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## Cargo Volume From the L.A./Long Beach Ports Shapes Industrial Real Estate in the Inland Empire

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In 2006, the combined cargo volume of the Los Angeles and Long Beach ports was a record 15.8 million 20-foot equivalent units, compared with second-place New York's 5.1 million TEUs. The trade volume through the Los Angeles and Long Beach ports ranks first in the nation and fifth globally and is projected to increase by an average annual rate of 8.5 percent over the next decade. The warehousing, trans-loading and distribution of these goods requires a significant amount of warehouse space in proximity to the ports.

Because Los Angeles is predominantly built out, the Inland Empire, consisting of San Bernardino and Riverside counties, has become the ideal location for distribution and logistics warehouses. Located 50 miles inland, the Inland Empire can accommodate warehouse space with its available land parcels, transportation infrastructure and large blue-collar labor force. Over the past decade, the growth in trade volume has shaped the industrial real estate landscape in the Inland Empire and will continue to shape it as international trade increases.

### Warehouse Requirements Make the Inland Empire an Ideal Location

Flat, vacant land in San Bernardino and Riverside counties is abundant and inexpensive. For example, an 11-acre parcel in the city of Los Angeles sold for \$34 per square foot in December 2006, compared with a similar six-acre parcel that sold for \$7 per square foot in Perris in March 2007. This attractive pricing along with large developable land parcels permit the development of warehouses in relative proximity to the ports.

The Inland Empire is strategically located to provide a direct link between the Los Angeles and Long Beach ports and the greater United States through its freeway infrastructure, rail network and two major cargo airports. Interstate 10 and State Highways 60, 91 and 210 provide trucks with a short route from the ports to the Inland Empire and then to nationwide highway networks. The Burlington Northern Santa Fe Railway and the Union Pacific Railroad move more intermodal cargo than any other rail system in the world and have numerous rail lines in the area. United Parcel Service uses the Ontario Airport as one of its five regional heavy freight hubs. DHL uses the March Global Port in Moreno Valley as its western region headquarters. The Inland Empire's immediate access to nationwide transportation hubs makes it a preferred choice for distributors.

A large pool of blue-collar laborers has migrated from Los Angeles and Orange counties to the Inland Empire seeking affordable housing and employment from the 200,000 new jobs annually in the manufacturing and wholesale trade industries. These laborers are the truck drivers, warehouse operators and salespersons who work in logistics and distribution to bring goods from the ports to their final destinations. The availability of low-cost labor in the Inland Empire has fueled growth in the distribution and logistics industries.

### Estimating Annual New Warehouse Space

In the past decade, industrial space, predominantly warehouse and distribution centers, has grown from 200 million square feet to 366 million square feet in the Inland Empire. Annual demand for new warehouse space is measured by net absorption and stems directly from the international trade industry. In fact, annual net absorption is highly correlated to the growth in cargo volume through the Los Angeles and Long Beach ports. By using the relationship between growth in cargo volume and net absorption, future demand for warehouse space in the Inland Empire can be estimated.

Trade volume through airports is excluded from the analysis because the proportion of goods traveling by air is insignificant in terms of weight. The cargo volume of goods passing through the Los Angeles and Long Beach ports in 2006 was more than 13 times the volume in 1980, with an annual growth rate of 12 percent. Except for 2001 with the longshoremen's strike, the growth rate of cargo volume in TEUs has been consistently strong from 1981 through 2006 despite fluctuations in consumer spending, labor strikes and construction at the ports.

The annual growth in cargo volume and net absorption of warehouse space in the Inland Empire has reflected similar patterns over time. It appears that net absorption is affected by the previous year's growth in TEUs. This can be explained by the lag time needed for construction of new warehouses.

Annual Net Absorption (ABt) measures the demand for new industrial space in square feet and is defined as the difference in occupied space from one year to the next. It measures the change in vacant space plus any new completions of industrial space during the year. The annual growth in cargo (TEU Growth) is the increased volume of cargo processed through the ports during the year and is measured in 20-foot equivalent units. Using actual data from 1989 through 2006, we estimated the relationship by the following time series regression model:

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$$AB_t = 2,604,229 + 3.1 (\text{TEU Growth})_t + 7.1 (\text{TEU Growth})_{t-1}$$

This equation shows that Net Absorption (AB<sub>t</sub>) in year t is directly related to the current year and previous year's growth in TEUs. The estimated model shows a positive relationship between the growth in cargo volume and new industrial space demanded with a significant lag effect. The coefficient of 3.1 for the cargo growth in the current year and 7.1 for the previous year shows that the growth in the preceding year has greater weight for constructing new industrial space in the Inland Empire. Using growth estimates about future cargo movements through the ports, the regression model can be used to estimate future demand for industrial space.

Recent growth in cargo volume through the ports has averaged 10 percent to 11 percent annually. A study from the Department of Transportation estimates future cargo volume through the ports at a conservative annual growth rate of 6 percent to 7 percent. We project annual growth in cargo volume at 10 percent for an optimistic forecast and at 6.5 percent as a base forecast to estimate the demand for warehouse space in the Inland Empire from 2007 to 2015.

