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Gearing Up

Will Toyota Plant Drive Market?

By Harold D. Hunt

Pickups are about to pick up the pace of San Antonio's economy.

The city scored big when Toyota announced it was building a plant on the south side to assemble Tundra pickup trucks. Toyota will invest $800 million in the project, which will generate 2,100 construction jobs and 2,000 permanent jobs. The plant is expected to produce 150,000 trucks per year beginning in 2006.

The Texas economy will likely reap significant benefits from Toyota's presence, but how will Texas commercial real estate markets be affected? What areas will benefit most and why? Although past trends are not always predictors of future events, an examination of existing auto assembly plant locations provides some interesting insights.

Auto Corridor Suppliers

Auto assembly plants built in the past 15 years are designed for the just-in-time (JIT) production system, which requires suppliers to deliver components within hours, or even minutes, of when they are needed in the assembly process. This enables auto manufacturers to store a minimum inventory; suppliers instead bear the storage cost.

Toyota currently depends on about 450 "tier one" suppliers, both foreign and domestic, to feed its four North American assembly plants. Tier one suppliers manufacture or assemble components and deliver them directly to the assembly plants. Tier two suppliers provide components to tier one suppliers.

The bulk of these suppliers are located within the "auto corridor," which runs roughly between I-65 and I-75 from Michigan south through Indiana, Ohio, Kentucky and Tennessee. The U.S. auto industry was born in this region, and more than half of U.S. auto suppliers are located in these five states.

Where Suppliers Locate

JIT production has prompted changes in the criteria used to select cost-effective locations for auto suppliers. Dr. Thomas Klier, a senior economist at the Federal Reserve Bank of Chicago, has carried out extensive research on this topic.

In a 2000 study, Klier concluded that access to excellent transportation routes outweighs the need for a location adjacent to an assembly plant. Rather than having many suppliers extremely close to the plants, Klier discovered that it is more important to have a large number of suppliers within one day's shipping distance. Four hundred miles is considered the maximum distance for a one-day delivery.

Klier used a database of more than 3,000 North American auto suppliers compiled by ELM International, Inc., of Lansing, Mich., to determine distances between suppliers and assembly

plants. He found that 5 to 29 percent of tier one suppliers are within a 100-mile radius of the plants they serve.

Examination of Toyota's tier one suppliers revealed that only 10 percent are within 100 miles of Toyota's three wholly-owned North American assembly operations. However, 76 percent are within a 400-mile radius.

Klier also looked at tier one suppliers providing components to a fourth assembly plant jointly owned by Toyota and General Motors. The New United Motor Manufacturing, Inc. (NUMMI) plant has been operating in Freemont, California, since 1984. Klier discovered that only 6 percent of its suppliers were within a 100-mile radius. Only 11 percent were within a 400-mile radius. The rest were located back East in the auto corridor.

The Texas Connection

Klier's research has major implications for Texas real estate markets. It shows that many Texas cities in addition to San Antonio are viable candidates for supplier sites. As long as suppliers can consistently deliver products within the time frames mandated by the assembly plants, they are not forced to locate facilities adjacent to the plants. Instead, they can choose sites where the sum of production and transportation costs is lowest.

The relative isolation of the NUMMI plant in California has produced a different supplier paradigm. Klier discovered that, rather than construct new manufacturing facilities near NUMMI, the bulk of suppliers ship parts from their existing facilities in the Northeast to warehouse-distribution centers in El Paso, Memphis, Chicago and Detroit. Various components are consolidated at these points and transported to NUMMI by rail.

"One hundred and fifty thousand vehicles per year is not a lot of production," Klier says, referencing the San Antonio plant's expected output. "In all likelihood, a supplier plant of the most efficient size would need to manufacture much more product than the amount required by San Antonio alone. So suppliers considering the construction of an additional manufacturing facility near San Antonio must ask themselves what they would do with the extra capacity."

Although Texas may one day have a number of auto assembly plants, for all practical purposes San Antonio may be an auto assembly "island," similar to NUMMI, for the foreseeable future. Suppliers may find it more cost effective to ship parts into San Antonio from existing locations rather than build additional manufacturing facilities in Texas.

