

## Feasibility Analysis II: Supply and Demand Analysis

**Objective:** The goal of this assignment is evaluate the “fit” of a particular land use to a given neighborhood in terms of existing/potential demand and supply analysis.

**Background:** A large 100,000-square-foot Asian shopping area called “Mekong Plaza” (<http://www.mekongplaza.com/>) on approximately 9 acres of land is scheduled to open in 2007 at the southwest corner of Dobson Road and Main Street in Mesa (66 S Dobson Street, Mesa, AZ 85201) along the Dobson Road’s “Asian corridor” between Mesa and Chandler. The Manila Oriental Market<sup>1</sup>, a 38,000-square-foot grocery store, will serve as the anchor store. The developers of the project are targeting people of different Asian backgrounds since their feasibility study has found that is no one concentrated Asian area of any one ethnicity such as Japanese, Chinese, Korea, etc. According to an article in the East Valley Tribune<sup>2</sup>



“In Mekong’s marketing studies, (Phillip) Ta, (the developer) said the Asian population still is spread out. That’s why the Dobson area isn’t as heavily concentrated as a traditional Chinatown found in San Francisco or New York City... “Early immigrants didn’t have that much transportation capability,” Ta said. Many Asians moving into Arizona, however, already have established themselves in the United States and don’t face the same challenges as early immigrants. “They can live anywhere and travel anywhere to shop,” Ta added. Local business owners and shoppers attributed the density of Asian businesses in the area to several factors: Proximity to all the freeways, Arizona State University, Mesa Community College, and hightech businesses that employ many people of Asian descent. Exchange students at ASU often shop at the Korean and Vietnamese markets in the area, workers said. The 2000 census shows the ASU ZIP code has one of the highest percentages of Asians in Tempe.”

Originally, the site was a drive-in movie theater. Target next occupied the site until 2004 when it moved to Southern Avenue and Longmore, near Fiesta Mall. The lot went unrented until April 2005 when plans were announced to turn the Target site into an indoor shopping mall called Mekong Plaza. The existing building will be remodeled with an Asian flair, adding cornices and roof lines with Asian architecture to create an indoor retail marketplace. Stand-alone retail pads will be built for medical and professional offices on 2.5 acres of the site. The high traffic site which has a traffic count of 119,300 is located just south of the light-rail line (<http://www.valleymetro.org/rail/>) that will be built along Main Street. The rail line will run between Mesa and Tempe. Near the northwest corner of Dobson and Main, a new park-and-ride building will be built. According to Mekong Plaza's Web site, 60 percent of the shops are already pre-leased. Tenants thus far include gourmet restaurants, bakery, international food court, sandwich shops, juice bars, jewelry showrooms, cellular store, gift & fashion boutiques,

<sup>1</sup> There are four Manilla Oriental Markets in California. This is the first in Arizona.

<sup>2</sup> <http://www.eastvalleytribune.com/index.php?sty=67083>

beauty shop, nail supply, and professional offices (optometry, mortgage, real estate, insurance, travel agency). Available remaining units range in size from 800 to 4,500 square feet.

An interview with Russell Rohr, leasing agent for Mekong Plaza, reveals that the rents are expected to be around \$31 per square foot per year since it is an upscale indoor mall (this includes the load/loss factor). Operating expenses on a triple net lease are anticipated to be around \$4.20 per square foot per year (35 cents per square foot per month). **Note: Please do not call Mr. Rohr or the developer regarding this case.**

**Assignment:** Please prepare your report as a formal presentation to your boss complete with maps and charts. This is an individual project.

Assume that the primary, secondary, and tertiary trade areas for the Mekong Plaza shopping complex is a 5-mile, 7-mile, and 10-mile radius surrounding the zip code 85201. To help you with your project, I have provided a spreadsheet that you can download entitled "Feasibility II 2007". The 5 mile trade area will be our primary focus.

