



Comprehensive Land Use Process



Port of
LONG BEACH
The Green Port

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Land Use Process Purpose

Develop a comprehensive approach to evaluating land uses and development priorities in the Port.

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Existing Land Uses



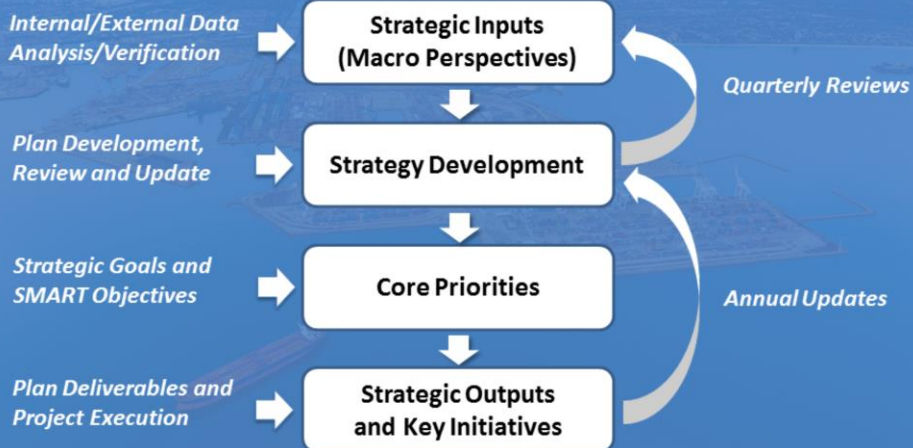
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Process Components



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Process and Timeline



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Updated Cargo Forecast

What is it?

- Joint forecast of both ports' throughput
- Long-term, unconstrained, projection of demand for the gateway

How will it be Used?

- Port Development Planning
- Environmental Impact Analysis
- The Ports' Clean Air Action Plan and Emissions Forecasting
- Update of the Long Beach Port Master Plan
- Port and Stakeholder Financing
- Regional Planning Partners
- Strategic Planning

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First, it is worth reviewing some background on the forecast and how we use the results.

The forecast is a long-term, unconstrained, projection of the potential throughput of the gateway.

It is long-term, reflecting economic trends out to 2040. The timing and duration of business cycles that might impact short-term cargo flows are not the intent of the forecast.

It is unconstrained in that existing or planned terminal capacity at the two ports is not considered a limit on projected volumes. The consideration of terminal capacity and its potential to limit throughput is addressed in other planning efforts.

The forecast is done at the gateway level and does not attempt to allocate throughput to either port individually.

Both ports use the results of the forecast for a variety of long term

planning efforts. It is an important part of estimating and forecasting environmental impacts. It is a key input to our Long Term Land Use study and will be considered as part of our Strategic Planning process.



We approached the development of the forecast by combining the long term outlook for the us economy and global trade with an assessment of the gateway’s competitive position.

Different scenarios for the economic outlook and competitive adjustments were developed to provide a range of potential outcomes. The scenarios reflect different assumptions about growth and competition.

The economic scenarios are summarized on the left and reflect a range of outlooks for US GDP growth and other important economic measures. The expected path of economic activity (in green) includes US GDP growth of 2.4% long-term as the current domestic recovery continues. This outlook is considered the most likely path for economic growth and US trade.

The high growth scenario in blue reflects faster GDP and trade growth as well as decreased tariff rates and increased trade liberalization.

The low growth scenario in red reflects an outlook including a near-term shock to the global economy and slower overall growth.

The competitive scenarios were developed to quantify the potential diversion of cargo that would ordinarily be expected to come through the gateway to the Pacific

Northwest and the East and Gulf Coasts of America. Several factors are considered and incorporated into estimates of the cost of moving cargo through different gateways.

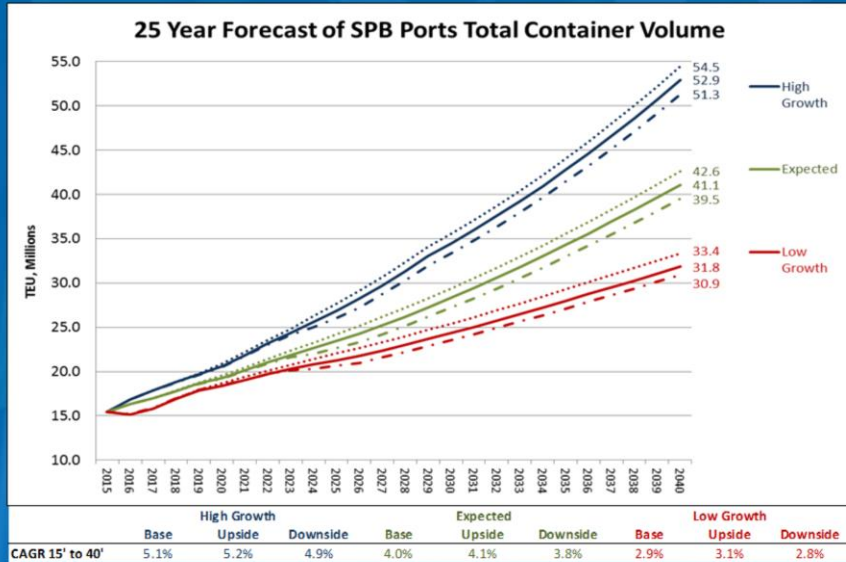
The base case adjustments reflect a moderation in the growth in the size of the largest ships being deployed by carriers and result in losses to both the PNW and through the Panama Canal.

