

JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

V. INDUSTRY SEMINARS AND SPEECHES - SHORT TERM

A. Appraisal Organizations

7. 1975

- a. "A Guide to Feasibility Analysis",  
sponsored by SREA Central Florida  
Chapter, January 7, 1975

## A GUIDE TO FEASIBILITY ANALYSIS

A Seminar at Howard Johnsons - Downtown  
Sponsored by Society of Real Estate Appraisers  
Central Florida Chapter  
Orlando, Florida  
Tuesday, January 7, 1975

Instructed by Professor James A. Graaskamp  
University of Wisconsin School of Business

### MORNING SESSION: 9:00 A.M.

- I. Real Estate as an Enterprise and the Management Process
- II. Elements of a Total Feasibility Analysis
- III. Alternative Specialists to input facts
- IV. Elements of Financial Feasibility

### COFFEE BREAK: 10:30

- V. The Concept of Risk
- VI. Determining Objectives and Criteria of the Client
- VII. Structuring Market Data Analysis with Models

### LUNCHEON: 12:00

### AFTERNOON SESSION: 1:00 P.M.

- I. Market Segmentation and Identification of Prospective Buyers or Tenants
- II. Pre-Architectural Programming
- III. Developing a Customer Profile with a Consumer Survey

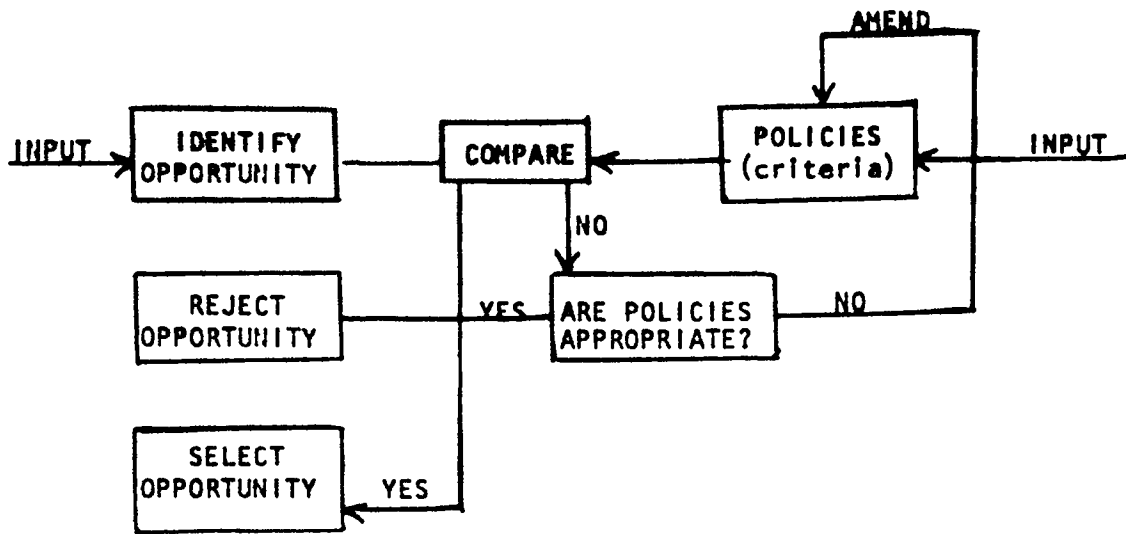
### COFFEE BREAK: 2:30

- IV. Structuring and Modeling Cash Flows for Rental Properties
- V. Modeling Cash Flows for Land Development
- VI. Modeling Cash Flows and other Measures of Economic Impact on a Community
- VII. Risk Evaluation

