Highest & Best Use:
Basic Concepts

Stephen F. Fanning
MAI, CRE, AICP

Text Page Reference on Slides is to
Appraisal Institute Market Analysis book
by Stephen F. Fanning
What is the Most Difficult Appraisal Question You Have Faced?
“I had never heard of so many buildings with functional obsolescence until I started working for a Tax Appraisal District”
Slide 4

- Market Value
- Highest & Best Use
- Market/Marketability Analysis
- Timing
The Valuation Process

Definition of the Problem
- Identification of client/intended users
- Type and definition of value
- Date of opinion of value
- Identification of characteristics of property (including location and property rights to be valued)
- Assignment Conditions
  - Extraordinary Assumptions
  - Hypothetical Conditions

Scope of Work

Data Collection and Property Description
- Market Area Data
  - General characteristics of region, city, and neighborhood
- Subject Property Data
  - Specific characteristics of land and improvements, personal property, business assets, etc.
- Comparable Property Data
  - Sales, listings, offerings, vacancies, cost and depreciation

Data Analysis
- Market Analysis
  - Demand studies
  - Supply studies
  - Marketability studies
- Highest and Best Use Analysis
  - Site as though vacant
  - Ideal improvement
  - Property as improved

The Value Cannot Be Right if The H&B Use is Wrong

Report of Defined Value
The reasonably probable and legal use of vacant land or an improved property, that is physically possible, appropriately supported, financially feasible, and that results in the highest value.

- Traditionally H&B Use is Presented as: The use that meets the four criteria:
  - Legal permissibility, physical possibility, financial feasibility, and maximum productivity

- But, are there Four Criteria or Six?
Six Parts of H&B Use Definition

1. The reasonably probable and legal use
2. of vacant land or an improved property
3. that is physically possible, appropriately
4. supported, financially feasible, and that
5. results in the highest value
The Study – Setting the Foundation for Highest and Best Use of Property

Part 1

Property Analysis - Look at site, legal and building to determine property’s potential.

Location Analysis - Look at growth in the area, linkages to demand sources and determine use potential.

Market Analysis - Look at surrounding competition and market demand.

Capture (Marketability) - Determine how much of the market demand the subject is likely to capture.
**Market/Marketability Analysis**

Property Productivity Analysis
- Physical attributes
- Legal/regulatory attributes
- Locational attributes

Supply and demand
Subject capture

**Four Tests**
- Physically possible
- Legally possible
- Financially feasible

**Financial Analysis of Alternatives**
Maximally profitable
Highest & Best Use Conclusions

- Use
- Timing for Use (probable use date and/or occupancy)
- Market Participants
  - Most Probable Buyer
  - Most Probable Users of Space

“Traditionally, appraisers have emphasized the physical use in the conclusion of highest and best use, but all three considerations are necessary to identify the highest and best use fully”

The Appraisal of Real Estate, 14th Edition (Appraisal Institute, 2013) page 356
The Appraisal Process

Part 2

Measure the Property’s Market Value using three different methodologies.

The H&B Use Study sets the foundation for:

- Selecting Comparable Sales & Rents
- Adjustments to the Comparable
- Rent and Occupancy Forecasts
- Property Obsolescence
The Application of the Three Approaches to Value Must be Consistent with H&B Use Conclusions.

Some Examples
• Zoned for C-store or fast food restaurant
• 40,000SF site
• The market/marketability study forecasts 5 to 7 years before new demand for convenience store, but current additional demand for fast food.
• All sales are current sold to users and same size, utilities and zoning etc.
• Discount rate (includes all holding cost) 10% to 12%
• Estimate the current market value of the site
• Present Value of $16 @ 11% for 6 years = $8.55 for convenience store
• Current Value for Fast Food $10
• Thus value is $10
Retail Shopping Center

Subject
- 150,000 Square Foot Neighborhood Shopping Center in good location
- **Subject** Currently **95%** Occupied
- **Citywide** current average occupancy is **90%**
- **Subject** H&B Use Conclusion
  - Use: Neighborhood retail shopping center
  - Timing: Due to new competition coming into this market the **forecasted** average occupancy is **80%**
  - Market Participants: Users- 2 mile radius, buyer _investor_

Appraisal for Tax Assessment Purpose
- Market Value of Fee Simple Interest

Value by Income Approach
- Stabilized Occupancy is what?
**DATA INPUTS**

| Net Rentable Area | 100,000 Sq.Ft. |

**REVENUE**

- Gross Revenue: $20.50 Per Sq.Ft.

