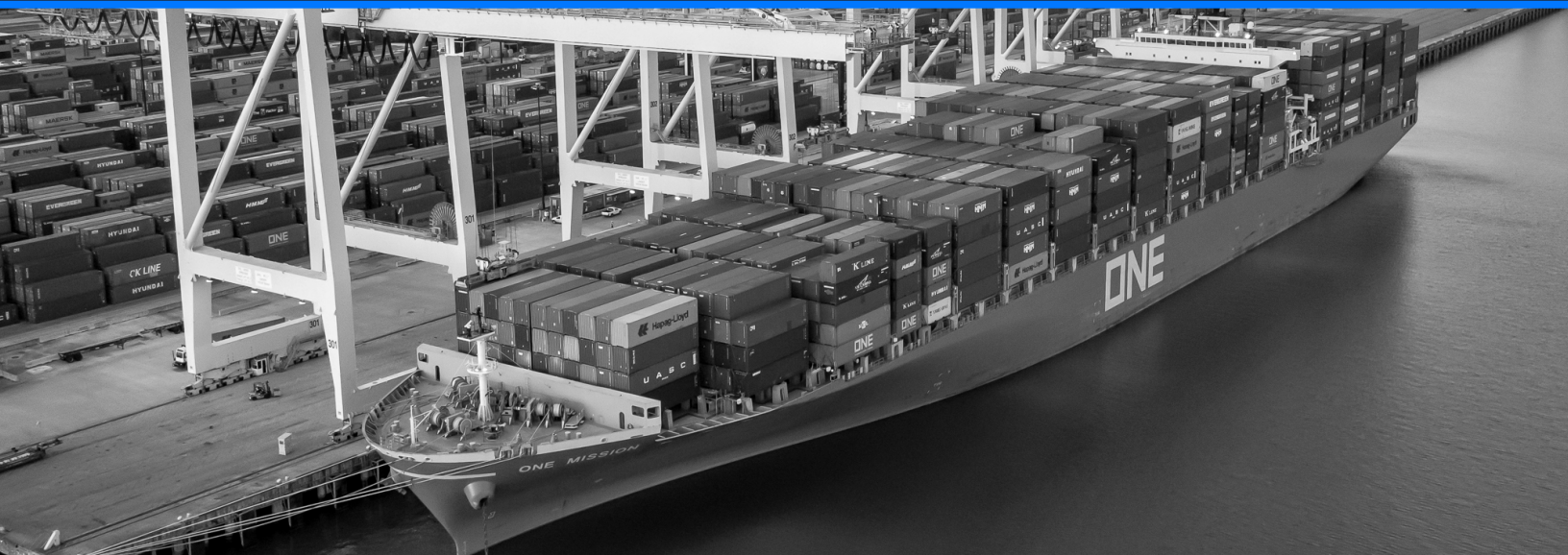


# Using Ocean Data for Global Logistics Optimization



Companies that manufacture products overseas for North American consumption need to consider numerous factors when designing their global supply chains, including:

- Whether to manufacture in a low-cost country (e.g., China) or a somewhat higher-cost country (e.g., Vietnam) that may offer higher product quality and consistency
- Whether to manufacture all products in one centralized, low-cost location (often a location in China) or in multiple geographies at higher cost
- Adding redundancy to supplier networks and whether to use suppliers that are local to the manufacturing location
- The potential for a geopolitical disruption, such as a greater deterioration of the relationship between the U.S. and China
- The potential for intellectual property theft
- The potential for added tariffs and/or changes to laws that exempt certain products from tariffs
- Whether to manufacture products to order or in bulk

In addition to those high-level supply chain questions, numerous logistical considerations arise when considering overseas manufacturing, including:

- Whether to use ocean or air freight, or a combination of the two modes
- The lead time between manufacturing and products hitting North American shores
- Managing inventory levels amid uncertain demand and logistical disruptions, which are becoming more frequent and severe

