VICKERMAN
& ASSOCIATES, LLC

PORT OF REDWOOD CITY
2020 VISION PLAN

January 8, 2020

FINAL ABSTRACT / SUMMARY

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Prepared for:

Prepared by

VICKERMAN & ASSOCIATES, LLC

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ABBREVIATIONS AND TERMS

AAPA	American Association of Port Authorities
AMPORTS	Port of Benicia owner (private port) and Terminal Operator
BCDC	Bay Conservation and Development Commission
BOC	Beneficial Owner of Cargo (e.g. shipper or receiver)
break-bulk	Non-container palletized cargo and handling mode
CALTRANS	California State Transportation Agency
CAPA	California Association of Port Authorities
CEMEX	The Port's aggregate, sand, slag, and cement customer
IAPH	International Association of Ports and Harbors
IMI	The Port's bauxite and gypsum customer
Lo / Lo or lo / lo	Lift-on and lift-off handling (using ship's gear or shore crane)
MLLW	Mean-Low-Low-Water (Depth of Channel and Wharves)
MPC	Maximum Practical Capacity of a terminal (Optimal Capacity)
MTC	Metropolitan Transportation Commission
Multi-User Dry Bulk Terminal	Proposed dry bulk terminal for all dry bulk cementitious customers
neo-bulk	Specialized project cargo (e.g. rebar, construction equipment, etc.)
OMNI-Terminal (General Cargo)	Proposed mix-use terminal (break-bulk, neo-bulk, & ro/ro)
PABCO	The Port's gypsum customer
RIN	Regional Intermodal Network (cargo using other than trucks)
Ro/Ro or ro/ro	Roll-On and roll-off cargo (commodities driven on and off vessels)
SPAC	Seaport Planning Advisory Committee
SSA	Stevedore Services of America (stevedore / terminal operator)
STC	Sustained Terminal Capacity (Generally 70 to 75% of MPC)
Tph	Tons per hour (bulk conveyor capacity)
USACOE	United States Army Corps of Engineers
V&A	Vickerman and Associates
WETA	SF Bay Area Water Emergency Transportation Authority

INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH) PLANNING

"A Port cannot be planned or designed as an arbitrary arrangement of independent terminals. It cannot even be planned as an independent whole, because the arteries connecting the Port to the sea and to the hinterland are as important as the Port itself. A Port should always be studied and planned in its true node in a complex system." (IAPH)

I. Abstract and Summary

The PORT OF REDWOOD CITY ("PORT") commissioned Vickerman and Associates ("V&A") to prepare a Maritime & Commercial Real Estate Vision Plan for the Port (hereafter referred to as "the Plan" "the Vision Plan" or "the 2020 Vision Plan"). The Port Authority's focus is to create jobs, make marine education a priority, and offer safe water related experiences for residents, workers, and visitors. The themes for this Vision Plan were first presented at a Board Workshop on December 12, 2018:

THEMES

- **LAND USE PRIORITIZATION** – separate the Port Priority Use Area[1] from commercial / recreational uses, enhance public access along the waterfront, provide a public or private ferry service and related infrastructure, and create additional commercial / recreational shoreline uses.
- **MARKET PREPAREDNESS** – build maritime and commercial business diversity.
- **OPERATIONAL EFFICIENCIES** – establish cargo velocity standards for maritime users, consolidate similar cargo types (maximize throughput while minimizing storage footprint), and encourage commercial / recreational uses to create a *Redwood City Waterfront Destination*.
- **SUSTAINABILITY** – meet or exceed environmental regulations and initiatives, be a leader in sustainability initiatives, focus on being a good neighbor, maintain fiscal responsible practices, and be viewed as a socially responsible agency.

The Vision Plan process includes a market assessment to compliment the current efforts of BCDC and MTC to update the San Francisco Bay Area Seaport Plan, dated April 18, 1996, amended through September 2012, (hereafter referred to as the "Seaport Plan"). A draft of the 2019 – 2050 Bay Area Seaport Forecast was presented to the Seaport Planning Advisory Committee (SPAC) at a Thursday, June 27, 2019 meeting.

Figure 1 identifies the current Redwood City's facilities located within the current Port Priority Use Area.

Figure 1. Port of Redwood City's Current Facilities

	Wharves 1 & 2	Wharves 3 & 4	Wharf 5
Customer(s)	**CEMEX**	**SIMS, PABCO & IMI**	**Vacant**
Cargoes Handled	**Aggregate, sand, and slag**	**Ferrous Metals (scrap), Gypsum and Bauxite**	**None**
Length of berth (linear feet)	**1,530 l.f.**	**1,525 l.f.**	**750 l.f.**
Wharf Area (concrete deck only)	**.54 acres (23,375 sq. ft)**	**.43 acres (18,825 sq. ft)**	**.69 acres (30,000 sq. ft)**
Depth of Water	**34 ft. MLLW**	**34 ft. MLLW**	**Unknown**

[1] Port Priority Use Area is established by the Bay Seaport Plan

Transit Shed Area	**None**	**None**	**None**
Ship Calls (CY 2018) barges, vessels, and ferries	**92**	**23**	**4**
Special Equipment tph (tons per hour).	**Cement Unloader 300 tph**	**Scrap Unloader 400 tph Gypsum Unloader 800 tph**	**None**
Special Equipment Tons Per Hour	**Aggregate conveyor 3,000 tph**	**Bauxite Unloader 150 – 200 tph**	**None**

The 2012 Seaport Plan identified 2020 Total Optimal Annual Throughput Capability Forecasts for the terminals within the Bay Area. Figure 2 compares actual 2018 calendar year throughput with the Seaport Plan forecast for the Port of Redwood City.