**Vacancy & Credit Loss**: 5 to 20% of Gross Inc.

**EXPENSES**

- Property Tax: $3.35 Per Sq.Ft.
- Insurance: $0.17 Per Sq.Ft.
- C.A.M.: $2.60 Per Sq.Ft.
- Management: 5.00% of EGI
- Reserves: $0.00 Per Sq.Ft.
- Misc.: $0.05 Per Sq.Ft.

**Overall Rate**: 7.0%

**DATA ANALYSIS**

| Revenue | Gross Rent Revenue: $2,050,000 |
| Add: NNN Reimbursement | $612,000 |
| Potential Gross Income | $2,662,000 |

Less Vacancy & Credit Loss: $133,100

Effective Gross Income: $2,528,900

**Less Operating Expenses**

| Property Tax | $335,000 | 13.2% |
| Insurance | $17,000 | 0.7% |
| C.A.M. | $260,000 | 10.3% |
| Management | $126,445 | 5.0% |
| Reserves | $0 | 0.0% |
| Miscellaneous | $5,000 | 0.2% |

**Total Expenses**: $743,445

**Net Operating Income**: $1,785,455

**Value at 95% Occup.**: $25,506,500

**Value at 80% Occup.**: $20,087,429

**Difference**: $5,419,071
Example #3 – Big Box Retail

**Subject**

- Home Depot
- Good Location lots of new retail at this activity node

**H&B Use Conclusion**

- Use: Home improvement center
- Timing: Continue 10 to 20 years + as retail/home improvement
- Market Participants: Users- 5 mile radius

**Appraisal for Tax Assessment Purpose**

- Market Value of Fee Simple Interest

**Valuation Issue ->** Is a sale or rent comparable of a vacant former Home Depot stores built the same size and same building age but in a declining location - the same H&B Use as the subject?
Some Examples of Special Purpose Buildings:

- Manufacturing
- Theaters

• Value is the Present Worth of Future Benefits

“The functional utility of a special-purpose building depends on whether or not there is continued demand for the use for which the building was designed”

Application of the Six-Step Process

Steps

1. **Analyze** property productivity

2. **Delineate** the market

3. **Forecast** demand

4. **Survey and forecast** competitive supply

5. **Analyze** market conditions

6. **Forecast** subject capture
What Level of Study is “Appropriately Supported”?

"I think you should be more explicit here in step two."
<table>
<thead>
<tr>
<th>Category</th>
<th>Level A</th>
<th>Level B</th>
<th>Level C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>Descriptive only</td>
<td>Descriptive + Critique</td>
<td>Descriptive + Critique + Rating Matrix</td>
</tr>
<tr>
<td>Legal</td>
<td>Basic</td>
<td>Basic + Deed research</td>
<td>Basic + Deed research + Rating Grid</td>
</tr>
<tr>
<td>Locational</td>
<td>General observation &amp; logic</td>
<td>+Linkages/urban growth</td>
<td>Linkages/Urban growth + Rating Grid</td>
</tr>
<tr>
<td>Market Delineation</td>
<td>Macro: whole community</td>
<td>Subject Specific</td>
<td>ID on map + consumer</td>
</tr>
<tr>
<td>Economic Demand</td>
<td>Comps + General data</td>
<td>Comps + Published surveys + Trends</td>
<td>Fundamental forecast</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quantified</td>
</tr>
<tr>
<td>Market Condition</td>
<td>Generic City-wide</td>
<td>Specific trend analysis</td>
<td>Quantified through marginal demand</td>
</tr>
<tr>
<td>Subject Capture</td>
<td>Inferred from general observations</td>
<td>Inferred from comps</td>
<td>Quantified through rating grids of competition</td>
</tr>
</tbody>
</table>
Criteria for Selecting the Level of Market/Marketability Analysis

Levels of M/M Analysis:

(A) **Inferred**: small stable property, stable market—timing not an *issue* -

(B) **Inferred**: simple but large property, stable market—timing moderate issue

(C) **Fundamental**: large, complex property and/or unstable market—timing major issue
Step 1. Property Productivity Analysis

Purpose of Property Productivity Analysis

- What market (users) is the property designed to serve?