Lessons from Other Sites

While the need for supplier manufacturing sites in Texas may be limited, the NUMMI scenario points out the importance of warehouse-distribution space. Suppliers will need locations to receive and possibly assemble components before they are delivered to the assembly plant for installation.

Study of foreign-owned assembly plants in Mississippi, Alabama and Kentucky confirms Klier's conclusion that only a small core of suppliers locate within minutes of the assembly plant. These suppliers often locate nearby because they must provide critical technical expertise along with components.

Local government officials report that suppliers are generally quite cost conscious. According to John Conner, executive director of the Georgetown–Scott County Kentucky Chamber of Commerce, "We missed capturing some of Toyota's suppliers when the assembly plant opened because our industrial land just wasn't competitively priced." Georgetown, Ky., is home to a 7,800-employee Toyota assembly plant that began operation in 1988.

In retrospect, Conner believes that suppliers had a hierarchy of priorities when they chose where to locate. Generally, they preferred to locate in areas that had affordable land in an industrial park with modern speculative space already constructed. This facilitated quick move-in and kept negotiations with utility companies, developers and city governments to a minimum. In other words, the "heavy lifting" had already been done.

In the absence of the ideal property, suppliers usually look for affordable sites in modern industrial parks where all necessary infrastructure is in place and they can construct their own build-to-suit space. Areas chosen least frequently by suppliers are relatively expensive tracts not in industrial parks. This is true even if the land is in proximity to the assembly plant. A number of government officials and local brokers report that it takes several years after assembly plants begin operations before land speculation around the plants subsides and reality sets in.

Studies of other auto assembly sites suggest that plant suppliers will look for affordable land in industrial parks with already constructed, modern spec space.

Local governments have increased their involvement because they want to be able to offer potential suppliers land at affordable prices. Georgetown and Scott County, Ky., are working together to develop a modern industrial park near the Toyota plant. Several other U.S. cities with relatively new assembly plants either provide or intend to provide an industrial park near the plant that is at least partially owned by local government entities.

Unlike U.S. automotive firms, Toyota has a track record of extreme loyalty to its existing supplier base. This is both good news and bad news. Those areas where Toyota suppliers locate stand to benefit indefinitely, for odds are those suppliers will be providing components to Toyota for a long time. However, cities not chosen as sites for the original round of Toyota's suppliers should not expect a large pool of different suppliers to be shopping for sites in the near future.

Mexican Connection

Mexico is a formidable source of existing suppliers outside the auto corridor. The Texas Center for Border Economic & Enterprise Development at Texas A&M International University in Laredo reports border trade data between Texas and Mexico.

The Center's data show that billions of dollars of auto-related components are imported from Mexico into the United States each year through Texas. Among the top 25 products imported from Mexico over Texas bridge crossings in 2002,

auto-related components totaled more than $16 billion. Almost three-fourths of these components came through two Texas cities — Laredo and El Paso.

Obviously, auto-related components already are being delivered from Mexico to other U.S. assembly plants more distant than San Antonio. Almost all Texas border crossings are within a 400-mile radius of San Antonio, making them viable supplier locations. Warehouse-distribution facilities in Texas border cities could become important staging grounds for Mexican auto parts suppliers supplying Toyota's San Antonio site.

Other Real Estate Sectors

Visits to cities with existing assembly plants revealed that, in the commercial real estate sector, industrial real estate markets are the most affected by the plants. Surprisingly, the arrival of assembly plants and auto suppliers has little effect on the regions' office markets and hotel-lodging sectors. Local government officials and real estate brokers report almost no change in these markets.

Assembly plants do affect retail markets to some degree. However, zones immediately surrounding existing auto assembly plants in the southeastern United States experienced little new retail activity. This may be explained by the high percentage of plant employees who commute from other towns.

Toyota is a great addition to the state's manufacturing base, and many areas should benefit greatly from its arrival. Cities that can offer reasonably priced land with a minimum of development headaches within a 400-mile radius of San Antonio will join the intense competition to attract suppliers into the Texas market.

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