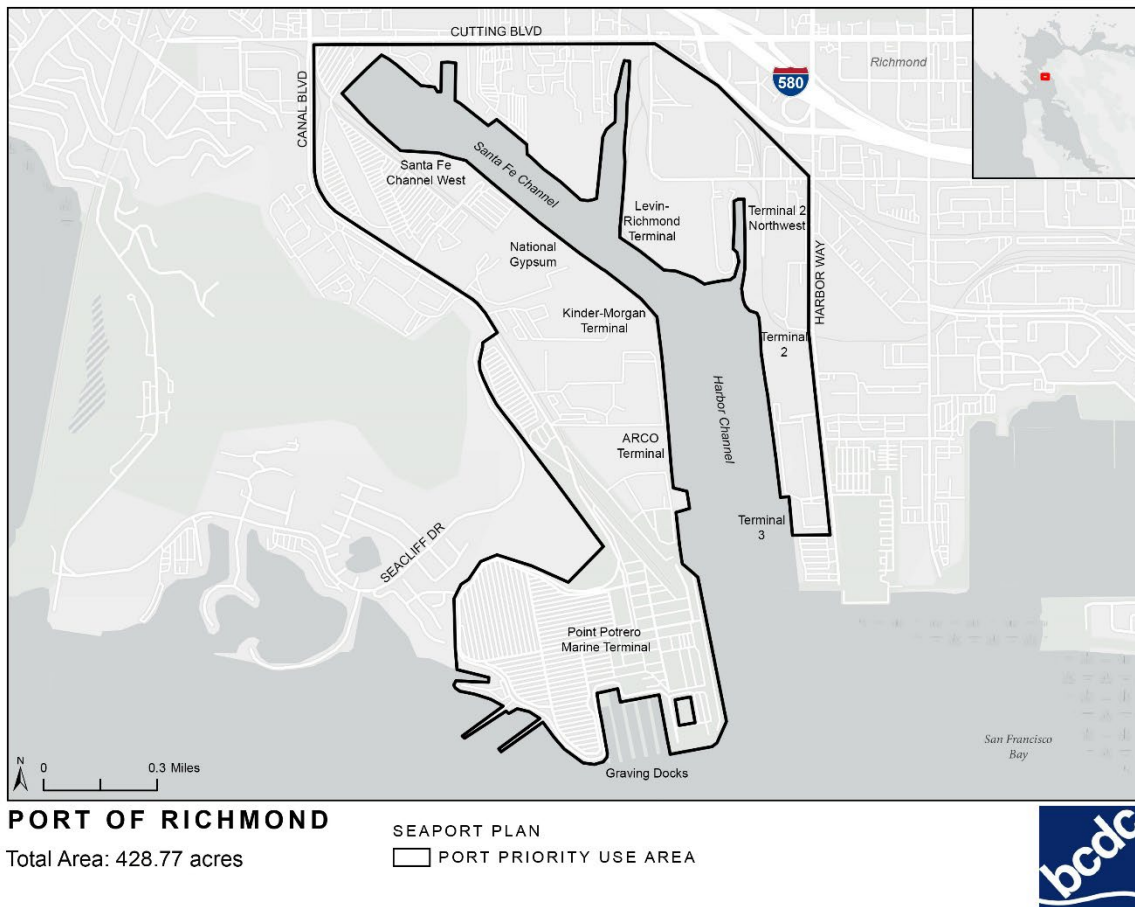
Figure 4: Redwood City Port Priority Use Area



Richmond Port Priority Use Area

The Richmond Port Priority Use Area encompasses the Port of Richmond, which has five city owned terminals and ten privately owned terminals for handling bulk liquids, dry bulk materials, metals, vehicles, and break-bulk cargos, as well as the Levin Richmond Terminal (LRT), a private multi-purpose port facility that currently handles export coal and petroleum coke, as well as scrap metal exports. The Richmond Port Priority Use Area is illustrated in Figure 5.