Figure 2. Port of Redwood City 2018 Actual vs Seaport Plan 2020 Optimal Annual Throughput Forecast

Terminal / User	Active / Not Active	Cargo Type	Optimal Annual Throughput Capability (metric tons)	Actual CY 2018 Throughput (metric tons)
Wharves 1 & 2 / CEMEX	**Active**	**Dry Bulk**	**1,293,000**	**1,870,361[2]**
Wharves 3 & 4 / SIMS, PABCO, and IMI	**Active**	**Dry Bulk**	**517,200**	**621,249**
		Neo-bulk	**511,800**	**0**
		Liquid Bulk	**90,000**	**0**
Wharf 5	**Not Active**	**Liquid Bulk**	**54,000**	**0**
		Break-Bulk	**51,200**	**0**
Other Future Facilities	**Not Active**	**Dry Bulk**	**1,293,000**	**0**
TOTAL		**Dry Bulk**	**3,103,200**	**2,491,610**
		Neo-bulk	**511,800**	**0**
		Liquid Bulk	**144,000**	**0**
		Break-bulk	**51,200**	**0**
		TOTAL	**3,810,000**	**2,491,610**

The 2012 updated Seaport Plan anticipated a new terminal with 1,293,000 metric tons cargo throughput at the former Ideal Cement property. Since this 2012 update, there have been no new terminals. A portion of the Ideal Cement property has been leased to CEMEX for storage and crushing of demolition concrete materials delivered to the site by truck (non-waterborne materials)[3].

Additionally, the former Pilot Petroleum property has been cleaned up. This property handled liquid bulk cargo. The 2020 Vision Plan recommends it be used for a future general cargo *Omni-Terminal*.

There are no existing ro-ro, neo-bulk or break-bulk activities at the Port. Dry bulk cargo commodities accounts for all cargo throughput. They include imports and exports:

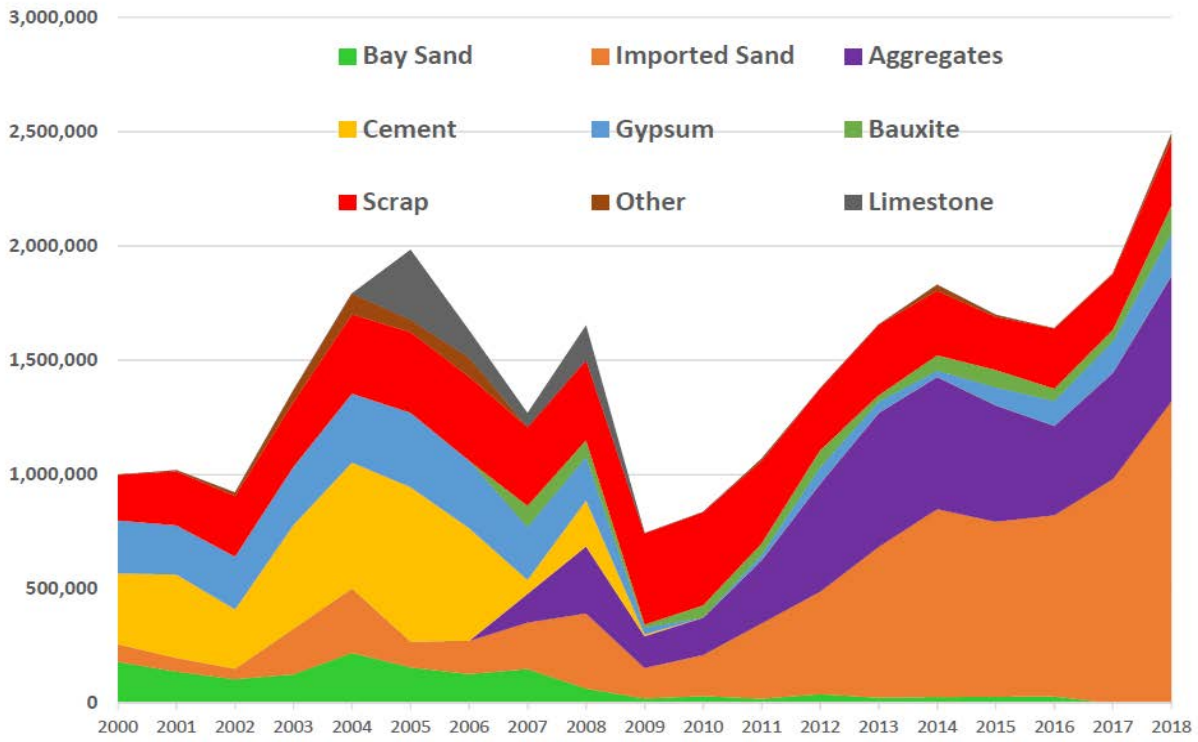
- **IMPORTS** are construction-related materials, including aggregates, bauxite, gypsum, and slag.