Actual growth is likely to be closer to the conservative growth rate of 6.5 percent given fluctuations in recent data. In 2007, there was been a slight slowdown in cargo volume passing through the Port of Los Angeles. According to Global Insight Inc., the recent slowdown has been felt at the nation's largest ports and is the result of a weakening U.S. economy. The slowdown began in March 2007 and corresponds to changes in demand in the consumer sector of the economy. As of September 2007, the year-to-date imports are down by more than 5 percent from 2006.

Although a slowdown may occur in the short-run, long-run trends are expected to remain consistent. In light of the recent tightening of the credit markets and the spillover effects of the residential market slump on consumer spending, the demand for industrial warehouse space may experience a temporary slowdown. Year-over-year volume of imports is down, decreasing the required inventory stored by retailers, thereby decreasing overall demand for industrial space. However, in taking a long-term view, the momentum toward a more global marketplace is a force that will continue to drive trade volume up in the long run.

#### **Recent Warehouse Development**

As demand for industrial warehouse space continues, the development of industrial buildings in the Inland Empire must keep pace. The specific locations of future industrial growth can be identified by analyzing the pattern of historic growth.

From 1998 to 2002, roughly 78 percent of all new industrial construction was built in five western Inland Empire cities, mainly warehouses less than 250,000 square feet in size. The cities were Ontario, Mira Loma, Chino, Fontana and Rancho Cucamonga. Early industrial development was primarily centered in Ontario, which serves as the West Coast hub for all UPS air freight operations and is a major distribution point for FedEx.

From 2003 to 2006, the western Inland Empire began to show signs of being built-out because the same five cities only built 33 million square feet of space, or 45 percent of all new construction. This time period was characterized by increasing demand from large, national users desiring larger building footprints. Development began to shift outward toward the eastern portion of the Inland Empire, where larger plots of land were available. DHL recently moved its western region headquarters to the March Global Port in Moreno Valley. A growing amount of the industrial development in the eastern market is near this airport.

Recent deliveries and the inventory of under-construction projects reveal that the bulk of the construction is now occurring in the eastern portion of the Inland Empire. The shift toward larger building footprints stems from the need for users to have better control over their inventory. Adapting from just-in-time inventory management to "just-in-case" inventory management, distributors maintain large quantities of inventory within the United States that is not subject to external risks. The accompanying table lists new tenants/owners to enter the market to demonstrate the size and location of this more recent wave of development.

The demand for large distribution centers has been so strong that developers are now building speculative product with no tenant in the hope of attracting buyers or tenants who are willing to pay a premium to avoid the long entitlement and construction period. The largest speculative building in the nation - 1.7 million square feet in size - was delivered by IDS Real Estate Group in Perris in third-quarter 2007.

In the Moreno Valley, a number of buildings are being delivered without tenants, which has pushed the vacancy rate up to 40 percent. This is only viewed to be temporary as the huge spaces eventually will become absorbed. With about 20 million square feet of new industrial warehouse space required annually by 2015, the need for newer submarkets is undeniable.

#### **Areas of Future Warehouse Development**

The Southern California Logistics Airport, located in the High Desert city of Victorville, is working aggressively to lure users. SCLA features an 8,500-acre multimodal complex that integrates air, rail, truck and warehousing. In general, companies are not yet ready to move from the eastern Inland Empire into this area because short-haul rail between the ports and Victorville is not economically viable and drayage costs to Victorville are roughly \$112 per truck more than the Ontario area. However, as land in the eastern Inland Empire diminishes, a large-scale push to this region may occur.

The path of development is likely to continue along the interstate, which truck users prefer because of the favorable winter weather

conditions. Adjacent to the Perris/Moreno Valley market are the cities of Banning and Beaumont, which developers speculate may be the next growth area.

Beyond those cities, the city of Indio in the Coachella Valley serves as an alternative to the High Desert. Indio provides access from Interstate 10 directly to Mexico via Highway 86, nicknamed the "NAFTA Highway." In several years, Indio, although much farther away from the ports, may very well be the next attractive location for large-scale industrial distribution facilities.

Although this region benefits economically from increased trade, issues related to poor air quality and traffic congestion force Inland Empire residents to bear a large burden of this growth. Environmentally friendly infrastructures must be built as trade volume increases to alleviate this burden. A high-speed regional transport system proposed by the Southern California Association of Governments would move goods from West Los Angeles to Ontario International Airport within 33 minutes using an elevated track above Interstate 10. This would accommodate the sorting, forwarding, warehousing and trans-loading needs farther inland. Projects such as these would help to alleviate traffic congestion and pollution in the Inland Empire and create more economic activity because of the area's increased role in the supply chain system.

With a projected annual cargo volume of 28 million TEUs by 2015, international trade will continue to be the main driver for warehouse development in the Inland Empire. Barring a serious recession, demand for new warehouse space is projected conservatively to range from 13 million to 19 million square feet each year from 2007 to 2015. With this dynamic growth in the industrial stock and the United States shifting to a global marketplace, the role of the Inland Empire will become ever more critical to world trade. Federal, state and municipal agencies, political leaders and industrial developers are recognizing the international importance of the Inland Empire and helping to direct the change in the landscape.

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