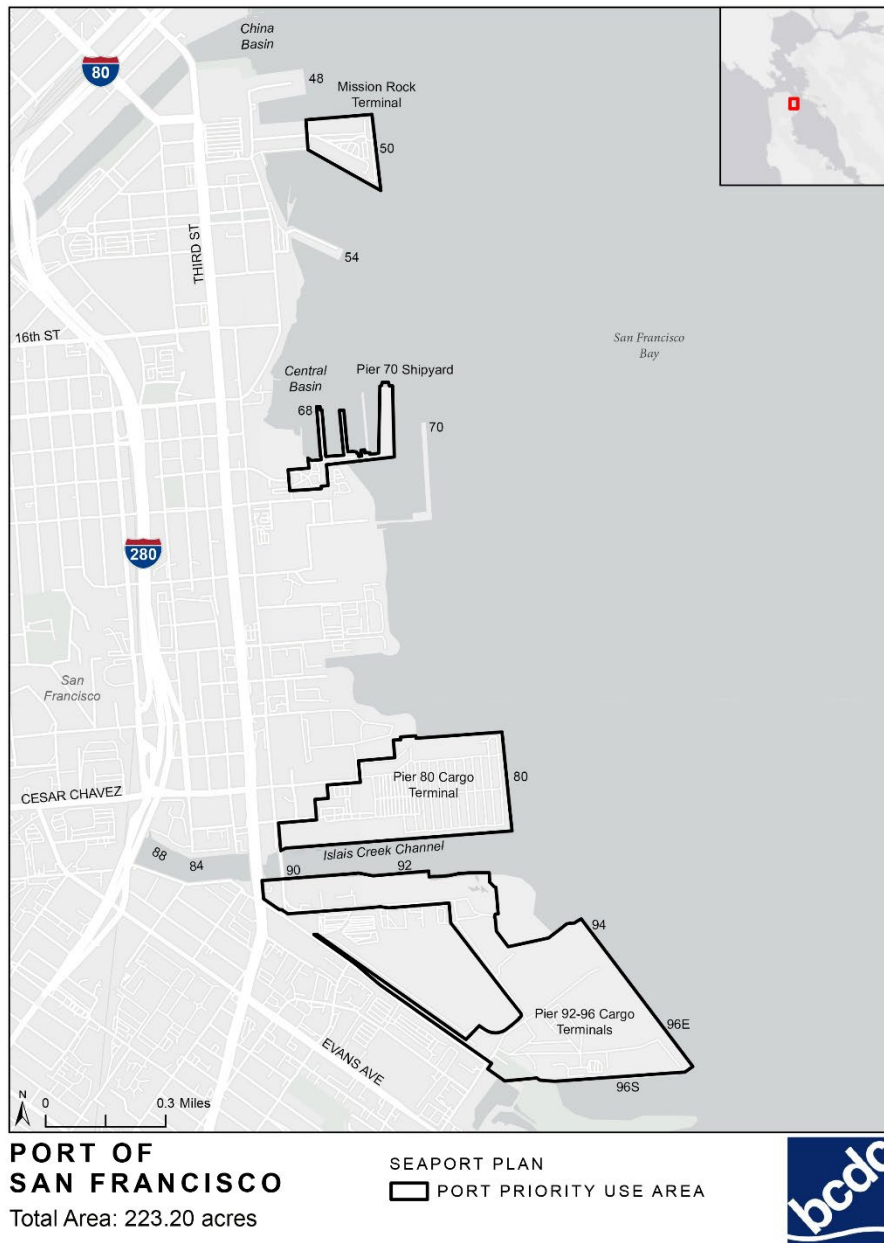
Figure 5: Richmond Port Priority Use Area



San Francisco Port Priority Use Area

The San Francisco Port Priority Use Area consists of several terminals and related industrial lands operated by the Port of San Francisco south of China Basin. The Port of San Francisco handled container cargo until 2013. It currently handles Ro-Ro and dry bulk cargo. The San Francisco Port Priority Use Area is illustrated in Figure 6.