### Demand Analysis:

1. Provide a DNA (demographic neighborhood analysis) overview of the immediate neighborhood e.g. zip code 85201 using Claritas (<http://www.claritas.com/> →Free Stuff →You Are Where You Live) and ESRI (<http://www.esribis.com/reports/ziplookup.html>) as the *initial* points of departure. You are trying to obtain a feel for the people who live in the immediate retail trade area in terms of their behavioral attributes including but not limited to cluster names, income class, percentage of total households, predominant characteristics, ethnic diversity, family type, predominant ages, education, employment, median income, and lifestyle traits. An example of this is [www.shopfiesta.com/files/trade\\_area\\_market\\_profile\\_12881.pdf](http://www.shopfiesta.com/files/trade_area_market_profile_12881.pdf). After you have finished your DNA profile for the area, discuss whether the Mekong Plaza is the right use for this area. Should the Manila Oriental Market cater only to Asians or to other ethnic groups as well? What type of tenants should the Mekong Plaza have in order to maximize the center's cash flow given the DNA associated with the zip code? Please discuss and give your reasoning. What type of major department stores and big box retailers should you expect to find in this area based solely on this profile?



2. Using Ring Studies feature in easidemographics (<http://www.easidemographics.com/>) obtain the following information for the primary, secondary, and tertiary trade areas. Note: The default for easidemographics ring studies is the "Summary Report". However, this option is too general. Leave the default for Block Groups since Block Groups is the recommended geography for ring studies. To obtain the latitude and longitude, fill in the street, city, state, and zip code in the box provided and then click on the box labeled "Find Address Coordinates". Notice that the latitude and longitude will automatically be filled in. Next, click on the box at the bottom of the page labeled "Create Site Study".



Rendering of Mekong Plaza

- a. What is the total anticipated population for the years 2000, 2006, and 2011 with respect to the primary, secondary, and tertiary trade areas? What are the total anticipated households for the years 2000, 2006, and 2011 with respect to the primary, secondary, and tertiary trade areas?
- b. Assuming that the ratio of Asians in 2000 to the total population in 2000 remains constant over time, what is the total projected Asian population in 2006 and 2011 with respect to the primary, secondary, and tertiary trade areas? Assuming that the ratio of Asian households in 2000 to the total households in 2000 remains constant over time, what is the total projected Asian households in 2006 and 2011 with respect to the primary, secondary, and tertiary trade areas?
- c. With respect to Asian Income Characteristics, what is the per capita income for the primary, secondary, and tertiary trade areas? What is the average income and median income per household for the primary, secondary, and tertiary trade areas? Finally, what is the total aggregate income of all Asians for the primary, secondary, and tertiary trade areas? Note: The figures reported in easidemographics are for the year 2000.
- d. Assume that the anticipated wage increase each year going forward from the year 2000 (last date when the Census reported actual salary numbers) will be the average (=AVERAGE) annual rate of growth in the CPI index from 2000 through 2006 e.g. use the AVERAGE command in Excel together with the “cpi annual growth” worksheet. The change in the Consumer Price Index (CPI) represents the inflation rate. Using the anticipated annual wage increase that you calculated, forecast the average income and median income per household for Asian households for the primary, secondary, and tertiary trade areas for 2006 and 2011. Next, using your answer to question 2b above regarding the total number of Asian households, calculate the total aggregate income of all Asians in the primary, secondary and tertiary trade areas for 2006 and 2011.
- e. Using the
  - (i) average household income for zip code 85201 provided in the “85201 HH Income” worksheet that was obtained from the Missouri Census Data Center which has zip code data for the entire U.S.,
  - (ii) the Average Household Total Consumer Expenditures for zip code 85201 provided in the “85201 HH Consumption” worksheet that was obtained from Yahoo’s real estate neighborhood statistics website, and
  - (iii) the Food at Home expenditures as a percentage of the Total Consumption expenditures for zip code 85201 provided in “85201 HH Detailed Consumption” that was obtained from the University of Wisconsin – Milwaukee’s ETI Purchasing Power, Business Activity, and Workforce Density Profiles for All Residential ZIP Codes in U.S.

calculate the Total Consumer Expenditures in aggregate for Asian households for the primary, secondary and tertiary trade areas for 2006 and 2011 using (i) and (ii) above. We are assuming that the ratio of household consumer expenditures to household income for zip code 85201 remains constant over the retail trade area and that Asian households have similar consumption patterns to other non-Asian households. Given your result, next calculate the aggregate Food at Home expenditures for Asian households for the primary, secondary and tertiary trade areas for 2006 and 2011.