[2] Excludes domestic cement delivered to CEMEX via rail.
[3] Non-waterborne cement materials not included in the Port's commodity throughput

These commodities rise and fall with regional construction activity. During the recent recession, construction materials dropped drastically and some commodities stopped altogether. To rely heavily on construction-related imports, the Port will experience drastic swings in throughput during economic slow-downs and recessions. It is nearly impossible to predict when these future slow-downs or recession will occur.

- **EXPORTS** are scrap ferrous metals. Within the Bay Area, there are two major industrial docks that handle scrap metals. Based upon historic throughput, scrap metals appear to be recession-proof, but they can be influenced by international trade issues on specific trade routes. Historical records show that scrap metals have behaved much differently than the imported construction-related materials (see the red portion below in Figure 3).

Figure 3. Port of Redwood City Historic Cargo Throughput



Within the port business and cargo planning sectors, a truism is future customers, cargo, and optimal throughput capabilities will change as the shipping industry changes. There is no planning process that can accurately predict or guarantee the future. When new opportunities present themselves, the Port must be ready to provide a vision that supports them. It is vital for a customer to see themselves within the Port's future. To obtain new business, the most important success factor is that cargo will flow to the lowest cost with the best service levels (e.g. time and cost). The 2020 Vision Plan and the Updated Seaport Plan flexible strategic directions that are intended to be *advisory and conceptual* within the project decisions process.

Figure 4. Port of Redwood City's Port Priority Use Area and Commercial Real Estate Area[4]

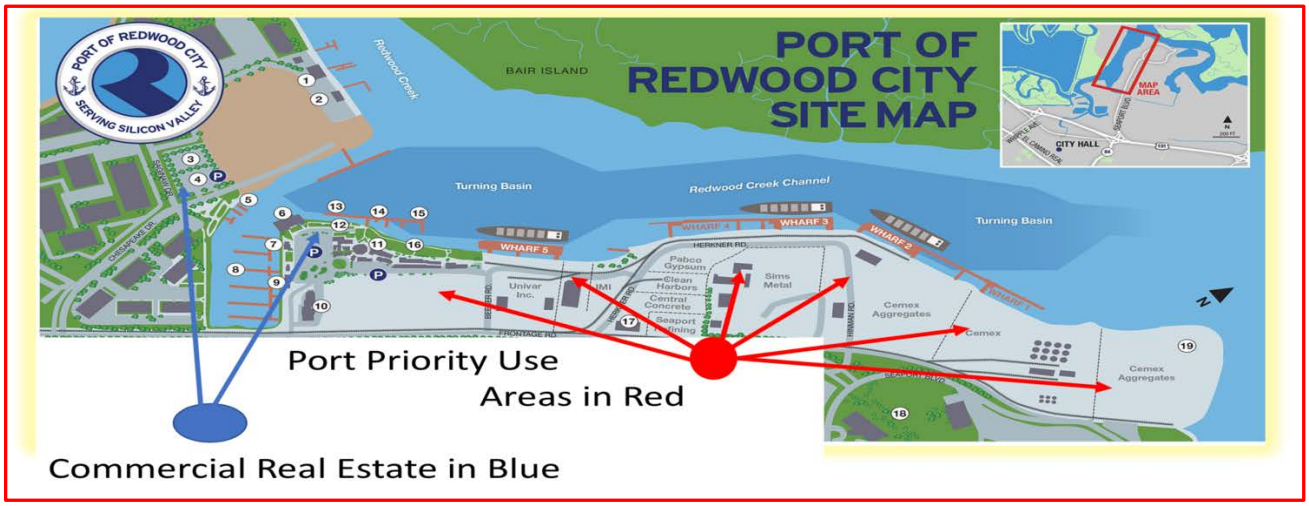
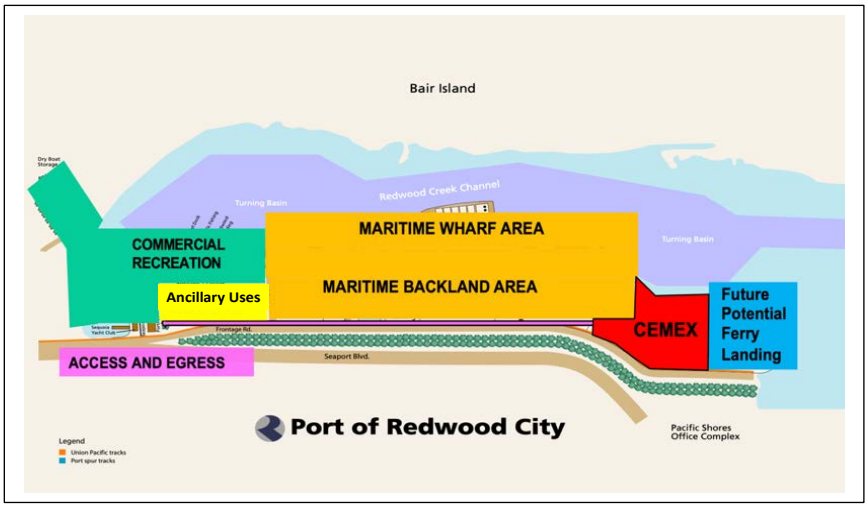


Figure 4 depicts the Port Priority Use Area[5] and the commercial real estate area. The Port's maritime uses depend heavily on a few specific users. The commercial real estate uses include small office uses, dry boat storage, a launch ramp (with parking), a former restaurant currently being used as a conference center, a sailing school, a recreational public marina, a membership yacht club, a guest dock, and public access assets (shoreline promenade and fishing pier). Portside I and Portside II leases will end during the medium-term planning horizon in 2033. The end of the Portside leases are important commercial real estate milestones. Other commercial / real estate leases are short-term or on a hold-over status. Two parcels (1) and (2) shown on Figure 4 are sites on property not owned by the Port.