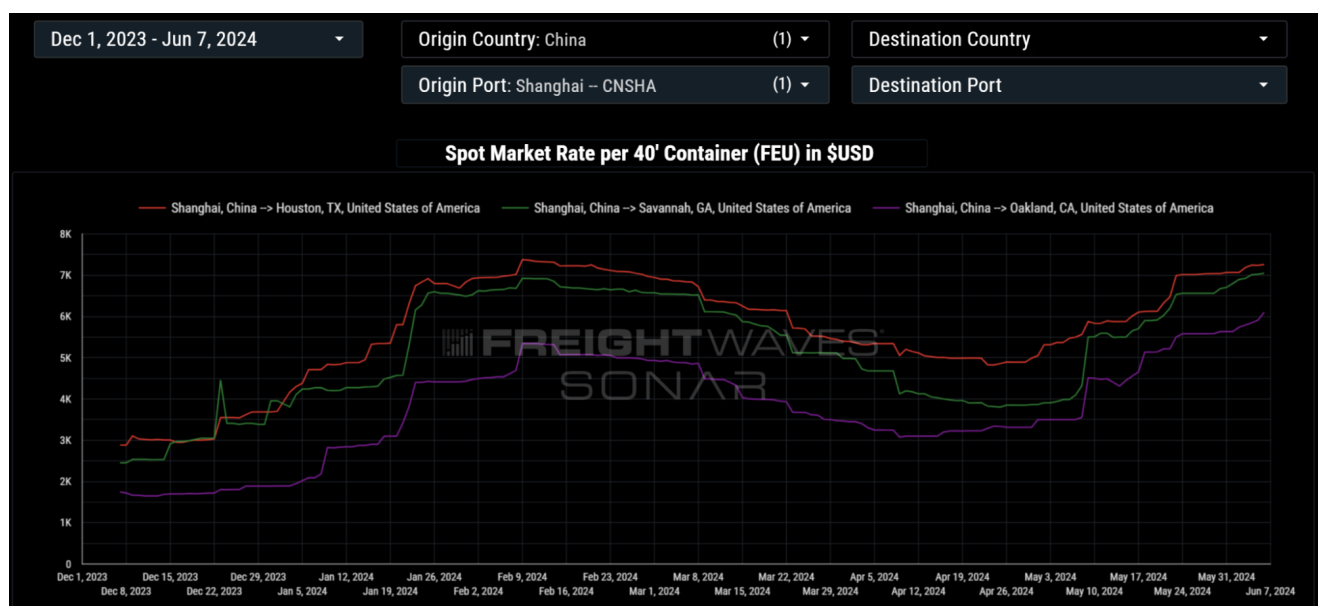
Container Atlas assists shippers in designing and managing their global supply chains by:

1. Highlighting changes in supply and demand in the ocean markets to assist with upcoming contractual rate negotiations with non-vessel operating (NVO) and ocean carriers
2. Helping shippers monitor and react to disruptions
3. Comparing geographies along multiple dimensions (including total transit time and typical ocean transit delays) to assist in facility selection

# Highlighting Supply/Demand Changes for Use in Upcoming Rate Negotiations

The Container Atlas application in SONAR illustrates supply and demand in the ocean market by showing spot rates in addition to numerous other supply and demand metrics outside of rates, such as bookings information.