- f. Assume that the Mekong Plaza captures 5% of the market share of the Asian households Food at Home expenditures in the primary retail trade area, 3% in the secondary and 2% in the tertiary trade areas. What is the anticipated revenue for Manila Oriental Market? According to HDL Companies<sup>3</sup> report of sales per square foot for the year 2005, ethnic supermarkets having 20,000 to 50,000 square feet such as 99 Ranch, Gigante, and Superior Warehouse generate annual taxable sales per gross square feet of \$50 to \$150 per square feet per year. How does the expected sales per year that you projected for Manila Oriental Market compare to this benchmark for the immediate 5 mile trade area for the year 2006? Please discuss.

### Supply Analysis:

3. Provide a map showing the largest Asian grocery stores and Asian shopping malls in the Phoenix metropolitan statistical area. Include who the anchor tenant of each mall is, square feet occupied by the anchor tenant, total mall square feet, as well as rents, lease terms, etc to the extent possible (if information is available) and provide pictures of each mall. Discuss to what extent they are directly competitive with Mekong Plaza. Which Asian complex(es) is (are) the biggest competitor(s) for the business that Mekong Plaza hopes to attract? Is Ranch 99, now known as Super L, located at 668 N. 44th Street, Phoenix, AZ 85016 in the Chinese Cultural Center (COFCO) a competitor both in terms of drawing people to the center as well as drawing prospective tenants away from Mekong Plaza? Why or why not? Why would tenants prefer to locate their business in the Mekong Plaza shopping complex instead of COFCO? According to LoopNet, there is still 15,399 square feet of office space in COFCO. The available square feet range from 931 to 3,772 square feet. Rents are gross (full service) at \$20 per square foot per year with a 2 to 5 year lease terms. Landlord will build out the shell office space. In addition to office space, 10,595 square feet of retail space is available at \$15 per square foot per year triple net with a minimum divisible space of 1,000 square feet. Why would they also prefer to locate their business in the Mekong Plaza rather than at any other of the major Asian shopping malls?



4. The existing supply, new supply, and forthcoming supply in addition to the net absorption for the second quarter of 2006 is reported in the " CB Richard Ellis (Phoenix)" worksheet. For your market area, please discuss how many quarters it will take to absorb the supply (existing, new, and forthcoming combined). What does this suggest about the probable lease-up and vacancy rate for Mekong Plaza near term and in the future?

### Market Analysis vis-à-vis CoStar:

5. Use CoStar(<http://www.costar.com>) to do a market analysis. Brokers frequently use CoStar for this purpose. To get started, once you have logged in to CoStar using Microsoft's Internet Explorer web browser, click on **Lookup Property** in the Property Professional section of the webpage. Next, type in the address of Mekong Plaza. Once the site appears, use the various tabs associated with the property to perform a market analysis. How does the data that CoStar

<sup>3</sup><http://www.hdlcompanies.com/index.cfm?fuseaction=nav&navid=85>

provides at a cost, compare with what can be obtained for free from various government and corporate websites (Note: the data sources that I used in constructing the case were all obtained at no cost). Please use the additional information that CoStar furnishes to augment/refine your demand and supply analysis above. Please make sure to incorporate this information into your report and to include the appropriate citations. You will note that among the many features that CoStar offers are building images including a site plan and a plat map, statistics on consumer spending, and traffic counts. As part of your refinement of the demand and supply analysis using CoStar, look at how the traffic count for Mekong Plaza compares to that for the two other major oriental supermarkets. Is it better, equal or worse? Please discuss.

