There are two sides to any market analysis: the supply and the demand. Comparing them is a method of measuring the gap in a market—the number of additional apartment units that can comfortably be absorbed at a given price (rent) and within a reasonably short period of time. With constantly improving information technology and easily accessible demographic data, projecting future demand for multifamily units in a market seems simple. However, reliance on demographic data alone can be misleading. Often, the performance of the supply part of the equation contains insights that can help clarify the quality and quantity of the demand, and paint a more complete picture of the market and the gap.

Each of the three case studies outlined in this article was performed as part of a marketability study for a proposed apartment property. The results of each study helped to enhance and explain the demographic demand estimates and provided valuable information about the probable success of the development. This article will look at each case study in light of the contribution of the study results in measuring the market demand.

*The Dictionary of Real Estate Appraisal*, fifth edition, published by the Appraisal Institute, defines a *market study* as,

A macroeconomic analysis that examines the general market conditions of supply, demand, and pricing or the demographics of demand for a specific area or property type. A market study may also include analyses of construction and absorption trends.¹

This is a general definition, but the following comment from the text, *Market Analysis for Real Estate*, lends some clarity.

Because market analysis links the property’s attributes to market preferences, it is indispensable to the highest and best use determination and to value measurement....By linking competitive supply to effective demand, productivity analysis helps the appraiser identify the marketability of a given parcel.²

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A marketability study is an “analysis of how a particular property is expected to be sold, absorbed, or leased under current or anticipated market conditions.” Marketability studies are important to appraisal practice and will become even more critical as technology allows for improved and more specific demographic data.

An Approach to Quantifying Renter Demand

Over the past ten years, there has been a significant increase in the demand for marketability studies. Lenders and developers alike are interested in measuring the probable success of a proposed property through third-party estimates of rent levels, occupancy, absorption, and financial feasibility. Such studies typically look at a market’s existing supply and supply in the pipeline, as well as the demographic growth (historical and projected), in order to determine whether there is demand in the market for additional multifamily units. The Appraisal Institute has been a leader in promoting the understanding and use of such studies, through training and publications.

Typically, identifying the existing supply in a market is not as difficult as projecting the future changes in the demand for additional apartment units. Many factors impact demand for additional multifamily units, including job growth, linkages, tenant preferences, and design characteristics. Although there are a number of credible sources of demographic data, the data often is trended based on historical information and does not include consideration for specific events. Job growth, for example, is a driver of population, which in turn is a driver of demand for apartment units; however, demographic data does not usually consider recent job announcements or unemployment rates.

Additionally, US census data often forms the basis of demographic projections, and the further we move away from a census year, the more uncertain the trended data becomes. Most often, available demographic data should be tempered with available real-world information from the market.

This article presents three marketability studies in various markets. The data discussed in the case studies is not the complete analysis, but it will serve to illustrate the important components associated with measuring demand in a market.

The first case study illustrates a marketability study using supply-side information to show the impact of property design on market demand. The second case study presents an analysis of a market with very little elasticity in its demand price points. The third case study considers feasibility analysis in a market with an unprecedented increase in its household demand.

Case Study 1: Little Rock Supply-Side Study

A marketability study was commissioned to measure the demand for rental apartments in the upscale Chenal Valley neighborhood of Little Rock, Arkansas, in 2009. The initial employment growth indicators implied that there should be significant new demand for additional new rental apartments. However, some of the competing properties’ occupancy levels told a different story, as survey information suggested that there was no need for additional rental apartments in this market. An analysis of rent levels, occupancy, absorption, and the pipeline for new supply was undertaken. An analysis of the data identified a level of functional obsolescence in a competing property that skewed the results of the initial survey.

Data Collection and Analysis

Data was collected and analyzed for competing apartments in the primary market area. The competing (comparable) properties were three new, Class A+ multifamily complexes within about 5 miles of the subject property. The information revealed that some of these apartment properties had lower-than-normal overall occupancy levels. The overall occupancy rate for the apartments sampled in the market area—the newest (post 2004) apartment complexes—was 91.6% overall in February 2009.