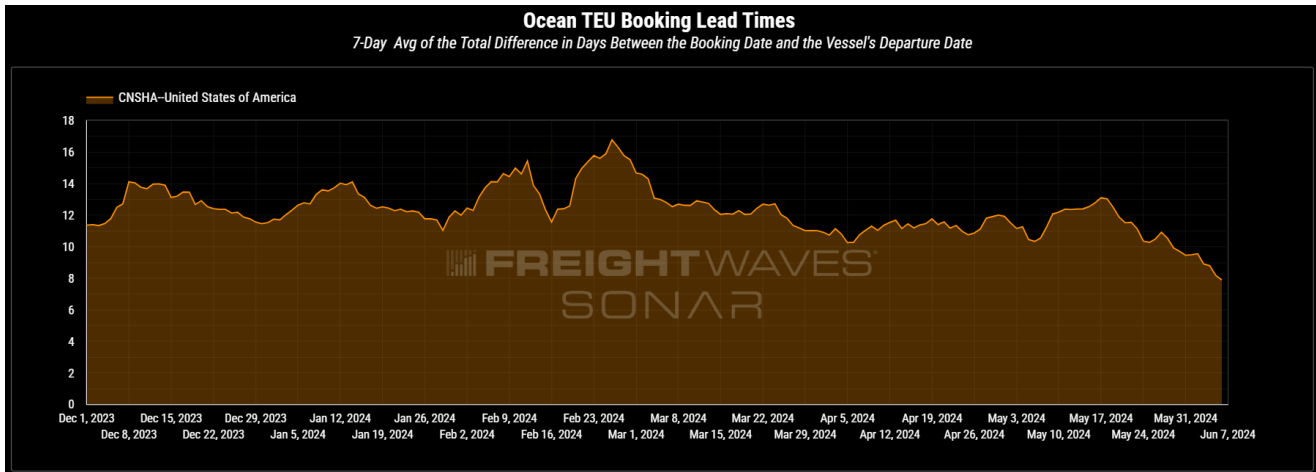
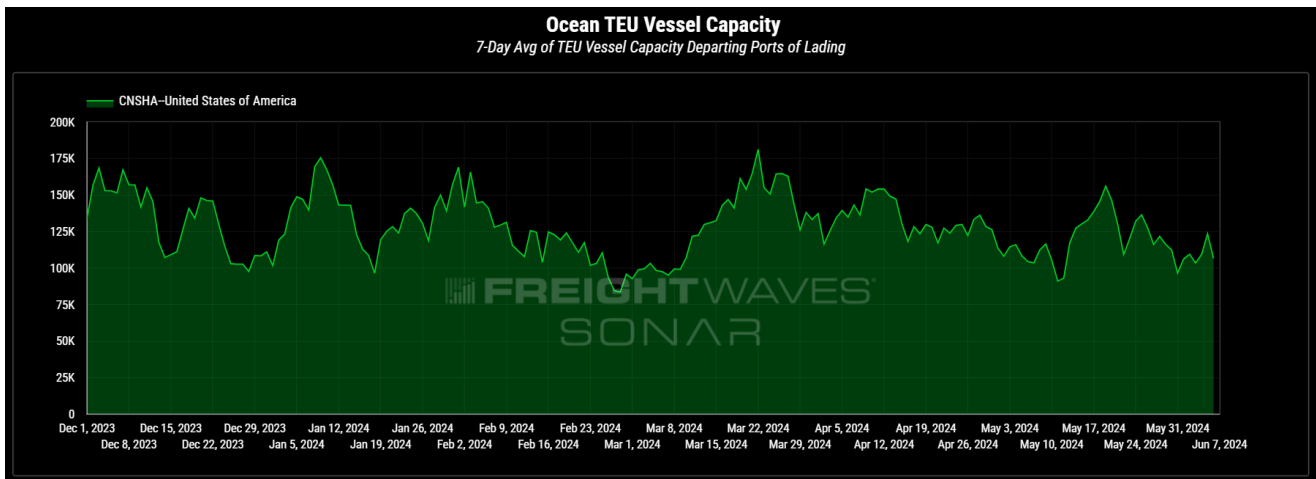
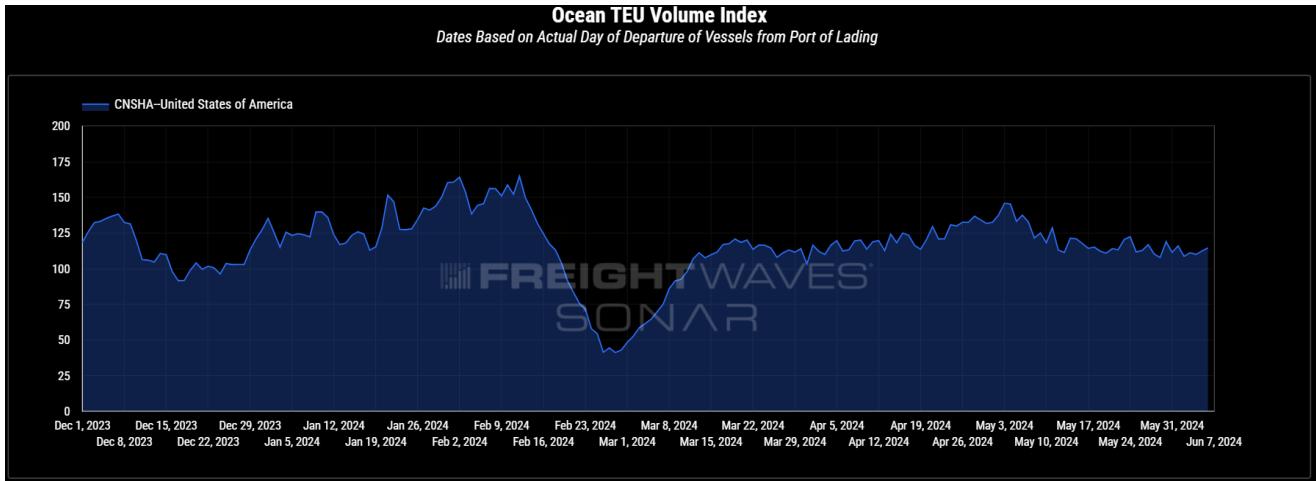
Spot rates are more volatile than contact rates and don't always reflect what large contractual shippers are paying to move their cargo, but they are valuable because they provide high-frequency information on the balance of supply and demand and, ultimately, where contractual rates are headed, at least directionally.