### **Location Dynamics:**

6. The area that the Mekong Plaza is located in is known as West Mesa. According to the East Valley Tribune (<http://www.eastvalleytribune.com/index.php?sty=44743>) there has been an exodus that is transforming “once-thriving buildings into bleak carcasses, a prospect that has caused concern for residents and city leaders”. The city of Mesa commissioned a study known as the “Revitalization Strategy for the Fiesta Mall Super-Regional Retail District” that discusses the neighborhood around Fiesta Mall which is located very near to Mekong Plaza (see [www.cityofmesa.org/econdev/oed/downloads/other/fiesta-report.pdf](http://www.cityofmesa.org/econdev/oed/downloads/other/fiesta-report.pdf)). What is this concept known as (please refer to your location analysis lecture notes in the Real Estate Process class)? Given the location dynamics of the area, is this the right time to build? Is this necessarily the right use for the site? Why or why not? Please discuss. Feel free to use outside references and provide the appropriate citations. A drive around the surrounding area a.k.a. driving the neighborhood, especially on Dobson Road should provide additional insights. Pictures would help to strengthen any observations made.

### **Solvency Analysis**

7. Cap Rate Frontdoor analysis: Using the template provided (see the “Frontdoor (CapRate)” worksheet), and assuming that

- Loss factor<sup>4</sup> is 20%
- Construction costs: use the “Construction Cost” worksheet for the cost of building the project. Tenant Improvement (TI) costs is an additional \$30 per square foot. Building cost does NOT include the price of the site.
- Cost of the site: Use the land comparable in Appendix A as a rough guesstimate of the land cost per square foot.
- Cap Rate: Determined by examining the 5 listing comparables in Appendix A. All 5 properties are leased to tenants on a triple net with the cap rate varying with the quality of the tenant. The cap rate you use should reflect the relative risk of the tenant(s) e.g. anchor tenant will be Manila Oriental Market with other tenants to include national chains that are not Asian-related so the resulting cap rate will be a fusion of regional, national and local tenants.
- Operating expenses: Assume that operating expenses per square foot are similar to those reported for the lease comparables in appendix A. Use the most pessimistic of the NNN expenses reported in the lease comparables rather than the actual numbers that the

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<sup>4</sup>Rent per Gross Foot = Rent on Leasable Space \* (1 – Loss Factor)

developer anticipates for operating expenses. Rationale: We're using "market" based information to see what required rents should be for this project.

- Vacancy rate: vacancy rate once the shopping center is stabilized e.g., achieves normal operations, will be equal to the existing vacancy rate for Lease Comparable 3.
  - a. Calculate the required rent per square foot of gross leasable area (GLA). Is the project solvent from a frontdoor perspective e.g, is actual market rent greater than the required rent?
  - b. Redo your frontdoor analysis assuming that the developer is unable to attract any more tenants to his development e.g. vacancy rate is 40%.
  - c. Please discuss whether the calculations that you used for the frontdoor approach are correct. More specifically, in real estate, when CAM (common area maintenance) and other expenses are absorbed by the tenant, investors typically add the CAM charges or NNN expenses to potential gross income and then subtract the CAM charges or NNN expenses under the expense category. A real example taken from LoopNet for the Dobson Guadalupe shopping center located at 2039 & 2051 West Guadalupe Road in Mesa is given below:

|                                 |                |
|---------------------------------|----------------|
| Gross Scheduled Income          | 482,066        |
| <u>+ CAM Reimbursement</u>      | <u>176,210</u> |
| Total Operating Income          | 658,276        |
| <u>- Vacancy Factor (5%)</u>    | <u>32,914</u>  |
| Effective Gross Income          | 625,362        |
| - Operating Expenses (CAM)      | 176,210        |
| <u>+ CAM Administrative Fee</u> | <u>9,300</u>   |
| Net Operating Income (NOI)      | 458,452        |

Note: In this listing the CAM expenses are the only operating expenses

Point: What's the intuition for not adding back the NNN expenses in our backdoor approach?