Figure 5. Preliminary Port Operating Nodes

[4] Based upon the current amended Seaport Plan

[5] Port Priority Use Areas are areas reserved for regional maritime port use and includes maritime terminals and directly related ancillary activities. In certain port priority use, commercial recreational uses may be allowed as a source of revenue for the port until such time as the area is developed as a marine terminal. Some port priority use areas may offer locations for the development of ferry terminals.

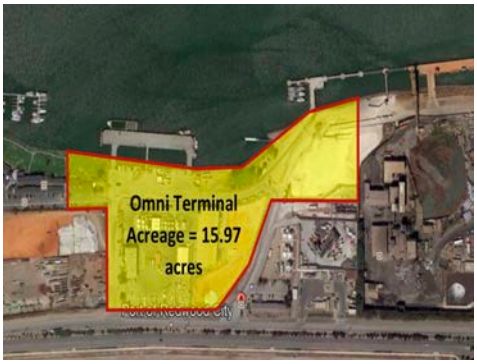


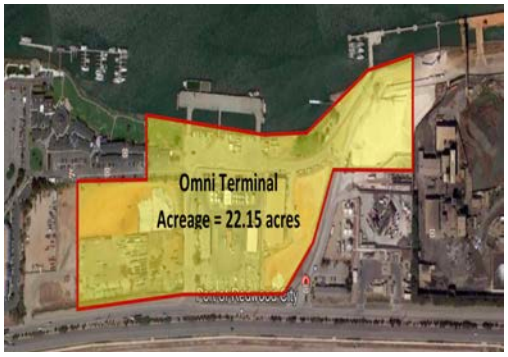
Preliminary operating nodes for the Port are shown on Figure 5 (Preliminary Port Operating Nodes). These preliminary nodes were presented at a Board public workshop.

The final operating nodes are shown on Figure 6 (2020 Vision Plan Proposed Final Operating Nodes). These final nodes include properties outside of the administrative and management control of the Port Authority (Cargill and Abbott Lab Parcels). These parcels are included only for the Port's future long-term planning.

Figure 6. 2020 Vision Plan Proposed Final Operating Nodes

The Omni-Port Priority Uses have two options[6]

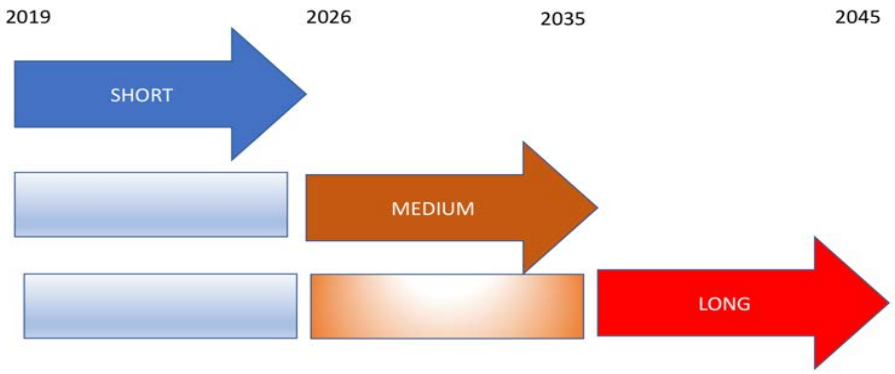




[6] Ap ptions

Two major on-going public projects that will impact the Port and require on-going Port involvement are:

- The San Mateo County, Redwood City, and San Francisco Bay Area Water Emergency Transportation (WETA) studies for the expansion of ferry services and more specifically the establishment of ferry service to Redwood City.
- The CALTRANS US 101 / SR 84 (Woodside Road) Interchange Improvement Project that is currently in the Preliminary Design phase of development.



The 2020 Vision Plan has three planning horizons between 2019 and 2045: a short-term horizon (2026), medium (2035), and long term (2045).

