

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.

Container Terminal Capacity

Table 1 shows the Port of Oakland’s acreage in terminals and major off-dock parcels. 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.

Accordingly, Howard Terminal is included in Table 1 but the Long-term Total Acres row displays a range of acres, depending on whether Howard Terminal will be in Port Priority Use.

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 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	-			
Howard Terminal**	50	-	50	40	38
Off-Dock Staging***	30	30	0-30	0-30	0-30
Long-term Total	789 - 839	593	246-276-226	799-829	787-817

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

** See note above. Howard Terminal is subject to the provisions of AB 1191.

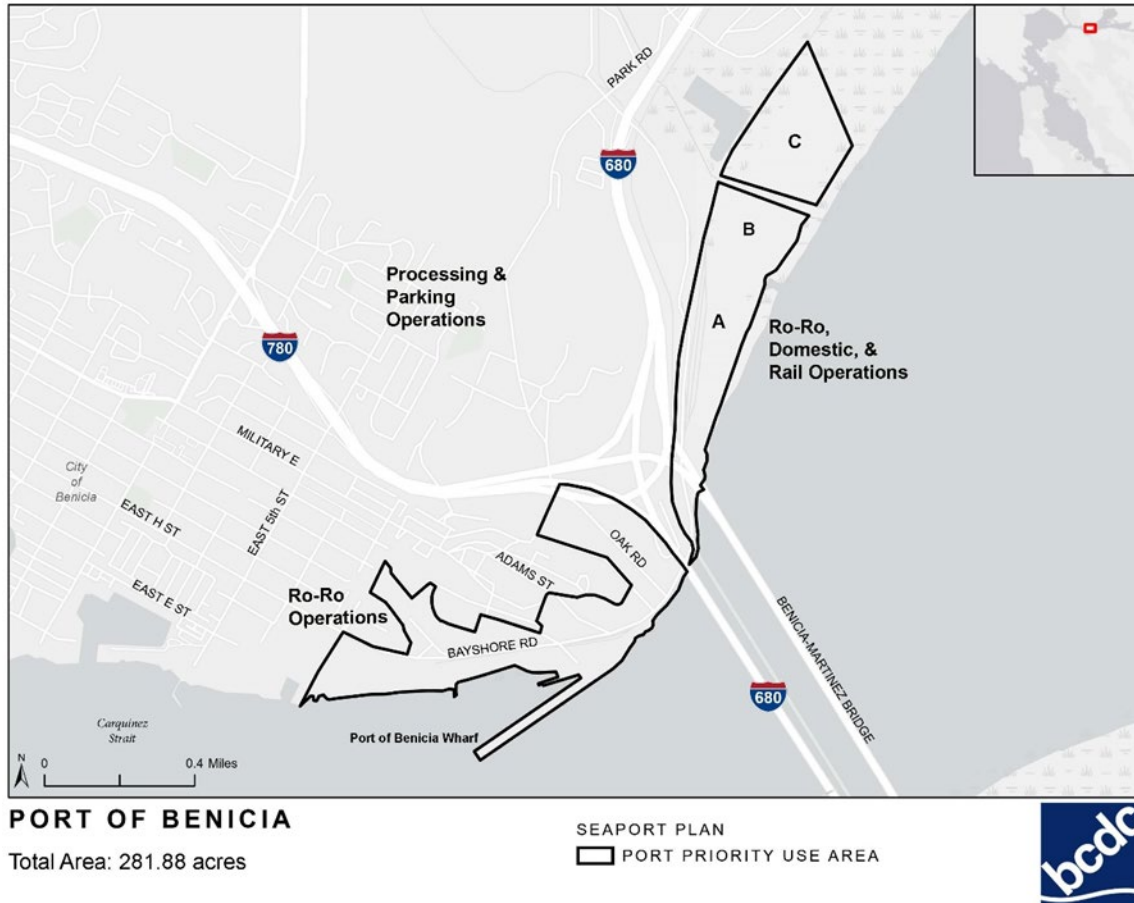
*** See explanation above and p. 13 of the Staff Final Recommendation for BPA 2-19.

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



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
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	-	-
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*.