- Productivity Analysis based on study of:
  - Site and Improvements
  - Legal
  - Location
## Quantifiable Analysis of Use of Vacant Land

<table>
<thead>
<tr>
<th>Factor</th>
<th>Single Family</th>
<th>Apartment</th>
<th>Retail</th>
<th>Office</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Uses --&gt;</td>
<td>Single Family</td>
<td>Apartment</td>
<td>Retail</td>
<td>Office</td>
<td>Industrial</td>
</tr>
<tr>
<td>Slopes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>-2</td>
</tr>
<tr>
<td>View</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Access</td>
<td>1</td>
<td>2</td>
<td>-3</td>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>Floodplain</td>
<td>1</td>
<td>2</td>
<td>-2</td>
<td>-1</td>
<td>-2</td>
</tr>
<tr>
<td>Abutting Land Uses</td>
<td>3</td>
<td>3</td>
<td>-3</td>
<td>-2</td>
<td>-3</td>
</tr>
<tr>
<td>Noise</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Utilities</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Trees\soils</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Legal</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td><strong>Total Score-&gt;</strong></td>
<td><strong>13</strong></td>
<td><strong>15</strong></td>
<td><strong>-5</strong></td>
<td><strong>-1</strong></td>
<td><strong>-4</strong></td>
</tr>
</tbody>
</table>
## Retail Property Rating

<table>
<thead>
<tr>
<th>Sub-Rate (rate factors by inserting &quot;X&quot;)</th>
<th>Veto</th>
<th>Inferior</th>
<th>Typical</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor</td>
<td>High</td>
<td>Moderate</td>
<td>Slight</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land-to-building ratio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior circulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Topography</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circulation impact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior access (curb cuts)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscaping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-Rate (rate factors by inserting &quot;X&quot;)</td>
<td>Veto</td>
<td>Inferior</td>
<td>Typical</td>
<td>Superior</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------</td>
<td>----------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Building improvements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior appearance</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction quality</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signage appearance</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design flexibility</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Street visibility</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tenant mix and marketing features</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anchor's size</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anchor's drawing power</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenant compatibility mix</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Image of center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopper access shops to shops</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Center's amenities features</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>Legal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoning/easements/legal attributes</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rating conclusions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-rate number of items</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Times category score</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Category score</td>
<td>0</td>
<td>2</td>
<td>16</td>
<td>70</td>
</tr>
<tr>
<td>Total subject score</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage above or (below) average</td>
<td>-9%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Warehouse Property Analysis

### Micro Location (Immediate Area)

<table>
<thead>
<tr>
<th>Sub-rate-&gt; (rate factors by inserting &quot;X&quot;)</th>
<th>Inferior</th>
<th>Typical(1)</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Moderate</td>
<td>Slight</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>Slight</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity to Major Thoroughfare</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access Onto Site For Trucks</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access &amp; Visibility for Customers</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity to Complementary Uses</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Site

<table>
<thead>
<tr>
<th>Site</th>
<th>Inferior</th>
<th>Typical(1)</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Moderate</td>
<td>Slight</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>Slight</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking For Trucks and Cars</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circulation on Site For Trucks</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topography</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land to Bldg. Ratio</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Building Improvements

<table>
<thead>
<tr>
<th>Building Improvements</th>
<th>Inferior</th>
<th>Typical(1)</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Moderate</td>
<td>Slight</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>Slight</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Quality</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior Appearance</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of Warehouse Area</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of Office Area</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition and Effective Age</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security Features</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexibility of Design for Multi-tenants</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Interior Finish</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Obsolescence (Overall)

<table>
<thead>
<tr>
<th>Obsolescence (Overall)</th>
<th>Inferior</th>
<th>Typical(1)</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Moderate</td>
<td>Slight</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>Slight</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior Design</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior Layout and Design</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Rating Conclusions

<table>
<thead>
<tr>
<th>Sub-rate number of items</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>15</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Times Category Score</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Category Score</td>
<td>0</td>
<td>2</td>
<td>8</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Subject Score</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage Above or (below) All avg.</td>
<td>-6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Analyze the Location