Figure 6: San Francisco Port Priority Use Area



Glossary

Association of Bay Area Governments (ABAG) is part regional planning agency and part local government service provider, whose mission is to strengthen cooperation and collaboration across local governments to build healthier, stronger communities.

Bay Area Ports refers to the ports of Benicia, Oakland, Redwood City, Richmond, and San Francisco.

Cargo Forecast means the 2019-2050 Bay Area Seaport Forecast.

Coastal Zone Management Act of 1972 is a federal law that encourages coastal states to develop and implement coastal zone management plans (CZMPs). BCDC's Bay Plan is an integral part of the federally approved coastal zone management program for the San Francisco Bay segment of California's coastal zone, and BCDC is the California state agency responsible for administration of that program.

Compound annual growth rate (CAGR) is a term for a geometric progression ratio that provides a constant rate of return. It is used in the *Cargo Forecast* to measure the growth of cargo volumes over time.

Containerized Cargo means general cargo packed in standard size weather tight boxes. Standard container length is twenty feet, and height is either nine or nine and one-half feet. Containerized cargo is commonly referred to in "TEUs," shorthand for twenty-foot equivalent units. Cargo remains in container from origin to destination.

Drayage means transportation of containers by truck between a container yard and other site, such as a rail yard.

Dry Bulk Cargo means cargo loaded or unloaded in conveyor belts, spouts or scoops, and not placed individually; flowing cargoes such as rice, grain, various ores, etc.; stored loose.

Fill means earth or any other substance or material, including pilings or structures placed on pilings, and structures floating at some or all times and moored for extended periods, such as houseboats and floating docks. (Reference Government Code section 66632(a)).

Intermodal Transportation means the convenient, rapid, efficient, and safe transfer of people or goods from one mode to another during a single journey to provide the highest quality and most comprehensive transportation service for its cost.

Layberthing refers to vessels that use a berth on a temporary basis for maintenance or lay up, and not for loading or discharging cargo.

Liquid Bulk Cargo means liquid cargo, such as petroleum or vegetable oil, which is shipped in tanks rather than small individual units.

Marine Terminal Berth means a wharf and other marine terminal facilities necessary to support a single ship berth.

Marine Terminal Capacity means the maximum capability of a marine terminal to handle cargo measured in metric tons per year.

Marine Terminals means any public, private, proprietary, or military waterfront facility utilized for the receipt or shipment of waterborne cargo. For purposes of this plan, a Marine Terminal includes the wharf, storage area, offices, rail and truck facilities, container freight stations, intermodal container transfer facilities, areas for maintenance of containers or container handling equipment, and other functions necessary to the efficient operation of a terminal; it does not include employee parking. Marine terminals that serve an industrial function where the product transferred over the wharf is processed (e.g., sugar and crude oil refineries) are not included in this plan.

McAteer-Petris Act is the key California state law to preserve San Francisco Bay from indiscriminate filling. This law, enacted on September 17, 1965, first established BCDC as a temporary state agency charged with preparing a plan for the long-term use of the Bay. In August 1969, the McAteer-Petris Act was amended to make BCDC a permanent agency and to incorporate the policies of the San Francisco Bay Plan (*Bay Plan*) into state law. The McAteer-Petris Act directs the Commission to exercise its authority to issue or deny permit applications for placing fill, extracting material, or changing use of any land, water, or structure within the Commission's jurisdiction in conformity with the provisions and policies of both the McAteer-Petris Act and the Bay Plan.

Metric Ton means 2,205 lbs. or 1.102 short tons.

MTC means the Metropolitan Transportation Commission. MTC is the transportation planning, financing, and coordinating agency for the nine-county San Francisco Bay Area.

Port Priority Use Areas means shoreline sites needed for regional maritime port use that include within their premises marine terminals and directly related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses including truck parking and railroad yards, freight forwarders, government offices related to the port activity, chandlers, and other related marine services. Port Priority Use Areas are land use designations specifically set forth in the McAteer-Petris Act, which law also sets forth the process and mechanism by which the Commission may establish and change Port Priority Use Area designations. In context of the McAteer-Petris Act, the purpose of the Port Priority Use Area designation is to make provision for adequate and suitable locations for port uses, thereby minimizing the necessity for future Bay fill to create new sites for port use.