## FEASIBILITY ANALYSIS SEMINAR OUTLINE

### Concepts and definitions basic to real estate enterprise

- A. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.
- B. Each of the three decision makers represents an enterprise. An Enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.
  1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.
  2. The business of real estate is the process of converting space-time to money-time.
  3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.
- C. Traditional sequence of management function:
  1. Planning
  2. Organizing
  3. Directing
  4. Controlling
- D. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:
  1. Goal-setting
  2. Forming policies
  3. Searching for opportunities which are consistent with policies
  4. Selecting opportunities which are consistent with policies
  5. Designing systems for capturing selected opportunities
  6. Installing systems for capturing selected opportunities
  7. operating the systems that have been installed
  8. Maintaining and continuously perfecting the operating systems
- E. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other



F. The general theory of the management process for any enterprise can be converted to real estate semantics:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical -aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project Development
Operation of program	Property Management
Monitoring and feedback	Real Estate Research

G. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so interdependent
3. A real estate project as an assembly of mechanical sub-systems
4. Operationally a real estate project is a social system

H. To judge an artifact such as a vase one must first understand the functions it was to serve, the constraints inherent in the material, and the variables within the control of the designer before one can judge the success of the ensemble

1. Objectives or functions must be defined in given priorities.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and objectives of the context

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a consensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.  
James A. Graaskamp

## II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

### A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

### B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatibility studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

### C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

### III. Elements of Financial Feasibility

- A. Identification of selected profit centers
- B. Specification of the common denominator - a time line - schedule of outlays and receipts
- C. The capital budget (source & application)
  - 1. Construction costs
  - 2. Carrying costs
- D. Operating budgets (source & application)
  - 1. Pattern of sales revenues
  - 2. Fixed management costs
  - 3. General sales costs and investment
- E. Financing plan
  - 1. Credit amounts and terms
  - 2. Equity amounts and terms
  - 3. Holding power
- F. Profits classified as to type and tax
  - 1. Cash from operations
  - 2. Cash from capital gains
  - 3. Cash surplus from financing
  - 4. Cash from tax savings on other income
  - 5. Cash from reduction or shift of fixed outlays
  - 6. Indirect non-cash benefits
- G. Selected measures of profitability
  - 1. Definition of investment
  - 2. Definition of profit
- H. Selected measures of risk
  - 1. Payback periods
  - 2. Capacity for variance
  - 3. Variance control

### IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

- A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.
- B. Static risks are those which can only cause a loss due to surprise upset of a plan.

EXHIBIT ONE

*F* *R* *G*  
EASIBILITY RESEARCH GROUP

Accountability

Accountability rests with the individual (s) firm (s) or sources as indicated below:

1. Statement of Objectives by \_\_\_\_\_
2. Satisfaction Criteria by \_\_\_\_\_
3. Alternative Research by \_\_\_\_\_
4. Market Research by \_\_\_\_\_
5. Market Analysis by \_\_\_\_\_
6. Space User Profile by \_\_\_\_\_
7. Consumer Preference Survey by \_\_\_\_\_
8. Market Forecast by \_\_\_\_\_
9. Absorption Rate Forecast by \_\_\_\_\_
10. Land Development Cost Estimate by \_\_\_\_\_
11. Building Improvement (s) Cost Estimate by \_\_\_\_\_
12. Indirect Cost Estimate by \_\_\_\_\_
13. Producer Cash Flow Forecast by \_\_\_\_\_
14. Tax Liability Projection by \_\_\_\_\_
15. Investor Cash Flow Forecast by \_\_\_\_\_
16. Environmental Impact by \_\_\_\_\_
17. School District Impact by \_\_\_\_\_
18. Municipal Government Impact by \_\_\_\_\_
19. Financing and Refinancing Impact by \_\_\_\_\_
20. \_\_\_\_\_

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation



3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

## VI. Structuring Market Data Analysis With Models

- A. Creating devices which will discard most data and logically relate the rest.
  1. Models explain what you are going to do
  2. Models explain relationships and key assumptions
  3. Models permit client to test his own assumptions for a range of alternative outcomes
- B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration - next page)
- C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