- Retail Site & Environment
  - Customer Base
  - Employees
  - Competitor

- Distribution Center

- Employees
- Customer Base
- Competitor
Evaluate the Location

- Look at neighborhood location
- Look at land use trends in the area
- Look at neighborhood income patterns
80% of the 65,000 new homes built in 2005 were outside Beltway 8.
Analyze the Rate and Direction of Growth
# Retail Competitive Location Analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rating Criteria</th>
<th>Area A</th>
<th>Area B</th>
<th>Area C</th>
<th>Area D</th>
<th>Area E</th>
<th>Rank by Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Density of households in 2 miles</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Proximity to new retail</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Location in path of new residential growth</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Median Household Income in 2 miles</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Proximity to major roads--access and visibility (existing or approved)</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Traffic count through node</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Proximity to complementary land use such as hotels, office, parks, schools, etc.</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Size and drawing appeal of anchors in area shopping</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>Tenant mix and compatibility in area</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Effective age of centers</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong> <em>(Individual score times weighting)</em></td>
<td>123</td>
<td>78</td>
<td>62</td>
<td>46</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Percentage of Total Scores</strong></td>
<td>29%</td>
<td>18%</td>
<td>15%</td>
<td>11%</td>
<td>27%</td>
<td></td>
</tr>
</tbody>
</table>
Step 2. Delineate the Market
Define the Primary Market Area
Step #3 Forecast Demand

What Creates Demand?

- Population → Households → Housing
- Income → Buying Power → Retail SF
- Jobs → % Use Office → Office SF
- Jobs → % Use Industrial → Industrial SF
Positive Factors

- Current rents of subject property are highest in the city
- Competitive properties in the market area average 90% occupancy
- Major new retail coming into market (supercenter)—is this a positive? It could mean there is current retail demand or:

Negative Factor for Future Occupancy and Rents

- Major new competition (supercenter) coming one-half mile away—may mean market is now over supplied
1. Twenty five new automobile assembly plants open in the United States in Last 10 year

2. Last year three of twenty nine plants underwent major expansions

3. Almost 17% of the population of the U.S. was located within 200 mile radius of the subject and 3% was located within 20 miles
Inferred Demand for Electronic Manufacturing Plant

**Employment Concentrations 2012**

- **Location Coefficient**
  - 5.00
  - 4.50
  - 4.00
  - 3.50
  - 3.00
  - 2.50
  - 2.00
  - 1.50
  - 1.00
  - 0.50
  - 0.00

- **Counties**
  - Collin County
  - Denton County
  - Dallas County
  - Tarrant County

- **Categories**
  - Machine Mfg.
  - Electronic Mfg.
  - Computer Design
## Retail Market - Demand Analysis - By Segmentation Method

<table>
<thead>
<tr>
<th>Line No.</th>
<th>Year- &gt;</th>
<th>Current</th>
<th>+ 5 Yrs.</th>
<th>+10 Yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total Number of Households in Primary Trade Area</td>
<td>5,767</td>
<td>7,092</td>
<td>8,492</td>
</tr>
<tr>
<td>2</td>
<td>Average Household Income</td>
<td>$50,600</td>
<td>$50,600</td>
<td>$50,600</td>
</tr>
<tr>
<td>3</td>
<td>Total Income</td>
<td>$291,810,200</td>
<td>$358,855,200</td>
<td>$429,695,200</td>
</tr>
<tr>
<td>4</td>
<td>% Income Spent On Retail</td>
<td>48%</td>
<td>48%</td>
<td>48%</td>
</tr>
<tr>
<td>5</td>
<td>Total Retail Sales Potential</td>
<td>$140,068,896</td>
<td>$172,250,496</td>
<td>$206,253,696</td>
</tr>
<tr>
<td>6</td>
<td>% of Retail Sales by Subject Type Shopping Center</td>
<td>58%</td>
<td>58%</td>
<td>58%</td>
</tr>
<tr>
<td>7</td>
<td>Total Subject-type shopping center sales</td>
<td>$81,239,960</td>
<td>$99,905,288</td>
<td>$119,627,144</td>
</tr>
<tr>
<td>8</td>
<td>% of potential retention of sales in primary trade area</td>
<td>75%</td>
<td>75%</td>
<td>75%</td>
</tr>
<tr>
<td>9</td>
<td>Retail sales potential in primary trade area</td>
<td>$60,929,970</td>
<td>$74,928,966</td>
<td>$89,720,358</td>
</tr>
<tr>
<td>10</td>
<td>Sales Required Per Sq.Ft.</td>
<td>$200</td>
<td>$200</td>
<td>$200</td>
</tr>
<tr>
<td>11</td>
<td>Supportable Sq.Ft. Of retail space from households in primary trade area</td>
<td>304,650</td>
<td>374,645</td>
<td>448,602</td>
</tr>
</tbody>
</table>
## Industrial Flex Space Demand Forecast by Ratio Method