The upside adjustments reflect continued growth in the deployment of larger vessels, which is considered an advantage for the SPB ports. As a results, losses to other gateways are minimized.

The downside adjustments reflect a shift in vessel deployments that clusters near the canal limits, offsetting the cost advantages for the gateway.

Each macroeconomic scenario is adjusted by applying each of the competitive adjustments, resulting in a range of potential cargo growth outlooks for the gateway. The combination of the expected economic outlook and the base case adjustments is considered to be the most likely outcome and will be used by the Ports as the baseline forecast for planning purposes.

Summary of Results



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This graphic depicts the growth path of container cargo for the nine scenario combinations just described. The results clearly cluster around the three economic growth scenarios – with the expected growth scenario colored green and the high and low scenarios colored blue and red respectively.

The base case competitive scenario is depicted with a solid line and the upside and downside competitive scenarios are depicted with dashed lines.

Although the high and low growth scenarios are considered significantly less likely than the expected case, they are useful to provide a range of potential outcomes, particularly in the event that key economic factors develop in a way that is inconsistent with the expected case. In that case, we will have alternate scenarios more in line with economic reality as it develops.

Tools

- Graphically driven, integrated, suite of models
- Inputs
 - High Level Terminal Layout
 - Equipment and Operating Assumptions
 - Known Constraints and Conditions
 - Historical Port and Terminal Operating Data
- Outputs
 - Terminal Capacity (Berth, Storage, Intermodal)
 - Vessel / Rail / Gate / Road Activity
 - Emissions Factors
 - Equipment Power Requirements
 - Labor Needs
 - Additional Evaluation Criteria

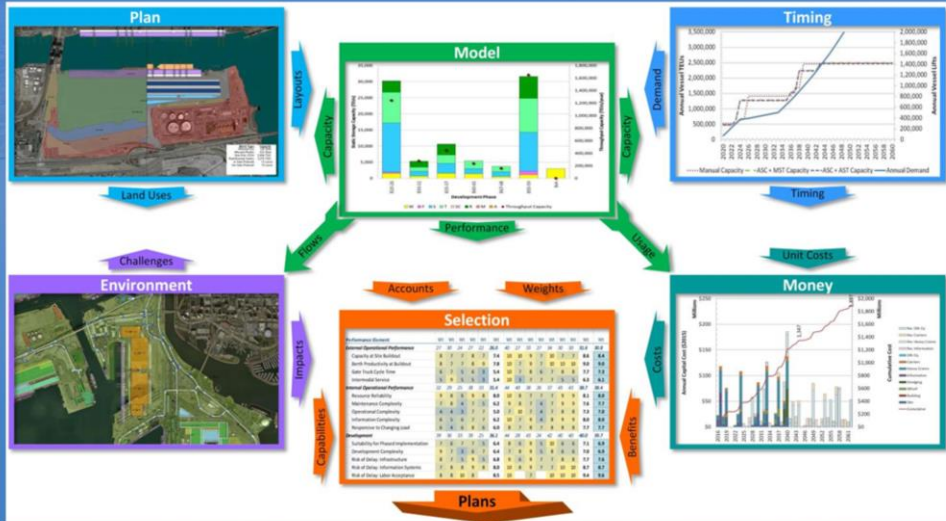
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Process

- Multiple Port-wide Scenarios
- Analysis Paradigms
 - Current / Conventional Operations (Mega Terminal Example)
 - Agile Port / Direct-to-rail Operations
 - Minimize Landfill
 - Terminal Automation / Densification
- Trade-offs, Costs and Benefits
- Investment Needs
 - Terminal Development/Modernization
 - Landfill
 - Roadways
 - Dredging
 - Energy
- Permitting and Environmental Review Integration

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Tools



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Process - Paradigms

Long Beach Mega Terminal Concept



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Financial Considerations = Priorities

- Revenue/cash flow = projected growth
- State and Federal Grants / Fast Act and WRRDA
- 3P's
- Private sector investment beyond the lease
 - Middle Harbor
- Increased Risk with Industry uncertainty

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Priorities

Project Objectives

- Robust & Flexible Tools
- Incorporate New Forecast
- Integrate with related Port Initiatives
- Stakeholder Input
- Account for Operational Changes/Improvements
- Plan for Support Uses
- Department-wide Collaboration

Evaluation Criteria

- Facility Performance
- Supply Chain Velocity
- Environmental Stewardship
- Energy Demand
- Financial Impacts
- Regional Economic Impact
- Traffic & Transportation Impacts

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Thank You



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