Findings and recommendations for land-use prioritization based upon the planning horizons include:

- Build diversity for both the maritime and commercial-recreational uses. The Plan is market driven and does not support a *"build it and they shall come"* process. For the maritime sector, dry bulk commodities will continue to be the primary cargo tonnage. ***(Short, Medium, and Long Term)***
- Preserve the existing Port Priority Use Area for dry-bulk commodities (cementitious and scrap materials) and general cargo (break-bulk, neo-bulk, and ro/ro) opportunities. ***(Short, Medium, and Long Term)***
- Negotiate a *"first right of refusal"* to purchase the private CEMEX parcel within the Port Priority Area. ***(Long Term)***
- In the event development is proposed by Cargill on the Salt Ponds contiguous to Seaport Boulevard and the proposed Omni-Terminal, advocate for including the property as a Seaport Plan Port Priority Uses and for relocation of Seaport Boulevard.[7] ***(Long Term)***
- Seek to initiate a public or private ferry service for commuters and visitors that link Redwood City to San Francisco and Oakland for sporting events, business centers, recreational events, and emergency transportation capabilities. ***(Short and Medium Term)***
- Promote *Active-Uses* on available commercial-recreational areas. Active uses include retail, cafes,

[7] On September 24, 2019, a Save the Bay law suit was filed to preserve the Salt Ponds as open water resources. The Vision Plan does not propose specific developments on the Cargill Salt Pond property. The Port Priority Use designation is intended to provide a Buffer from proposed Cargill developments. The preservation of this property as open water may provide sufficient Buffer.

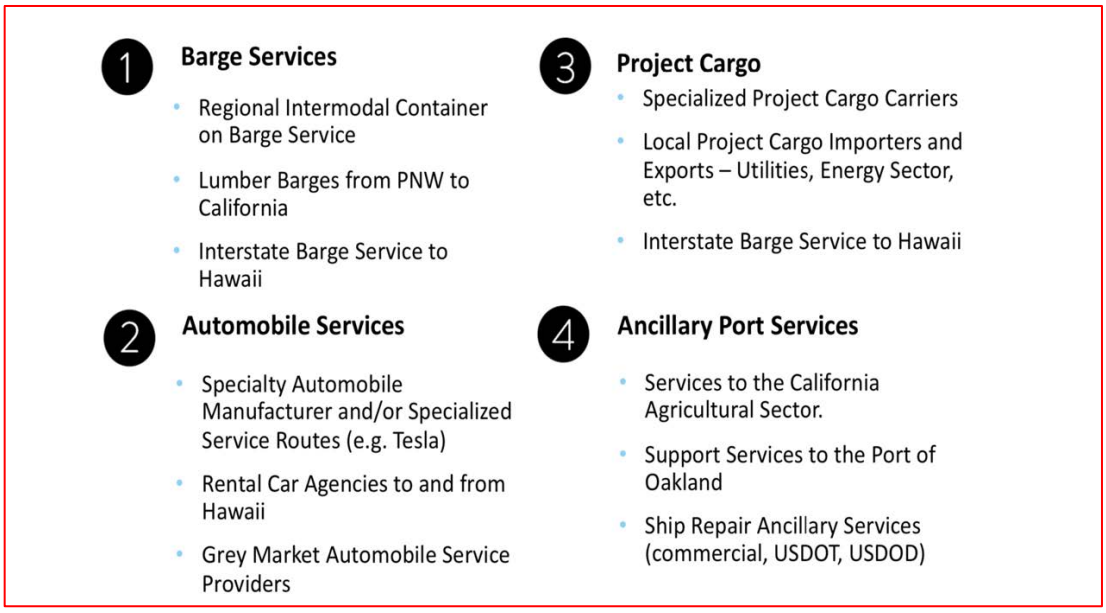
restaurants, and entertainment uses. ***(Short, Medium and Long Term)***

- Participate in a public – private partnership on the Abbott Lab property with Abbott, the Marine Science Institute, the Redwood City Youth Maritime Group, the Stanford Rowing and Marine Center, and the City to develop the current Abbott property as a regional marine resources center for educational uses, public access, and enhancements to existing commercial / recreational use. ***(Short Term)***

VISION PLAN GROWTH

The 2020 Vision Plan's cargo demand for waterborne dry-bulk commodities will grow from 3.8 million metric tons capacity to 4.5 million metric tons. For non-bulk business opportunities, the Plan maintains the current Seaport Plan of 500,000 metric tons. Since the historic view of the Port is associated with dry-bulk commodities, the marketing efforts must educate the maritime sector about the 2020 Vision Plan.
Figure 7 (Port Priority8 Use Opportunities) are examples suggested by the 2020 Vision Plan for marketing efforts.

Figure 7. Port Priority Use Opportunities



Based upon planning horizons, the market preparedness findings include:

- Build industry recognition of the Port of Redwood City's maritime future uses. ***(Short, Medium, and Long Term)***
- Incorporate the *Omni-Terminal* as a potential future land use with a 560,000-metric ton general cargo non-bulk capacity in the 2020 San Francisco Bay Seaport Plan Update. ***(Short Term)***
- Initiate a medium and long-term marketing effort with specialized carriers (e.g. ro/ro, barge services, and refrigerated niche carriers, beneficial owners of cargo from the South Bay region, and West Coast terminal operators to establish *"Build-to-Suit"* strategies. ***(Short and Medium Term)***
- Take advantage of the Pacific Shores Development and other future commercial developments in the area to establish diversity of *Active Uses* within the Portside commercial / recreational use area.