Average Freightos Spot Market Rate per 40' Container (FEU) in \$USD over Last 7 Days with MoM % Change				
Origin Port	Destination Port	Lane Name	Spot Rate per 40' (FEU)	% Δ
Shanghai - CNSHA	Houston, TX - USHOU	Shanghai, China -> Houston, TX, United States of America	7,145.97	33.1% ↑
Shanghai - CNSHA	Savannah, GA - USSAV	Shanghai, China -> Savannah, GA, United States of America	6,885.17	72.1% ↑
Shanghai - CNSHA	Oakland, CA - USOAK	Shanghai, China -> Oakland, CA, United States of America	5,785.75	65.0% ↑

Spot rates to move 40-foot containers from Shanghai to the U.S. surged from April to June, suggesting that carriers have more leverage in upcoming rate negotiations than previously believed. (Chart: SONAR - Container Atlas, Ocean Container Rates tab)

In addition to ocean rates, Container Atlas includes several important metrics in its “Supply/Demand” tab, including booking volume, vessel capacity, rejections and lead times. Monitoring those measurements helps to illustrate whether recent spikes in spot rates are likely to stick or whether they might only be the result of a temporary disruption.

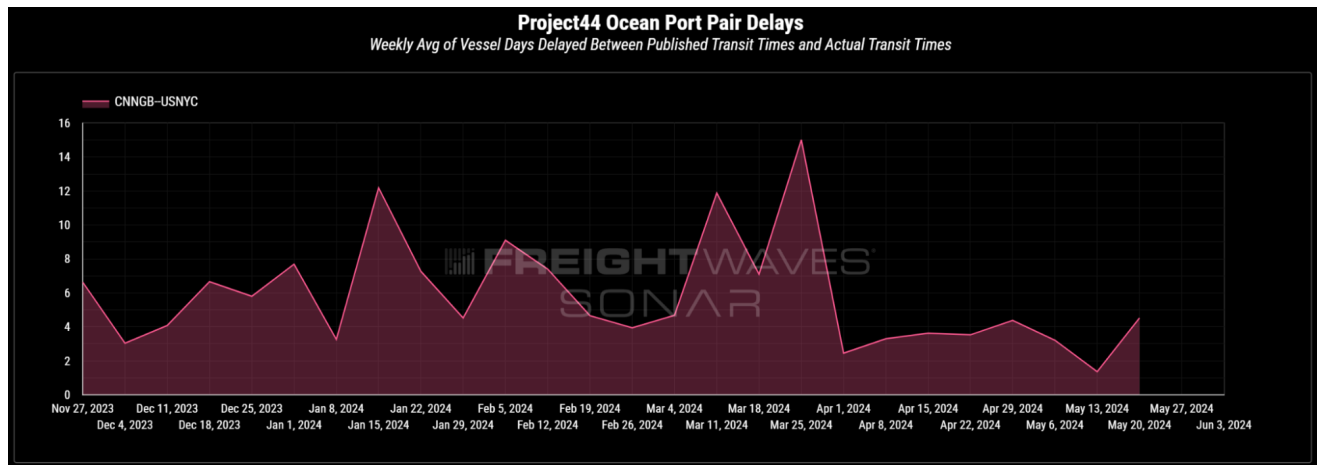