Productivity means the per berth capacity of marine terminals.

Roll-on/Roll-off (Ro-Ro) Cargo means a method of ocean transport which permits wheeled vehicles (e.g., autos, trucks, forklifts) to drive on and off the vessel under their own power.

San Francisco Bay means all areas that are subject to tidal action from the south end of the bay to the Golden Gate (Point Bonita-Point Lobos) and to the Sacramento River line (a line between Stake Point and Simmons Point, extended northeasterly to the mouth of Marshall Cut), including all sloughs, and specifically, the marshlands lying between mean high tide and five feet above mean sea level; tidelands (land lying between mean high tide and mean low tide); and submerged lands (land lying below mean low tide) as defined in Government Code section 66610(a).

San Francisco Bay Area means the City and County of San Francisco and the counties of Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano and Sonoma.

San Francisco Bay Conservation and Development Commission (BCDC) is a California state agency that protects and enhances San Francisco Bay and advances the Bay's responsible, productive, and equitable uses for this and future generations as we face a changing climate and rising sea levels.

San Francisco Bay Plan (Bay Plan) was originally prepared by BCDC and adopted by the legislature in 1969. The Bay Plan contains findings and policies that guide uses of the Bay and shoreline, and the maps that apply these policies to the Bay and shoreline.

Seaport Planning Advisory Committee (SPAC) means an advisory body of the Commission that provides critical technical expertise and stakeholder input to the Commission on port-related issues.

Twenty-foot Equivalent Unit (TEU) means a unit of measurement commonly used to measure the volume of containerized cargo. A standard 20-foot container is one TEU.

Waterborne Cargo means receipts and shipments of foreign and domestic cargoes shipped in vessels or barges.

Appendix A: Addendum to the Cargo Forecast

This addendum to the *Cargo Forecast* provides several updates based on additional information and staff analysis that resulted from the Commission’s consideration of Bay Plan Amendment No. 2-19, a request by the Oakland Athletics to remove the Port Priority Use Area designation from Howard Terminal at the Port of Oakland. This document also summarizes container cargo capacities reflecting the removal of Howard Terminal. Additional information can be found in the [Staff Summary and Preliminary Recommendation](#) as well as the [Staff Final Recommendation](#) for BPA 2-19.

Container Terminal Capacity

Table 1 shows the Port of Oakland’s acreage in terminals and major off-dock parcels. The Port Priority Use Area designation for Howard Terminal has been removed by operation of BPA No. 2-19, reducing the total terminal acres at the Port of Oakland (designated as Port Priority Use Area) from 839 acres to 789 acres².

The Oakland International Container Terminal (OICT) is using 25 to 30 acres of off-dock land for container staging. The site, labeled as “Off-Dock Staging” in this table, is operated by sister company Shippers’ Transport Express (STE). STE provides a premium service to shippers for faster container retrieval. Containers are driven from the OICT marine terminal to the STE site (inland in the Port) where they are retrieved by customers.

The *Cargo Forecast* identified this site as an off-dock container staging area for OICT and included it in summary tables of the Port of Oakland’s acreage in terminals and major off-dock parcels. However, it is not a water-dependent marine terminal. It reduces dwell times at OICT and improves the overall efficiency of container movement through the Port, but likely will not achieve the same productivity levels as terminal sites at the waterfront. During the Commission’s consideration of BPA 2-19, BCDC staff examined this issue and recommended displaying the site as a range of acreage. An acreage range more

² The Commission voted to remove the Port Priority Use Area from the Howard Terminal site in the Port of Oakland on June 30, 2022. However, the project remains subject to the requirements of AB 1191 (Bonta, 2019), which guides the development process for a project defined in that law as the “Oakland Sports and Mixed-Use Project.” As provided in section 8(b) of AB 1191:

If the port and the Oakland Athletics have not entered into a binding agreement by January 1, 2025, that allows for the construction of the Oakland Sports and Mixed-Use Project, the port priority use designation shall be automatically reinstated on the Howard Terminal property as if it had not been deleted pursuant to BCDC’s Seaport Plan and Bay Plan amendment process. If the port and the Oakland Athletics have entered into a binding agreement by January 1, 2025, that allows for the development of the project, but that agreement is subsequently terminated before construction has commenced on all or any portion of the Howard Terminal property, then the port priority use designation shall be automatically reinstated, if it had previously been deleted pursuant to BCDC’s Seaport Plan and Bay Plan amendment process, on the undeveloped portions of the Howard Terminal property for which the agreement has terminated.

accurately represents uncertainty regarding the future use of the site. This table is an update to Exhibit 4 of the *Cargo Forecast*.

Table 1: Port of Oakland Terminals and Acreages

Site	Acres	2019 Acres in Use	Potential Terminal Acres	Build-out Acres	Post-Electrification Acres
Ben Nutter	75	75	0	95	93
Berths 33-34	20	-	20		
OICT 55-56	120	120	0	290	288
OICT 57-59	170	170	0		
TraPac	123	123	0	123	121
Matson	75	75	0	101	99
Roundhouse	26	-	26		
Berths 20-21*	18	-	150	150	148
Berths 22-24	132	-			
Off-Dock Staging**	30	30	0-30	0-30	0-30
Long-term Total	789	593	196-226	759-789	749-779

* 18 acres may become dry bulk terminal for 12 years.

** See explanation above and p. 13 of the Staff Final Recommendation for BPA 2-19.

Roll-on Roll-off (Ro-Ro) Cargo Capacity

The *Cargo Forecast* identified 75 acres of existing Ro-Ro capacity at the Port of Benicia. During the BPA 2-19 process, BCDC staff examined the Benicia Port Priority Use Area and identified a methodological error in how Ro-Ro acreage was calculated that results in additional existing Ro-Ro acres being utilized by the Port of Benicia. This correction does not impact Ro-Ro growth projections but increases the number of acres available to meet future demand from 75 acres to 122 acres.

The original figure of 75 acres of existing Ro-Ro capacity was obtained from the Port of Benicia as the *Cargo Forecast* was being developed. Each port has a representative on the SPAC who worked directly with BCDC's consultant to provide information about their operations and available acreage. Figure 1 illustrates the Benicia Port Priority Use boundary.

Figure 1: Benicia Port Priority Use Area



PORT OF BENICIA

Total Area: 281.88 acres

SEAPORT PLAN
 □ PORT PRIORITY USE AREA



The 75 acres originally included in the *Cargo Forecast* is the area south of the Benicia-Martinez Bridge labeled “Ro-Ro Operations” in Figure 1. It is the main Ro-Ro terminal, the only area with water access, and the first point of rest space for vehicles arriving on vessels to the Port of Benicia.

However, the Benicia Port Priority Use Area is much larger. The processing and parking operations area located north and northwest of the port is outside the PUA, but areas A, B, and C in Figure 1 are within the PUA. This area is separated from the Bay by wetlands and therefore does not accommodate berthing.

Nonetheless, portions of this area contribute to Ro-Ro cargo capacity. Import vehicles arrive by vessel at the 75-acre terminal area labeled “Ro-Ro Operations”. Those eventually moving inland by rail are staged and subsequently driven to a portion of the areas labeled A, B, and C, where they wait to be loaded onto rail cars. This means that the Port of Benicia’s Ro-Ro operations are effectively larger than 75 acres because some of the non-vessel Ro-Ro activity occurs outside of the first point of rest space.

Areas A, B, and C contain a mix of import, export, and domestic operations and a large rail facility. Trains at this facility contain a mixture of domestic and internationally imported vehicles. Domestic vehicles arrive by rail, whereas international vehicles arrive by ship. Information obtained from the Port indicates

that area A is exclusively import cargo, area B is approximately 60/40 percent import/domestic, and C is approximately 80/20 percent domestic/export and other.