(Short, Medium and Long Term)

- Support a special Port and City Task Force to initiate and prepare a "**Specific Plan"** for the Portside use area and the Abbott property in association with the planning and design for the new SR 84 / 101 (Woodside) Interchange Project and future ferry operations. ***(Short Term)***

Cargo velocity (reduced dwell time) is a key operational efficiency to any marine terminal. The Draft Seaport Plan Cargo Forecast 2019 to 2050 identifies specific cargo capacity metrics. Figure 8 (Seaport Plan Update Metrics Estimates for Dry Bulk Terminals) identifies metrics and benchmarks for dry bulk terminals. The Port should incorporate specific metrics and benchmarks into future maritime lease agreements.

Figure 8. Seaport Plan Update Metrics Estimates for Dry Bulk Terminals

Metric	Existing	Slow Growth	Old Seaport Benchmark	Update Moderate Growth	Strong Growth	Proposed Oakland (OBOT) Terminal
Acres per terminal	13.8	13.4	13.0	13.8	14.3	20.5
Metric tons per Acre	47,141	63,455	75,769	103,500	139,095	317,073
Metric tons per Berth	650,155	843,577	1,037,000	1,583,300	2,402,750	6,500,000

Operational efficiency findings include:

- Establish a throughput velocity metric for dry bulk to establish a sustainable terminal throughput that ensure greater throughput while ensuring productive use of the terminal***. (Short Term)***
- Continue advocacy for the expansion and improvement of the Redwood City Ship Channel to establish a 35- foot MLLW future capability. ***(Short Term)***
- Encourage *"Active-Uses"* in the Portside area to promote retail and food sales, and use existing parking areas to generate new revenues without impacting existing users. ***(Medium Term)***

In addition to the aforementioned findings, environmental sustainability is a critical issue to be included in the Port's planning process. Since the 2020 Vision Plan intends only to provide a general direction, it is not a project under the California Environmental Quality Act (CEQA).

California ports, in association with CAPA, have led the nation in adopting and implementing ***Green Port Initiatives and Policies.*** The Port is already a leader in addressing ocean rise issues associated with climate change. Environmental findings include:

- Initiate a feasibility study with current customers for the development of a covered "*Multi-User*

Dry Bulk System" to replace current outside open storage areas (see Figure 9). ***(Short Term)***

- Initiate a feasibility study to connect the Redwood City Ferry Landing to other destinations including Redwood City downtown, regional office and industrial complexes, and other public transportation systems.
- Establish a *"Port User Task Force"* to understand and adopt the *"Best Practices"* of other similar sized ports in adopting ***Green Port Policies*****. *(Short Term)***
- Establish policies to control dust and fall-out from the dry-bulk operations. ***(Short Term)***
- Emphasize the Port of Redwood City and Redwood Creek's historical maritime heritage. Place historical kiosks, public art, and way-signage along the shoreline explaining the Port's role within this heritage. ***(Short and Medium Term)***
- Connect the Bay Trail from the intersection of Blomquist and Seaport to the Portside commercial real estate area. ***(Medium and Long Term)***

Figure 9. Port of South Louisiana Bulk Facility

Figure 10. Issues Requiring Strategic and / or Tactical Actions

Issues	Short	Medium	Long
Project implementation must be market driven.	X	X	X
Preserve the Port Priority Use Area for general cargo including dry-bulk commodities and non-bulk general cargo opportunities.	X	X	X
Negotiate a first right of refusal to purchase CEMEX's private owned parcel.			X
Seek to establish a Port Priority Use designation on property adjacent to the Port, if and when, the Cargill Salt Ponds are proposed for development.			X
Seek to initiate a public or private ferry with operators for commuter services, special event opportunities, and emergency transportation capabilities.	X	X	
Promote *Active-Use* on available commercial-recreational area (retail, cafes, restaurants, and entertainment use) and encourage	X	X	X

Active-Uses within the Portside area and future Ferry Landing Area.			
Seek to establish commercial / recreational uses on the Abbott Laboratories property as part of their Social Impact projects, the Marine Science Institute, the Redwood City Youth Maritime Group, and the City; uses may include regional marine resources center for educational uses, public access, and enhancement of existing commercial / recreational uses. (Public – Private-Partnership)	**X**		
Promote recognition of the Port's vision for maritime uses.	**X**	**X**	**X**
Incorporate the *Omni-Terminal* as a potential future land use for non-bulk capability in the 2020 Seaport Plan Update.	**X**		
Initiate marketing efforts with specialized carriers (e.g. project cargo, barge services, and niche refrigerated carriers), beneficial owners of cargo from the South Bay region, and West Coast terminal operators to establish "*Build-to-Suit*" strategies	**X**	**X**	
Take advantage of the Pacific Shores Development and other commercial developments to establish diversity of *Active Uses* within the Portside commercial / recreational use area.	**X**	**X**	**X**
Seek to establish a special City of Redwood City Task Force to initiate and prepare a Specific Plan for the Portside use area and the Abbott Laboratories property during the planning and design of the new SR 84 / 101 (Woodside) Interchange Project and the WETA /City of Redwood City Ferry Feasibility Study.	**X**		
Establish throughput velocity metrics to establish a sustainable terminal throughput that ensure greater throughput while ensuring productive use of the terminal.	**X**		
Continue advocacy for expansion and improvement of the Redwood City Ship Channel to establish a minus 35- foot MLLW capability.	**X**	**X**	**X**
Initiate a feasibility study with current customers for the development of a covered *Multi-User Dry Bulk System* to replace current outside open storage areas.	**X**		
Study and promote connection between the proposed Redwood City Ferry Landing and other destinations (Redwood City downtown, office and industrial complexes, and other public transportation systems).	**X**	**X**	**X**
Establish a Port User Task Force to adopt best practices for operations at other similar sized ports and adopt ***Green Port Policies.*** *(e.g.* policy and practices to control dust and fall-out from the dry-bulk operations).	**X**		
The Port of Redwood City and Redwood Creek are part of the historical development of the Bay Area's maritime heritage. Place historical kiosks, public art, and way-signage along the shoreline explaining the Port's role within this heritage.	**X**	**X**	
Connect the Bay Trail from the intersection of Blomquist and Seaport to the Portside Commercial Real Estate Area.		**X**	**X**