- d. Since the loss factor is included in the \$31 per square foot per year of GLA, based on your required rent calculations, what is the loss factor? Recall that

$$\text{Rent per Gross Foot} = \text{Rent on Leasable Space} * (1 - \text{Loss Factor})$$

8. Debt Coverage Ratio Backdoor analysis: Assume that rents and expenses for Mekong Plaza are similar to those for the lease comparables in Appendix A. In terms of financing, assume that as of the date of this case study, the developer can obtain financing at 6.27% amortized over 30 years with a balloon payment due in 10 years. This results in a mortgage constant of .074042. Also assume that the before tax cash on cash is calculated as follows:

$$\text{Before Tax Cash on Cash} = \frac{\text{OAR} - \text{LTV} * \text{MC}}{1 - \text{LTV}}$$

where OAR = cap rate, MC = mortgage constant, and LTV = loan to value ratio (assumed to be 70%). Assume that the debt service coverage ratio<sup>5</sup> (DSCR) is 1.4.

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<sup>5</sup>The debt service coverage ratio a.k.a. debt coverage ratio for retail is obtained from <http://www.realtyrates.com>

a. Discuss why you should use Lease Comparable 3 as the most “comparable” of the 3 properties to the subject site in performing the DCR backdoor?

b. What is the justified price per square foot of GLA for the site? How does this price compare to the list price of your comparables in Appendix A?

## Appendix A (All comparables are from LoopNet.com)

### Lease Comparables

Lease Comparable 1: New shops built in 2006 located at 22 South Dobson Road, Mesa, AZ 85201 on the corner in front of the New Mekong Plaza with rent per square foot (sf) per year between \$20 to \$24. The minimum available space is 1,200 (\$24/sf/year) to 2,000 (\$20/sf/year). All leases are triple net (NNN). Triple net expenses are \$3 per square foot per year.

Lease Comparable 2: Barcelona Retail Center, 111 S. Dobson Rd, Mesa, AZ 85202. The strip shopping center, built in 2006, is located close to downtown Mesa just south of the southeast corner of Main Street and Dobson Road. It is across the street from the future Mekong Plaza (New Asian Center). The center has 20,414 square feet of GLA available (divisible to 1,018 square feet). Date Last Verified is 9/16/2006. Rents vary from \$14/sf/year (9,362 sqft) to \$26/sq/year (1,018 sqft). All leases are triple net.

Lease Comparable 3<sup>6</sup>: Dobson Park Plaza, Phase II located at corner of Dobson & Warner in Chandler, AZ 85224. Center has 30,975 square feet GLA with 10,320 square feet vacant. Rent is \$27.00/sqft/year with triple net expenses estimated at \$5 per square foot per year. Dobson Park Plaza is adjacent to an Asian grocery store and shares the same parking lot.

### Land Comparables

Land Comparable 1: Soon to be Vacant Wal-Mart, 1305 West Main Street, Mesa, AZ 85202 Building size is 129,300 square feet with a lot size of 14.55 acres (1 acre = 43,560 square feet). The list price is \$7,100,000 or \$54.91 per square foot of building area (\$7,100,000/129,300). Property is located near the SWC of Alma School and Main in the City of Mesa, Arizona.

### Listing Comparables

Listing Comparable 1: Walgreens, 2024 W. Main Street, Mesa, AZ 85201. Free standing retail building consisting of 14,142 square feet GLA on a 1.29 acre site. List price is \$5,585,000 or \$394.92 per square foot of GLA. Current cap rate is 5.85%. Walgreens was built in 2003. Lease is triple net. Walgreens is located at the hard corner of W. Main St. & N. Dobson Road. Last verified on 8/30/2006.