Staff asked about the feasibility of relocating domestic operations should demand for imports and exports increase. The Port of Benicia responded that it would be infeasible to divorce domestic transportation from imports and exports due to how vehicles are delivered on trains. As domestically produced vehicles are unloaded, empty railcars are filled with imported vehicles for the backhaul (return trip for a train) -- a process that is essential for efficient rail traffic and moving import cargo from the port. For this reason, staff did not assume that domestic operations can be displaced at the Port of Benicia if demand for imports/exports rises.

However, the portion of operations devoted to imports and exports should be counted toward existing Ro-Ro capacity. The portion of areas A, B, and C contributing to Ro-Ro capacity (not including rail facilities) amounted to about 46 acres. Added to the most precise estimate of 76 acres for the main Ro-Ro operations area, the existing capacity at the Port of Benicia as of 2022 was 122 acres, which was confirmed by staff with the Port of Benicia.

Because these 46 acres are already in use, they provide additional long-term capacity only to the extent that they can increase productivity from the existing average of about 1700 annual units per acre to a higher benchmark of 1,976 annual units per acre.

Increasing Benicia’s existing Ro-Ro capacity from 75 to 122 acres results in several changes to the capacity estimates in the *Cargo Forecast*. Table 2, below, illustrates the changes to existing capacity. This is an updated version of Exhibit 9 in the *Cargo Forecast*.

Table 2: Updated Bay Area Ro-Ro Terminal Capacity

Terminal	Acres	Low Capacity* Units per year	Base Case Capacity** Units per year	High Capacity*** Units per year
Benicia	122	176,171	241,092	354,185
Richmond Port Potrero	80	115,522	158,093	232,252
SF Pier 80	60	86,641	118,570	174,189
Total	262	378,334	517,755	760,626

*Low Capacity: 1,444 vehicles annually per acre

**Base Case Capacity: 1,976 vehicles annually per acre

***High Capacity: 2,903 vehicles annually per acre

With additional existing capacity, the Bay Area region will require less new space in the future than previously estimated by the *Cargo Forecast*. Table 3 illustrates the changes to future acreage requirements as a result. This is an updated a simplified version of Exhibit 10 from the *Cargo Forecast*.

Table 3: Updated Ro-Ro Cargo Summary

Combined Scenarios	2018	2050	CAGR**	Existing Acres	Additional Acres Required
Slow Growth	360,671*	587,949*	1.5%		
Low Prod. Acres	207	409	2.1%	262	147
Base Prod. Acres	207	313	1.3%	262	98 51
High Prod. Acre	207	234	0.4%	262	(28)
Moderate Growth	360,671*	718,863*	2.2%		
Low Prod. Acres	207	496	2.8%	262	234
Base Prod. Acres	207	375	1.9%	262	113
High Prod. Acres	207	278	0.9%	262	16
Strong Growth	360,671*	974,850*	3.2%		
Low Prod. Acres	207	665	3.7%	262	403
Base Prod. Acres	207	496	2.8%	262	234
High Prod. Acres	207	363	1.8%	262	101

*Number of vehicles per year

**Compound Annual Growth Rate

Under Moderate Growth and Base Productivity assumptions, the Bay Area will need 113 additional acres of Ro-Ro capacity by 2050, rather than the 160-acre amount identified in the *Cargo Forecast*, a difference of 47 acres. See p. 56 of the BPA 2-19 Staff Summary and Preliminary Recommendation for additional explanation.

Dry Bulk Cargo

The *Cargo Forecast* identified a need for an additional 30 acres of Dry Bulk capacity by 2050 under a Moderate Growth scenario. During the Commission’s consideration of BPA 2-19, an error was discovered relating to the volume of scrap metal cargo operations. Correcting this error reduces the dry bulk demand to 12 acres instead of the 30 acres identified in the *Cargo Forecast*.

Updated Estimated Seaport Acreage Requirements

Accounting for the corrections identified above, Table 4 summarizes the updated estimated seaport acreage Requirements by 2050. This table corresponds to Exhibit 13 of the *Cargo Forecast*.