Despite the rise in spot rates between Shanghai and the US ports, volume (blue) has been lackluster. Higher rates have been largely a function of reduced ocean capacity (green). Lead times are declining (orange), which suggests that other shippers aren't concerned about securing ocean capacity. Taken together, the data suggests that carriers do not have as much power in pricing negotiations as the rising spot rates indicate. (Charts: SONAR - Container Atlas)

# Monitor and React to Disruptions

Ocean service levels change quickly, illustrated by the early summer surge in ocean rates to year-to-date highs. Delays can happen for headline-grabbing reasons like the Red Sea attacks and also less dramatic reasons including weather, ocean carriers skipping ports and container shortages. That can result in ocean carriers rolling containers to subsequent vessels or rejecting the freight altogether.

Port Pair Delays data, found in Container Atlas, gives logistics managers a heads-up when delays could cause inventory to be tight. That could help a consumer goods company provide a retailer with notice or, if important enough, could cause a shipper to use air freight instead of ocean. The Ningbo (China) to New York lane is an example of a major ocean lane where the average delays have been volatile this year, ranging from 3-14 days.



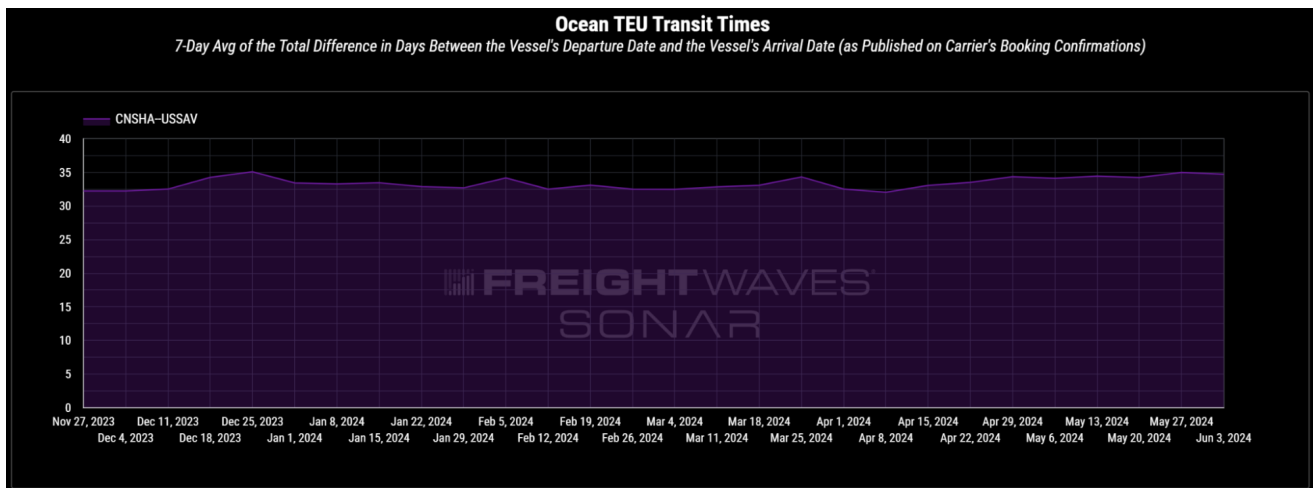
The average delay between the published and actual transit time in the Nighbo to New York ocean lane. (Chart: SONAR - Container Atlas)