The proposed multifamily property that was the subject of the analysis offered no three-bedroom units, while all the competing properties in the market included three-bedroom units. Therefore, it was necessary to drill down into the occupancy data to better determine what types and sizes of apartments were experiencing the highest vacancies in this market.
The property manager or leasing agent of each competing property was contacted to determine exactly how many models of each type and size were vacant, and why. This exercise was conducted to specifically measure the occupancy levels of the three newest apartment complexes in this market: Stonebridge at the Ranch, Palisades Apartments, and Highland Pointe Apartments. These apartment complexes were determined to be the apartments that would compete most directly with the proposed multifamily project. The results are included in the Table 1; the effective rent shown (Eff. Rent) is the current rent, adjusted for concessions or special incentives that were being offered.

This analysis provided greater insight into the occurrence of the vacancies, and the concentration of vacancies within certain types of apartment models. For example, Stonebridge is 100% full, with the exception of the two 1,086-square-foot, two-bedroom models. These two models had a combined total of 7 vacancies. In contrast, the Palisades one-bedroom unit was very popular and almost 100% leased.

Using this analysis of only the newest complexes in the market (built after 2004), it was possible to break out the various unit types (one bedroom, two bedroom, three bedroom) of these properties and analyze the occurrences of vacant units, as shown in Table 2.

The following comments can be made related to the vacancy data (Table 2).

1. For the one-bedroom units in the new complexes, the market reflects a 4.53% vacancy rate, with all but one vacancy being in the Highland Pointe property. The manager indicated that it is unusual to have this many vacant one-bedroom units at Highland Pointe. Further investigation and discussions with area real estate professionals and apartment managers revealed that the Highland Pointe property had been suffering from management and staffing problems.

2. For two-bedroom units in the new complexes, there was a 12.19% overall vacancy rate. There were 59 vacant two-bedroom units in this sample, with 22 of these in the Palisades apartment complex. All the vacant Palisades two-bedroom

<table>
<thead>
<tr>
<th>Property</th>
<th>Unit</th>
<th>Sq. Ft.</th>
<th>Rent</th>
<th>Eff. Rent</th>
<th>No. of Units</th>
<th>Number Vacant</th>
<th>% Vacant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highland</td>
<td>1BR</td>
<td>675</td>
<td>$700</td>
<td>$665</td>
<td>57</td>
<td>11</td>
<td>19.3%</td>
</tr>
<tr>
<td>Highland</td>
<td>2BR</td>
<td>925</td>
<td>$805</td>
<td>$725</td>
<td>112</td>
<td>6</td>
<td>5.4%</td>
</tr>
<tr>
<td>Highland</td>
<td>3BR</td>
<td>1,100</td>
<td>$1,100</td>
<td>$875</td>
<td>47</td>
<td>1</td>
<td>2.1%</td>
</tr>
<tr>
<td>Palisades</td>
<td>1BR</td>
<td>892</td>
<td>$879</td>
<td>$879</td>
<td>72</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Palisades</td>
<td>2BR</td>
<td>1,109</td>
<td>$1,059</td>
<td>$883</td>
<td>24</td>
<td>4</td>
<td>16.7%</td>
</tr>
<tr>
<td>Palisades</td>
<td>2BR</td>
<td>1,181</td>
<td>$1,079</td>
<td>$899</td>
<td>24</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Palisades</td>
<td>2BR</td>
<td>1,291</td>
<td>$1,079</td>
<td>$899</td>
<td>72</td>
<td>22</td>
<td>30.6%</td>
</tr>
<tr>
<td>Palisades</td>
<td>3BR</td>
<td>1,401</td>
<td>$1,259</td>
<td>$1,049</td>
<td>28</td>
<td>4</td>
<td>14.3%</td>
</tr>
<tr>
<td>Palisades</td>
<td>3BR</td>
<td>1,484</td>
<td>$1,359</td>
<td>$1,133</td>
<td>28</td>
<td>5</td>
<td>17.9%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>1BR</td>
<td>668</td>
<td>$675</td>
<td>$619</td>
<td>68</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>1BR</td>
<td>788</td>
<td>$775</td>
<td>$710</td>
<td>68</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>2BR</td>
<td>1,086</td>
<td>$955</td>
<td>$875</td>
<td>32</td>
<td>4</td>
<td>12.5%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>2BR</td>
<td>1,086</td>
<td>$1,055</td>
<td>$967</td>
<td>32</td>
<td>3</td>
<td>9.4%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>2BR</td>
<td>1,165</td>
<td>$899</td>
<td>$899</td>
<td>24</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>3BR</td>
<td>1,384</td>
<td>$1,195</td>
<td>$1,095</td>
<td>12</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>3BR</td>
<td>1,487</td>
<td>$1,245</td>
<td>$1,141</td>
<td>12</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Stonebridge</td>
<td>3BR</td>
<td>1,492</td>
<td>$1,425</td>
<td>$1,306</td>
<td>12</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>724</td>
<td>61</td>
<td>8.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
units were 1,291-square-foot units located on the third floor of various buildings (shown as Palisades (P3) in Table 2). This was considered a design flaw and a form of incurable functional obsolescence based on the market’s response to this design. The proposed subject property was designed with no third-floor units.