Listing Comparable 2: Jack in the Box NNN lease, 1945 W. Main Street, Mesa, AZ 85201. Free standing triple net lease retail restaurant with 4,000 square feet GLA on a 38,000 square foot lot. It is 100.00% occupied. List price is \$1,705,008 or \$426.25 per square foot GLA. Current cap rate is 6.25% with a cash on cash of 6.25%. Last verified on 9/16/2006. Located at southeast corner of Dobson and Main Street in Mesa. Actual net operating income is \$106,563.

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<sup>6</sup><http://www.rbiaz.com/>. According to the May 1999 issue of tenantsearch.com, Praedium Advisors, (<http://www.tenantsearch.com/dealmakers/1999%20Issues/May%201999/DM050799.htm>), had the listing to sell Dobson Park Plaza in Chandler, AZ. The project is being sold in two phases. Phase I is the Lee Lee Oriental Supermarket, a neighborhood grocery anchored project of 67,241 sq.ft. The current plan allows for an additional 15,000 sq.ft. to be built that can be shifted to phase II subject to a lot line adjustment. The asking price is \$5 million. Phase II is 7.32 acres of vacant land with fully developed infrastructure. The city of Chandler has approved the site plan for an additional 61,300 sq.ft. of retail space. The asking price is \$2.075 million.

Tenant signed new 10 year lease commencing October, 2005. No landlord maintenance obligations as true NNN lease. CPI increases every 5 yrs., max of 8% every 5.

Listing Comparable 3: Rancho de Tia Rosa (Mexican restaurant), 3129 East McKellips Road Mesa, AZ 85213. Retail restaurant has 8,014 square feet GLA on a 2.47 acre lot. List price is \$3,900,000 or \$486.65 per square foot of GLA. Cap rate is 6.50% and is based on a triple net lease. Last verified on 9/15/2006.

Listing Comparable 4: Fry's Plaza Shopping Center, 3116-3232 S. Mill Avenue, Tempe, AZ 85282. Fry's Plaza Shopping Center is a 87,555 square foot shopping center anchored by Fry's Food & Drug which is not a part of this offering (NAP). The Property is located at the northwest corner of Mill and Southern Avenues. The Property was built in 1976 and is currently 90% occupied with 40% being credit tenants. List price is \$6,630,000 for 31,000 square feet GLA or \$213.87 per square foot. Cap rate is 6.5%. Leases are triple net (NNN). Major tenants include Fry's Food & Drug (NAP), Hi-Health Supermarket, Great Clips, Jackson Hewitt Tax Service, Check N Go and UPS Store.

Listing Comparable 5: Stonebridge Center, 3614 & 3630 East Southern Avenue, Mesa, AZ 85206. Neighborhood shopping center is located on the northeast corner of Southern Avenue and Val Vista Drive in Mesa, Arizona. The subject property, built in 2000, has a 30,235-square foot of GLA and sits on 4.77 acres of land. List price is \$8,600,000 or \$284.44 per square foot. The property is 100% occupied with a cap rate of 6.2%. All leases are triple net. Tenants that are not a part of the offering (NAP) include Safeway Grocery, Safeway Gas, Del Taco, and Jack in the Box. Major tenants that are a part of the offering include Moki's Hawaiian Grill, Hungry Howie's Pizza, EBAY, Cost Cutters, and Sally Beauty. Date verified is 8/24/2006.

Listing Comparable 6: Valley East Plaza, 1530-50 West Southern Ave, Mesa, AZ 85202. Power shopping center on 9.08 acres with 141,400 square feet GLA located adjacent to Fiesta Mall. List price is \$18,500,000 or \$130.83 psf GLA. Current cap rate is 7.10% with triple net leases on below market rents. Power center was built in 1977. The Tenants are Bed, Bath, & Beyond, Petco, & Circuit City. Below Market Rents.

## References

<http://www.azcentral.com/arizonarepublic/mesa/articles/0506mr-mekong0506Z11.html>

<http://www.loopnet.com/xNet/MainSite/Listing/Profile/ProfileSE.aspx?LID=14682934&linkcode=1070&sourcecode=1lww2t006a00001>

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