### EXHIBIT TWO

#### SKIER MOTEL ROOM DEMAND MODEL

$$P \times R \times T \times D \div PR \times MS = \text{Rooms per Average Weekend Day}$$

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x	.0046	x	Average Sunday participation rate	x	.9	x	trips per year	x	1.86	x	days per trip
÷		Three people per room	x	2.5%	conservative market share	=	208	rooms per average weekend day				

BREAK FOR LUNCH

EXHIBIT THREE

DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		<u>245</u>
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	<u>638</u>	
Persons age 65+ in the conventional housing market in County in 1974		<u>2,430</u> 19,729
Estimated number of persons financially qualified for and seriously interested in moving into the proposed residential care development		4,270
Household equivalent (+ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3% from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4% (from survey)	<u>76</u>	
Elderly households in County qualified for and seriously interested in moving into the proposed development		<u>263</u> 1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development(10%)		<u>127</u>
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
Share of market opportunity area who stated in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise	28.0%	
Garden	<u>49.1</u>	
	77.1%	978
Less estimated numbers of households who might move into competitive developments available supply of units		<u>270</u>
Households that can be considered candidates for the proposed development		708
That share of households who said they would be willing to move:		
Within 1 year from now	15.6% - 110 households	
Within 2 years	31.2% - 220 "	
Within 5 years	53.4% - <u>378</u> "	
	708	
A project of 100 units requires a capture rate of:		
91% for a 1 - year absorption rate		
90% for a 2 year	" "	
14% for a 5 year	" "	

## FEASIBILITY ANALYSIS - AFTERNOON SESSION

- I. Market Segmentation and Identification
  - A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.
  - B. First name the typical revenue unit or method of measuring profit per sales unit
    1. Per acre
    2. Per apartment
    3. Per event
  - C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?
  - D. Devices for generating a prospect list or spotting customers
- II. The Customer Profile and Consumer Survey
  - A. Scaling the market with a body count and opportunity gaps
  - B. Classifying the body count by preferences
  - C. Study of the competition to define the competitive standard and supply gaps
  - D. Surveying the consumer to identify a competitive differential
  - E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates
  - F. Refer to Consumer Survey Questionnaire (Landmark Research)
  - G. Direct mail and phone call techniques
- III. Pre-Architectural Programming
  - A. The theme and market target
  - B. Product size mix and price
  - C. Product features by competitive standard and competitive edge
  - D. Negative market factors to be neutralized by design
  - E. Marketing-investment trade-offs
- IV. Structuring the Financial Analysis
  - A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See Chart)
  - B. Assumptions for a time line of analysis

- C. Assumptions for profit centers
  - D. The back door approach as a preliminary analysis
  - E. The front door approach
- V. Modeling Cash Flow Simulation
- A. Refer to chart of Systematic Estimation of Annual Income
  - B. Refer to suggested outline of cash analysis for land development project
  - C. Review basic elements of mini-mod output
- VI. Measuring Rate of Return
- A. "Going-in" equity or liquidating equity?
  - B. What to include in financial returns?
  - C. What is the reinvestment assumption?
    - 1. Inwood discounting
    - 2. The internal rate of return
    - 3. The modified internal rate of return
  - D. Total dollars vs rate - reader viewpoint
- VII. Risk Evaluation
- A. Equity payback period
  - B. Default ratio or cash break-even point
  - C. Sensitivity point for cost over-run or under-absorption
  - D. Required market segment as percent of total market opportunity

See previous "A Guide to Feasibility Analysis"  
 seminars for Exhibits - 1) 11/10/71 housing questionnaire  
 (Landmark Research, Inc.)  
 2) Comparison of Critical Valuations  
 Assumptions for Three Present  
 Value Viewpoints in R.E.  
 3) Systematic Estimation of Forecast  
 Annual Income for an Income  
 Producing Property  
 4) Land Development Computer  
 Analysis Output