Without consideration for these 22 vacant third-floor apartments in Palisades, the overall vacancy of new two-bedroom units in this sample drops to 5.33%, and the number of vacant apartments drops from 39 to 17. Therefore, two-bedroom vacancies for the subject property were projected to be 5.3%.

3. The Palisades property also had a high vacancy level in its three-bedroom units (16% of the 56 three-bedroom units were vacant), while their rents ($/sq. ft.) were some of the lowest in the sample. Palisades had about 40% of all three-bedroom apartments in the market sample. After consideration of the data, the developer decided to offer only one-bedroom and two-bedroom units, adjusting the proposed subject’s design to the demand in the market area.

Along with the data, consideration also was given to comments and information from managers and leasing agents:

- One-bedroom apartments in Stonebridge and Palisades stay full most of the time, and they are generally the most popular rental units.
• It is unusual to have this many vacant one-bedroom apartments (11) at Highland Pointe.
• No concessions were being offered on one-bedroom apartments at Palisades.
• The leasing agent confirmed that there is a kitchen layout issue with the 1,291-square-foot two-bedroom unit model at Palisades, making it a less-desirable floor plan.
• The small two-bedroom apartments at Palisades (1,109 square feet) are difficult units to lease because of the layout/design.
• The 22 vacant two-bedroom units at Palisades (1,291 square feet) are all third-floor units and are very difficult to lease. Tenants in this market resist having to walk up three flights of stairs.

Based on the market rental data and survey comments, a 4.5% vacancy rate was applied to the subject property’s 216 one-bedroom units, and a 5.5% vacancy rate was applied to the subject property’s 96 two-bedroom units. An aggregate 4.8% overall vacancy rate was projected for the proposed subject property, based on this market information.

Household growth was evident in this market area, and the demographics indicated a continuing increase in demand. This is an affluent area, and affordability did not appear to be an issue in this situation. The case study indicated that there was no excess of one- or two-bedroom apartments, as reflected by the stabilized vacancy rates for newer properties in this market, and there should not be a problem in the foreseeable future due to anticipated new demand from employment and household growth and very limited new construction activity in this market.

**Conclusion**

By drilling down into the data and pursuing apparent anomalies, it was possible to demonstrate that factors other than typical market supply and demand were in play. Some design flaws were uncovered in this analysis, which prompted the developer of the proposed property to reexamine the floor-plan layouts of the two-bedroom units, resulting in a design that was more attractive to prospective tenants and matched up well with the rental market demand.

There is clearly a need in any market analysis to examine both the performance of the existing supply (apartments) and the various demand components in concert in order to understand the whole picture that is the market.

**Case Study 2: Gulfport-Biloxi Market Elasticity Study**

When this study was undertaken in 2008, the Gulfport and Biloxi, Mississippi, markets were still heavily impacted by Hurricane Katrina. A major disaster, Hurricane Katrina had an immediate and drastic effect on the supply and demand components normally at work in a market area. On the one hand, homes and apartments were destroyed, reducing the available rental housing stock. On the other hand, many families moved from the area in the aftermath of the devastation. However, this case study of the market demand for proposed new apartments revealed an unexpected characteristic in the demand: the price point for new rental housing in the market was inelastic.