<table>
<thead>
<tr>
<th>Line #</th>
<th>Year-</th>
<th>2010</th>
<th>2015 Forecast</th>
<th>Comments/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dallas MSA Gross Metro Product Dollars</td>
<td>$219,200,000,000</td>
<td>$279,000,000,000</td>
<td>Source: Economy.com</td>
</tr>
<tr>
<td>2</td>
<td>Current Occupied Sq. Ft. of Industrial Space in NE Dallas Submarket</td>
<td>91,551,556</td>
<td></td>
<td>Source: CBRE D/FW Industrial Survey</td>
</tr>
<tr>
<td>3</td>
<td>Ratio of Gross Metro Product dollars per occupied industrial and flex space sq. ft.</td>
<td>$2,394.28</td>
<td></td>
<td>Line 1 divided by line 2</td>
</tr>
<tr>
<td>4</td>
<td>Total demand for occupied space industrial/flex space for Northeast Dallas (sq. ft.)</td>
<td></td>
<td>116,527,756</td>
<td>Line 1 divided by line 3</td>
</tr>
<tr>
<td>5</td>
<td>New Demand Increase over next five years-Sq. Ft.</td>
<td></td>
<td></td>
<td>Line 4 Minus line 2</td>
</tr>
</tbody>
</table>
Step 4. Supply Analysis

Survey Guidelines

- Must include the same type of geographic area
- Must be limited to competition as calculated in demand model
- Include peripheral competition for leakage analysis
Step 5. Residual Demand Example

The subject is equally competitive with all properties in the market.

1. What would be the most likely year(s) for the subject property to lease-up to 90%+ occupancy?

2. What year(s) would be most likely for rents to start increasing?

<table>
<thead>
<tr>
<th>Marginal Demand Study</th>
<th>Current</th>
<th>Forecast +5 Years</th>
<th>Forecast +10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate of total supportable space (in sq. ft.)</td>
<td>1,524,000</td>
<td>1,770,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Less current competitive supply-built</td>
<td>1,800,000</td>
<td>1,800,000</td>
<td>1,800,000</td>
</tr>
<tr>
<td>Less new competition (forecast)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Marginal demand estimate (Excess) shortage of supply</td>
<td>(276,000)</td>
<td>(30,000)</td>
<td>200,000</td>
</tr>
</tbody>
</table>
Step 6. Forecast Subject Capture

Market Penetration Estimate

- How effective is the subject to compete for the demand of consumers for retail goods and services?

- What amount of the demand can the subject expect to capture?
Step #6 Capture Analysis

Marketability Analysis

Evaluate The Marketability or Capture Potential For Subject Properties

- Apply ranking factors to specific properties within the primary trade area

Ranking Factors

- Proximity to Current Retail (Cumulative Attraction)
- Proximity / Linkages to Current Residential
- Proximity to Higher Income Household
- Proximity to New / Renovated Development (Any Type)
- Ease of Access to and from Major Roads (corner location, on/off ramps, etc.)
- Major Road Frontages
- Size of Tract or Building
## Competitive Rating—Year 3

<table>
<thead>
<tr>
<th>ID</th>
<th>Rating Criteria</th>
<th>Subject</th>
<th>Description</th>
<th>Across Street</th>
<th>Planned Super Center</th>
<th>Rank of Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size of Center</td>
<td></td>
<td>110,000</td>
<td>65,000</td>
<td>90,000</td>
<td></td>
</tr>
</tbody>
</table>

### Location Factors

- **Current household density in 1 mile**
  - ID: 2
  - Description: moderate
  - Across: 2
  - Planned: 1
  - Rank: 13

- **Average household income in 1 mile**
  - ID: 1
  - Description: $55,952
  - Across: 1
  - Planned: 2
  - Rank: 11

- **5 yrs. household density in 1 mile**
  - ID: 1
  - Description: moderate
  - Across: 1
  - Planned: 1
  - Rank: 12

- **Proximity to roads**
  - ID: 1
  - Description: average
  - Across: 1
  - Planned: 2
  - Rank: 10

- **Traffic volume by site**
  - ID: 1
  - Description: average
  - Across: 1
  - Planned: 2
  - Rank: 8

- **Ease of access to site**
  - ID: 1
  - Description: average
  - Across: 1
  - Planned: 1
  - Rank: 9

- **Proximity to other demand sources**
  - ID: 1
  - Description: good
  - Across: 1
  - Planned: 1
  - Rank: 6