# For Site Selection, Compare Geographies Along Multiple Dimensions

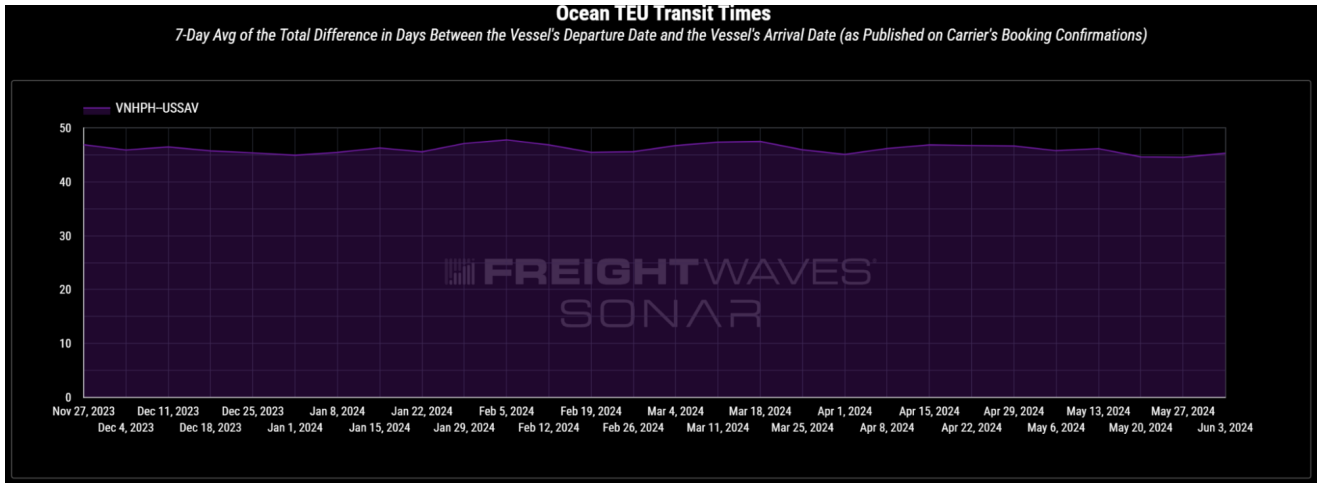
Manufacturing site selection is particularly critical for companies with an emerging brand. Often, companies are faced with a decision of whether to use the most cost-effective option, such as single-sourcing all manufacturing in China, or a more expensive option, such as utilizing manufacturing facilities in multiple countries that may offer better quality and respect for intellectual property rights. Clearly, there is more to consider than just logistics, but Container Atlas can help by making it easy to compare geographies along multiple logistical dimensions, including:

- Typical ocean spot rates and the recent volatility of those rates
- Average transit time between port pairs
- Frequency and severity of delays
- Typical volatility in available ocean capacity
- Typical lead time needed between booking and departure dates

Container Atlas helps put the length of global supply chains in context. Shorter lead times from manufacturing to market are advantageous because the longer the lead time, the greater the working capital and inventory risk. Longer supply chains also means there will be more times when air cargo is required outside of seasonal norms.



While there is more geopolitical risk associated with manufacturing in China than India, relative transit times highlight an advantage associated with China. The ocean transit time from Shanghai to Savannah is 30-35 days whereas the transit time from India (Haiphong) is 45-48 days. (Chart: SONAR - Container Atlas)



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[Learn more](#) about how SONAR can improve your operations or [request a demo here](#).