**Data Summary Collection and Analysis**

In this assignment, the developer wanted to determine the feasibility of a new apartment complex in the Gulfport-Biloxi market area. The developer also wanted information on the optimal unit mix, apartment sizes, quality of finish, and amenity package for the project.

An inspection of the Gulfport-Biloxi market area indicated that there were numerous comparable, market-rate apartment complexes within the market area. Thirteen apartment complexes were identified as likely to compete with the proposed new apartments. These properties were detailed in the report and used to determine the projected rent levels for the proposed apartment complex.

The entire market feasibility study was lengthy and took into consideration specific data about supply and demand in the area. The following excerpt from the market feasibility study deals with the affordability considerations, which became a primary concern to the developer as he designed the apartments to match market demand.

**Consideration of Unit Size and Rent Level**

Within the set of comparable properties in this market, the elasticity of rent levels across various apartment model sizes was analyzed. The results were very consistent and helped in designing new apartments for this market. The apartment models sampled were upscale and in the newest apartment...
complexes; these would compete most directly for tenants with any new developments.

**One-Bedroom Units.** The one-bedroom apartments in this market area range in price from $0.74 to $1.16 per square foot on a monthly basis. As illustrated in Figure 1, there is with few exceptions a correlation between size and rent per square foot, with larger units receiving the lower per square foot rental rate. This is consistent with the size/rent relationship in other markets.

However, there appears to be very limited elasticity in the actual rent per month paid for one-bedroom apartments in this market. Despite the variety of ages (from 1996 to 2004), amenities, locations, and quality of finish, the actual dollars paid for rent for one-bedroom apartments in this market was extremely constant. As illustrated in Figure 2, although there is a wide range in one-bedroom unit size (from 687 to 1,068 square feet), most rents for these apartments stay near the $800 per month level. Rent of $850 per month is the highest in this market. This suggests that any new apartment development in the market should include one-bedroom units in the 750- to 840-square-foot range. Presently, rents for such apartments range from $1.00 to $1.09 per square foot and occupancy remains in excess of 96% for all the properties with apartments of that size.

**Two-Bedroom, Two-Bath Units.** The two-bedroom apartments in this market area ranged in price from $0.68 to $0.89 per square foot per month, with one model achieving $1.00 per square foot. As with the one-bedroom apartments, there was a correlation between size and rent per square foot, with larger units receiving the lower per-square-foot rental rate. This is consistent with the size/rent relationship in many other markets.

As illustrated in Figure 3, there again was very limited elasticity in the actual rent per month paid for two-bedroom apartments in this market. Despite the variety of ages (from 1996 to 2004), amenities, locations, and finishes, the actual dollars paid for rent for two-bedroom, two-bath apartments in this market was extremely constant, aggregating near $900 per month. For almost all the two-bedroom units sampled, rents were between $880 and $920 per month. This suggests that any new apartment development in this market include two-bedroom, two-bath units in the 1,000- to 1,150-square-foot

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**Figure 1 Gulfport-Biloxi One-Bedroom Apartments: Correlation Size and Rent per Square Foot**

![Graph showing the correlation between size and rent per square foot for one-bedroom apartments in Gulfport-Biloxi.](image)
range. Presently, rents for such apartments range from $0.81 to $0.89 per square foot, and occupancy remains in excess of 96% for all the properties with apartments of this size.

**Three-Bedroom, Two-Bath Units.** The rent situation for three-bedroom, two-bath apartments in this market was similar to that of smaller units. Although the three-bedroom units ranged in size from 1,124 to 1,659 square feet, all but two of the rents surveyed fell between $1,000 and $1,100 per month. The per-square-foot rent range was between $0.63 and $0.77, with one smaller model achieving $0.91 per square foot per month. This suggests that the proposed new apartment development should not include three-bedroom, two-bath units. Such units are likely to rent for only about $1,100 month per month, and based on average size, they appear to be the least profitable units. Typically, three-bedroom rents need to exceed $0.77 per square foot to be financially feasible.

**Conclusion**

Based on the information presented, the Gulfport-Biloxi market appears to have a fairly rigid price point for each unit type. Additional size does not translate directly into additional rent dollars in this market.