### Center Factors

- **Size of center**
  - ID: 3
  - Description: 110,000
  - Across: 1
  - Planned: 2
  - Rank: 5

- **Exterior appearance bldg. and site**
  - ID: 3
  - Description: very good
  - Across: 2
  - Planned: 1
  - Rank: 2

- **Visibility from street**
  - ID: 1
  - Description: good
  - Across: 1
  - Planned: 1
  - Rank: 7

- **Adequacy of parking**
  - ID: 2
  - Description: average
  - Across: 1
  - Planned: 3
  - Rank: 4

- **Image of center**
  - ID: 2
  - Description: good
  - Across: 1
  - Planned: 1
  - Rank: 3

- **Bldg. design flexibility**
  - ID: 2
  - Description: good
  - Across: 2
  - Planned: 1
  - Rank: 1

- **Anchor drawing power**
  - ID: 2
  - Description: good
  - Across: 1
  - Planned: 3
  - Rank: 14

- **Tenant/product variety**
  - ID: 2
  - Description: grocery anchor
  - Across: 1
  - Planned: 3
  - Rank: 15

**Total Score**

- Total: 184
- Across: 136
- Planned: 220
- Total: 540

**% of scores**

- Total: 34%
- Across: 25%
- Planned: 41%

**Pro rata by building size**

- Total: 42%
- Across: 25%
- Planned: 34%

**Total competitive space**

- Total: 265,000
### Buying Power Segmentation Method - Mid Range Forecast

<table>
<thead>
<tr>
<th>No.</th>
<th>Year</th>
<th>Current</th>
<th>In 5 Yrs.</th>
<th>In 10 Yrs.</th>
<th>Data Source/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Total demand for occupied sq. ft. of retail and service/office space from primary and secondary market areas</td>
<td>131,520</td>
<td>189,142</td>
<td>262,096</td>
<td>Includes all types of retail and non-retail users typically found in neighborhood shopping centers</td>
</tr>
<tr>
<td>22</td>
<td>Subject capture rate</td>
<td>63%</td>
<td>34%</td>
<td>34%</td>
<td>Capture of market demand (Line 16)</td>
</tr>
<tr>
<td>23</td>
<td>Subject indicated sq. ft. occupied</td>
<td>82,858</td>
<td>64,308</td>
<td>89,113</td>
<td>Line 16 × Line 22</td>
</tr>
<tr>
<td>24</td>
<td>Subject percentage occupied</td>
<td>75%</td>
<td>58%</td>
<td>81%</td>
<td>Subject capture estimate @ mid-range forecast</td>
</tr>
</tbody>
</table>
Financial analysis to determine use that will create the highest land value can be indicated in two ways:

1. *Implied* through *market activity*,

and

2. *Measured* through *financial analysis*. 
Land Residual Technique - Example

Shows calculations for one alternative

As-if-completed value: 20,000 sq. ft. × $250 = $5,000,000

Building cost: 20,000 sq. ft. × $200 = $4,000,000

Plus entrepreneurial incentive @ 10% = 400,000

Less total cost to construct 4,400,000

Indicated site value $ 600,000
Subject is 10 acres of vacant land ideal for retail shopping center use but also good for apartment use. No sales in last three years. Three years ago, there were two sales in vicinity with similar size, utilities, zoning, etc. These sales were to users as noted below.

- Sale 1 sold @ $12.00 per square foot for a chain supercenter store
- Sale 2 sold @ $6.00 per square foot for apartments
Example, cont.

The appraiser’s market /marketability study conclusion was that demand would *not be sufficient* for new development for:

- Retail uses for eight to ten years
- Apartment uses for one to three years

Land discount rate for holding is 15% and includes all taxes and other similar holding costs.

What is the H&B use of this tract?
Possible Solution

Retail -PV $12; 9 yrs @ 15% = $3.40
Apartment -PV $6; 2 yrs.@ 15% = $4.53

Use: Apartment
Timing: one to three years
Most Probable Buyer: Investor to hold and resell to apartment developer
H&B Use Determination
  ▪ Data input for Financial Analysis of Alternative H&B Use(s)

Measuring Value by Three Approaches
  ▪ Criteria for Selection & Adjustments of Comparables
  ▪ Basis of Obsolescence in Cost Approach
    • Physical
    • Functional
    • Economic
  ▪ Basis of Revenue Forecast in the Income Approach
    • Occupancy
    • Rents