There are forty-five (45) findings / recommendations associated for the Port to consider in implementing the 2020 Vision Plan:

1. The Port can improve its throughput capabilities by limiting long-term storage and maximizing maritime cargo throughput.
2. When considering an investment in a project, use available market-driven data to assist with the decision making. The 2020 Vision Plan's theme is *"market forecast demand minus current terminal capacity equals justifiable terminal needs and requirements"*.
3. The Modular Operating Grid System *(MOGS)* is a tool the can be used for the planning, design and construction of specific improvements.
4. Maintain the Port's record of sound financial performances with appropriate ROI (return-on-investment) evaluations.
5. Do not totally rely on dry-bulk cargo (cementitious materials); this type of cargo is highly volatile and can be impacted by economic conditions outside of the control of the Port Authority.
6. There is sufficient forecasted demand for dry-bulk cementitious materials to meet a 4.5 million metric tons capacity over the long-term planning horizon.[8]
7. Begin planning and development of a covered *Multi-User Dry Bulk Terminal* when the maximum practical capacity for dry-bulk cementitious cargo approaches 3,150,000 metric tons (3,472,281 short tons).
8. The Port has an established optimal capability[9] for breakbulk and neo-bulk cargo of 563,000 metric tons.
9. A dust free storage area is a marketing requirement for an automobile or truck customers.
10. The Port's long-term combined estimated capacity for dry bulk, break-bulk, neo-bulk, and ro/ro is 5,063,000 metric tons.
11. A *Central Gate* concept is the front door for both commercial real estate and maritime use areas and will benefit users.
12. A *Central Gate* concepts should provide tenant-in-common services, security functions, separate trucks and automobiles, connect Seaport Boulevard to a future ferry services, and support other public transit capabilities to Downtown Redwood City.
13. Implementation of *Central Gate* transportation improvements must be in cooperation with all stakeholders and other governmental agencies.
14. When the market demands, promote a *Regional Intermodal Network (RIN)* for cargo using water transportation and rail to reduce annual truck trips from Bay Area freeways.
15. To meet standard deep-water port criteria, a working depth at all wharves and berths of minus 35 feet MLLW is needed. Customers depend on a dependable maintenance dredging schedule to avoid materials building up at berth-side.
16. The San Francisco District of the Corps of Engineers needs to upgrade the 1945 Federal Redwood City Channel from minus 30-foot to minus 35-foot MLLW with the 2 foot keel clearance. The Port needs to continue an aggressive advocacy for this modification as well as a dependable maintenance dredging schedule to avoid materials building up. Recognizing that the USACOE cost benefit

[8] Figures 31 and 32
[9] Based upon the 2019 Update definition of terms

analysis does not support proposed changes to the approved Congressional approved depth, the Port should investigate ways to improve the cost benefit ratio (e.g. reduce the overall cost of dredging, diversify the cargo modes at the Port, etc.).

17. A recent increase in vessel traffic at the Port suggests that customers have adapted to lightering operations within the Bay. While lightering adds costs to the dry bulk products, there may be no better options for delivery of the dry bulk construction materials to their final destinations.
18. For outbound scrap metals, SIMS' vessels are loaded for departure based upon the depth and tides.
19. There may be an air-draft constraint at the San Mateo Bridge (135 feet above water) that may impact the automobile / project cargo trades. However, AMPORTS, owner of the Benicia Port and major automobile service company, is planning a 100-acre terminal in Antioch. The air-draft of the Richmond-Antioch bridge is 135 feet in height over water.
20. Marketing efforts are long-term. Successful port marketing is generally a process in association with a stevedoring / terminal operating company. Avoid having an exclusive house-stevedore which limits Port marketing efforts. Seek to encourage California stevedore / terminal companies (e.g. AMPORTS, SSA, Marine Terminals, et. al.) to understand the nature of the Vision Plan. In meeting with stevedore / terminal companies be prepared to adjust and make changes to match customer needs.
21. Short and medium-term marketing should focus on carriers and shippers that have the ability to work around the current navigational constraints. Additionally, the Port should focus on ancillary service providers (e.g. stevedores, freight forwarders, vessel agencies, intermodal service providers, and other maritime related businesses) that may support port demands. Seek new customers that may be impacted at their current port by the growth of containers.
22. The Port has excellent partnerships with CEMEX, IMI, and PABCO. Seek new or additional dry bulk cargo customers for short-term capabilities with limited investments and who are prepared to assist with the development of a covered *Multi-User Dry Bulk Terminal*.
23. Based upon the 2020 Vision Plan's two market assessments for dry bulk cargo. the throughput will not reach the calculated Maximum Practical Capacity (MPC) during the long-term planning horizon of 2045. However, using 70% of the MPC, defined as the Sustained Terminal Capacity (STC) or by the end of the CEMEX lease term (2026), the Port needs to be prepared to initiate the covered *Multi-User Dry Bulk Terminal* concept.
24. The covered *Multi-User Dry Bulk Terminal* should include portions of the CEMEX private terminal, the 8.2 acres parcel leased to CEMEX, the 0.5-acre parcel leased to Lehigh, and a portion of the current leased premises intended for the Ferry Landing.
25. The Port should research whether the Port Authority can assess tariff charges to products that are delivered to the Port Priority Use Area by other than water (e.g. Portland Cement delivered by rail and Demolition material delivered by truck).
26. Depending on the Main Channel Dredge depth, the *Multi-User Dry Bulk Terminal* may have a depth constraint at Wharves 1 - 2. As part of planning for this terminal, the design and planning may necessitate improvements to the wharves. The current Wharves 1 - 2 have 3,800,000 metric tons (4,188,783 short tons)[10] terminal capacity.
27. Prior to the development of the *Multi-User Dry Bulk Terminal*, a short-term lease can be offered to PABCO with a 300,000 metric ton annual guarantee with the understanding that PABCO agrees to