Table 4: Updated Estimated Seaport Acreage Requirements

Cargo Type	Moderate Growth	Slow Growth	Strong Growth
Container Cargo Terminal Acres			
Existing	593	593	593
2050 projected	729	543	990
Additional acres needed*	136-166	0-30	397-427
Ro-Ro Cargo Terminal Acres			
Existing	262	262	262
2050 projected	375	313	496
Additional acres needed	113	51	234
Dry Bulk Cargo Terminal Acres			
Existing	152	152	152
2050 projected	164	152	206
Additional acres needed	12	0	54
Combined Cargo Terminal Acres			
Existing	1007	1007	1007
2050 projected	1267	1,008	1691

Cargo Type	Moderate Growth	Slow Growth	Strong Growth
Additional acres needed*	261-291	51-81	685-715

*Due to rounding, some totals may not correspond with the sum of the separate figures.

In summary:

- Under moderate cargo growth assumptions, the Bay Area will need to utilize more of its terminal space, estimated at about 261-291 additional acres by 2050.
- Under slow cargo growth assumptions, the Bay Area will need about 51-81 acres more active terminal space by 2050.
- Under strong growth assumptions, the Bay Area will need substantially more seaport terminal space, about 685-715 more acres than is now active.

Within BCDC’s jurisdiction, there are several dormant or underutilized sites that could be activated to meet growing cargo demand in the future. Table 5 lists these sites, their size, and their likely potential near-term uses. Each site can only accommodate one type of cargo at a time. The total “available acres” for each cargo type ranges depending on how sites end up being utilized. The table thus illustrates the potential expansion pathways and tradeoffs as the remaining Bay Area dormant or underutilized sites are developed in the future. This table corresponds to Exhibit 14 of the *Cargo Forecast*. It has been amended to remove Howard Terminal and a Benicia Short-Term Lease site that is not available to the port for use, and add the Redwood City Omni Terminal.

Table 5: Bay Area Seaport Expansion Sites

Site	Acres	Potential use: Container	Potential use: Ro-Ro	Potential use: Dry Bulk
SF Pier 96 & Other	67		X	X
Oakland Berths 20-21	18	X	-	X
Oakland Berths 22-24	132	X	-	-
Oakland Berths 33-34	20	X	-	-
Oakland Roundhouse	26	X	-	-

Site	Acres	Potential use: Container	Potential use: Ro-Ro	Potential use: Dry Bulk
Richmond Terminal 3	20		X	X
Redwood City Omni-Terminal	2		-	X
Available Acres²	285	196	0-87	0-107

Further discussion about these sites is available in the *Cargo Forecast*. Overall, under moderate growth assumptions, the Bay Area will have between a 6-acre deficit and 24-acre surplus capacity by the year 2050—close to capacity for the existing port priority use areas in BCDC’s jurisdiction. This is slightly less than the 29-acre surplus identified in the *Cargo Forecast*.

As stated in the *Cargo Forecast*, if the Bay Area experiences slow growth, there should be sufficient capacity to accommodate cargo growth within existing port priority use areas in BCDC’s jurisdiction. If the Bay Area experiences strong growth, then available space will be insufficient even if all available existing terminals are utilized.

Conclusion

The *Cargo Forecast* is a critical tool for decision-making, but there is inherent uncertainty to the practice of forecasting—forecasts are a snapshot in time and actual conditions are bound to vary. Most of the data that informed the *Cargo Forecast* was collected in 2019. Many COVID-related supply chain disruptions have occurred from 2020-2023 since the *Cargo Forecast’s* publication across cargo types. The *Cargo Forecast’s* projections are designed to accommodate short-term shifts in cargo movement over longer periods of time but the long-term impacts to cargo growth are unclear. Other non-COVID-related changes may have occurred between the *Cargo Forecast’s* publication in 2020 and the release of the *Seaport Plan* in 2023. *Seaport Plan* Cargo Forecast Policy 2 provides guidance for the Commission’s reliance on information contained in the *Cargo Forecast*.