In the Gulfport-Biloxi market, affordability of apartment units is a key factor. The market data indicates that there are rent ceilings for various unit types. The analysis found that unit size, age, amenity package, quality of finish, and other characteristics do not tend to increase the price point (monthly rents) of the individual units. Demand analysis of the household income characteristics in this market supports these findings. In this inelastic market, it was recommended that the developer build a Class B or B+ property, with smaller units and modest amenities. This would tend to increase overall profitability, given these demand characteristics.

**Case Study 3: Tupelo Demand Change Study**

Tupelo, Mississippi, was an area of high unemployment and low household income during the mid-2000s. The furniture industry, once this area’s major employment base, had evaporated, with factories moving offshore toward cheap labor. The tri-county area of Pontotoc, Union, and Lee Counties continued to lose households.
In September 2007, Toyota announced its plans to build a $1.3 billion assembly plant in Blue Springs, Mississippi, nine miles from Tupelo. The new plant was scheduled to hire 2,000 employees, with an average annual wage of $61,000 per person—an economic impact that would dramatically change the demographics of this market area. The plant was scheduled for completion in 2010. It seemed clear that there would soon be strong demand for new rental housing. To test this assumption, a central place theory analysis was used.

Central Place Theory Study
Because the impact of the overwhelming change in demand could not be measured based on historical growth and change within the greater Tupelo market, the analyst spent considerable time reviewing the historical impact of similar demand shifts in other markets. The analysis was based, in part, on the central place theory.

The Dictionary of Real Estate Appraisal, fifth edition, defines the central place theory as “the theory that cities arise in response to the service needs of surrounding rural areas.”

More specifically, the CCIM Institute’s Market Analysis for Commercial Investment Real Estate course material explains,

Central Place Theory holds that cities of similar size provide similar services to the surrounding population. Central Place Theory, in its simplest form, is a ratio analysis. To discover a gap [or need], cities of similar size are compared in terms of ratios of a particular feature.

For this 2007 case study, several cities were selected that had experienced a similar addition of a major employer over the past twenty-five years. The impact of the new jobs on the demographics of these cities was reviewed as well as the ensuing shifts in household demand.

The central place theory analysis, which is commonly accepted in market analysis, allowed the analyst to examine the impact of the demand changes following the announcement and construction of automotive plants in other markets and to impute

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the probable impact of the Toyota assembly plant on the Tupelo primary market area (PMA). The similar areas studied included the following:

- Marysville, Ohio—Honda plant, 1982
- Smyrna, Tennessee—Nissan plant, 1983
- Georgetown, Kentucky—Toyota plant, 1986
- Spring Hill, Tennessee—Saturn plant, 1991

There were some other locations that could have also been evaluated; however, the common trends in the four cities studied appeared to be applicable to the situation in Tupelo, and the cities had characteristics similar to Tupelo at the time the automotive plant was announced. Like the Tupelo PMA, these areas were all smaller cities with less than 11,000 people at the 1980 census. Spring Hill was the smallest of these cities, with less than 1,000 people in 1980, and therefore some of the percentages associated with its growth may appear to overstate the actual growth numbers.

All four of these cities were located just outside of a secondary city (Smyrna and Spring Hill are just outside of Nashville, Tennessee; Marysville is about 25 miles west of Columbus, Ohio; and Georgetown is 20 miles from Lexington, and 50 miles from Louisville, Kentucky). With the exception of Spring Hill, Tennessee, which received its Saturn plant immediately following the 1990 census, all the other cities received their automotive plants during the 1980–1990 decade. For each city, the factors evaluated included changes in population, household and employment growth trends, tenure, rent levels, household income levels, and home values. In the analysis, percentages, not raw numbers, were used to display most of the results.

**Population Growth**

All the cities studied experienced strong positive growth following the date the automotive plant was placed in service, and continuing through 2007. Population growth rates between 1990 and 2000 for the three cities that had received their automotive plant during the 1980s were 4.70% (Georgetown), 5.14% (Marysville), and 6.48% (Smyrna) annually. All these cities sustained growth long after the automotive facility was first built (Figure 4).