[10] Port of Redwood City Wharves 1 and 2 Redevelopment Project – Final Supplemental EIR

work with the Port to relocate its future operations to the new Terminal.

28. There needs to be cargo velocity metrics and benchmarks for existing lease extension and/or future business opportunities to ensure efficiencies are incorporated into the lease agreement. The Port may wish to establish a per ton per acre throughput standard for dry-bulk cementitious products. Long-term storage within the Port's priority use area should be limited.
29. The SIMS proposal to augment the PG&E substation with a battery power source is a positive sustainable project.
30. SIMS proposal for a larger crusher to expand the recyclable materials capabilities will lead to increased export volumes from the facility
31. Marketing for an *Omni-Terminal (General Cargo)* needs to include the agricultural sector, energy sector, and automobile shippers. The Port can market to Silicon Valley importers and exporters to develop inducement calls.
32. In the short-term, the Port should establish a lay-down area by relocating the public access area between Herkner Road and the shoreline to another location and establish a clear asphalt lay-down area. At the same time, the Port can initiate marketing for potential clients and customers through various meetings with stevedores, shippers, carriers (niche tramp services), and terminal operators. There may be a seasonal refrigerated import and export cargo opportunities.
33. The Port needs to advocate the use of open storage areas rather than covered transit-shed storage.
34. Use the MGOS process for planning, design, and implementation of a ferry landing and terminal (start with the minimum constructions of a berth and gangway with the capabilities to improve the ferry landing to a covered facility to support the passengers). Make the boarding and un-boarding of the ferry boat to be a pleasant experience in all weather conditions with a covered gangway and waiting area.
35. The Ferry Landing and Terminal should be planned and designed like a cruise ship terminal. Make the facility a great experience for the rider and make Redwood City a required port of call. Link the ferry service to other commercial / recreational activities. This can make the ferry landing more than just a public transit loading and un-loading area.
36. The establishment of the Ferry Services should be viewed as creating economic development opportunities.
37. The Ferry Terminal concept can be scaled off the Port of San Francisco's Ferry Building Plaza with similar types of land uses and amenities.
38. As a long-term initiative, prepare and complete a **Specific Plan** similar to the City's Downtown Retail Task Force Process. This Plan is intended to create a destination on the Bay and to connect the City to its water's edge. The Task Force can be a public-private Port initiative. A waterfront model for this planning process is the San Francisco's Northern Waterfront Planning effort and the Total Design Plan concept established by BCDC for the Ferry Building complex. This process should include the Abbott Lab property.
39. The current Marine Institute and Redwood City Youth Maritime concepts should be viewed as *Active-Uses* in a Public-Private-Partnership on the Abbott Lab property.
40. While there have been historical failures for *Active-Uses* in the Portside area, these types of uses may be successful now with the growth of the Redwood City downtown and the development of Pacific Shores. View the Sequoia Yacht Club as an *Active Use* within the Portside area
41. In the short and medium term, there may be an opportunity to combine small parcels currently on

hold-over status.

42. Public art, similar to the San Francisco Waterfront Promenade (Agriculture Building to Pier 22) should be part of the waterfront design standards along the Port's shoreline.
43. The establishment of public open space at a proposed Redwood City Ferry Landing and Terminal site and along the Abbott Labs property are intended to replace any loss of open space.
44. In the event that Cargill proposes development on the Salt Ponds, the Port should propose to relocate Seaport Boulevard to provide a buffer zone from future development. This relocated roadway is intended to expand Redwood City's Port Priority Use area. The existing utility right-of-way on the current Seaport Blvd. need not be relocated. As an alternative, the Cargill Salt Ponds should remain undeveloped as existing open water habitat.
45. Signage at major corners and nodes should be standardized as part of the overall planning process.