By 2007, Georgetown, Spring Hill, and Marysville were towns of approximately 20,000 people. Georgetown and Marysville had doubled their populations since 1990 (about seventeen years), and Spring Hill went from 1,500 people to 25,000 people in about the same number of years. Smyrna also exhibited sustained growth from fewer than 14,000 people in 1990 to about 32,400 people in 2007, a 2.3 times increase. As a baseline, the US population grew at a rate of 11.4%

It was anticipated that the Tupelo market will mirror the growth pattern of the cities studied. Presently, there are 64,384 people in the Tupelo market area. Based on the available data, it was projected that there will be sustained annual population growth in this market area for the fifteen years following the plant opening.

**Household Growth**
Household growth is a key factor in projecting the future demand for multifamily housing. Figure 5 illustrates the sustained household growth patterns experienced by the cities sampled.

In 1990 (the first census date reflecting the impact of the automotive plant in all cities except Spring Hill), there were between 3,200 and 4,800 households. In each case, the number of households increased significantly over the next ten years, and again over the seven years after the 2000 census (to 2007).

Household growth rates were recorded at an annual rate of between 5.6% and 7.1% since the plants were built. This exceeded the growth rate of the population during those same years. Therefore, it is anticipated that the Tupelo PMA could expect an increase in households at an average annual rate of 6% for the next fifteen years. There were 25,123 households in the PMA, so this increase would approximate an additional 1,500 households annually on the average.

It is important to remember that the direct jobs being created by Toyota also will bring many suppliers to this market, and this will stimulate job creation in other support industries and in the service industry. Based on employment growth and job announcements, it is likely that the household growth in the Tupelo PMA will occur in a linear fashion but match or exceed the estimated 6% figure over the first several years.

**Employment Growth**
As illustrated in Figure 6, in Georgetown, Smyrna, and Maryville employment approximately doubled between 1990 and 2007. In Spring Hill, the number of jobs increased tenfold. Spring Hill benefited from being in the fast-growing south-Nashville market, which is the path of progress of the Nashville MSA.

By 2007, all four of locations had in excess of 8,000 jobs (and as many as 15,500 in Smyrna), up significantly from the 1990s. Spring Hill’s job base grew by 3,500 jobs between 1990 and 2000 (the plant came on line in 1991). The other three cities experienced job growth of between 5.21% and 7.24% during that same ten-year period.

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**Figure 5 Household Growth, Markets with New Plants**

<table>
<thead>
<tr>
<th>Year</th>
<th>Georgetown, KY</th>
<th>Smyrna, TN</th>
<th>Spring Hill, TN</th>
<th>Marysville, OH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>2,603</td>
<td>3,712</td>
<td>344</td>
<td>2,046</td>
</tr>
<tr>
<td>1980</td>
<td>3,712</td>
<td>4,836</td>
<td>513</td>
<td>2,862</td>
</tr>
<tr>
<td>1990</td>
<td>4,184</td>
<td>9,608</td>
<td>2,634</td>
<td>3,269</td>
</tr>
<tr>
<td>2000</td>
<td>6,703</td>
<td>12,693</td>
<td>6,393</td>
<td>5,563</td>
</tr>
<tr>
<td>2007</td>
<td>8,822</td>
<td>15,397</td>
<td>8,349</td>
<td>7,915</td>
</tr>
<tr>
<td>2012*</td>
<td>10,633</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Projected.
Since 2000, job growth has continued but at a more conservative rate, indicating that employment growth has a tendency to stabilize following the first ten to fifteen years after the construction of an automotive plant. In the early years following the announcement and implementation of an automotive plant, these markets displayed significant new employment growth. Similar changes in the primary market area for the Tupelo apartments are anticipated over the next ten years.

Household Tenure
Tenure is also important to multifamily demand forecasts; tenure data shows the percentage of households that rent and that own their homes. This metric includes all rental housing, including apartments and single-family rentals. The pattern of tenure in the four cities studied was interesting. In Georgetown, Smyrna, and Marysville, the tenure shifted toward rental households with about a 5% increase in the first years following the completion of the automotive plant. Then, tenure began to move back toward normal renter household levels, at between 29% and 39%, more consistent with the averages in other areas of the country (Figure 7).

The shift in tenure toward renter households following the construction of the various plants appears to be a consistent trend, and it appears that this can be expected in the Tupelo market area as well. In the Tupelo market in 2007, 32.8% of the households were renter households. This was slightly lower than the national average. Based on the data from other cities, it was anticipated that the renter household percentage in Tupelo would increase to 38% within the next three to five years after the plant opened and remain at that level for eight to ten years before beginning to decline. This is another factor increasing the demand for rental housing in the market.

Median Household Rent and Income Levels
In each of the four cities studied, household rents increased between 1980 and 1990, although not at a consistent rate. Figure 8 displays median household rent in constant (2005) dollars, adjusted for inflation, and therefore the rate of growth illustrated is understated. The household rent measure includes apartment rents as well as single-family home rentals.

Remembering that all but one of the automotive plants were brought online during the 1980s (Spring Hill in 1991), the significant decade for household income growth occurred between 1989 and 1999.
**Figure 7** Household Tenure, Markets with New Plants

![Graph showing the percentage of renter households over different years for various locations.]

- Georgetown, KY
- Smyrna, TN
- Spring Hill, TN
- Marysville, OH

**Figure 8** Median Household Rent, Markets with New Plants

<table>
<thead>
<tr>
<th>Year</th>
<th>Georgetown, KY</th>
<th>Smyrna, TN</th>
<th>Spring Hill, TN</th>
<th>Marysville, OH</th>
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<tr>
<td>1970</td>
<td>$423</td>
<td>$473</td>
<td>$539</td>
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<td>1980</td>
<td>$448</td>
<td>$590</td>
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<td>1990</td>
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<td>2000</td>
<td>$591</td>
<td>$668</td>
<td>$786</td>
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<tr>
<td>2012</td>
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</table>
But, in every case, median household income levels increased fairly significantly, as measured in constant (2005) dollars (Figure 9). Median household income levels grew by between 0.59% and 2.84% annually between 1989 and 1999 in the three cities that received automotive plants during that decade. Spring Hill grew at 3.77% between 1989 and 1999. These figures are also stated in 2005 dollars and represent real growth, adjusted for inflation.

This data appears to support the assumption that higher-paying jobs will continue to enter the market area, provided by industries and suppliers wishing to locate closer to the generative presence of the Toyota assembly plant.

Based on the quality of the jobs entering the Tupelo PMA and the stated salaries, it is estimated that household income levels overall will increase at a rate of 1.5% annually for three to five years (in constant dollars), which is within the range of the four cities sampled.

**Conclusion**

Although this area of the country has had a flat household-demand pattern for many years, the above research helped the analyst to project that the construction of the Toyota assembly plant will increase demand for housing units, increase the percentage of renter households, and increase income levels—all important factors in determining the feasibility of new multifamily development. The analyst would not have been able to prove this using historical data from the Tupelo market; however, historical data from other markets that experienced similar, sudden employment growth helped predict the most likely trends of future demand patterns.

**Market Analysis in Real Estate**

The three case studies presented in this article reinforce that market feasibility analysis is part science and part art. It is often necessary to combine answers to questions raised by the data in order to reach a level of understanding of the dynamics of the market forces.

Demographic data continues to improve, providing more insight into the quality and quantity of the demand components in a market. The data improvements allow analysts to better evaluate the subject real estate against market demand, both now and in the future. Different property types command different primary market areas (or, in the retail sector, trade areas), and the evaluation of the existing supply of competing properties within that market area can often disclose trends and factors that directly influence the success or failure of a proposed development.
As demand data continues to improve and supply data becomes even more organized, analysts can look forward to providing market feasibility analysis with even more credible answers to questions about design, absorption, price points, and financial feasibility. The existing supply has typically been the easiest to measure, and it is often interpreted as a prime indicator of the future performance of a proposed real estate development. However, the demand drivers in a market are equally important and should be used to complement, and even to explain, the performance of the existing supply of real estate properties.

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Web Connections
Internet resources suggested by the Y. T. and Louise Lee Lum Library

Data.Gov—Open Data Sites, links to state and local data sites
http://www.data.gov/united-states-datasites

National Association of Home Builders
—Home Design and Consumer Preference
—Multifamily Production and Vacancy Indices
—State and Local Data

US Census Bureau
—2012 National Population Projections
http://www.census.gov/population/projections/data/national/2012.html
http://www.census.gov/cps/
—People and Households
http://www.census.gov/people/