

JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

V. INDUSTRY SEMINARS AND SPEECHES - SHORT TERM

A. Appraisal Organizations

7. 1975

- c. "Real Estate Feasibility Workshop",  
sponsored by SREA Chapters of Puerto  
Rico, Palm Beach County, Great Miami &  
Broward County, April 1-2, 1975

REAL ESTATE FEASIBILITY WORKSHOP  
Sponsored by Society of Real Estate Appraisers  
Chapters of Puerto Rico, Palm Beach County,  
Greater Miami & Broward County  
Hilton Hotel, San Juan, Puerto Rico  
April 1-2, 1975

Instructor: Prof. James A. Graaskamp

FIRST AFTERNOON

- 1:00 P.M.     The Real Estate Process  
                 Elements of a Total Feasibility Analysis  
                 Determining Objectives and Decision Criteria of the Client  
                 Defining Audience for Report  
                 Establishing Professional Accountability
- 3:15             Coke Break
- 3:30             Site as a Guide to Market  
                 Static Attributes  
                 Linkage Attributes  
                 Dynamic Attributes  
                 Defining Most Probable Use  
                 Defining the Most Probable Buyer

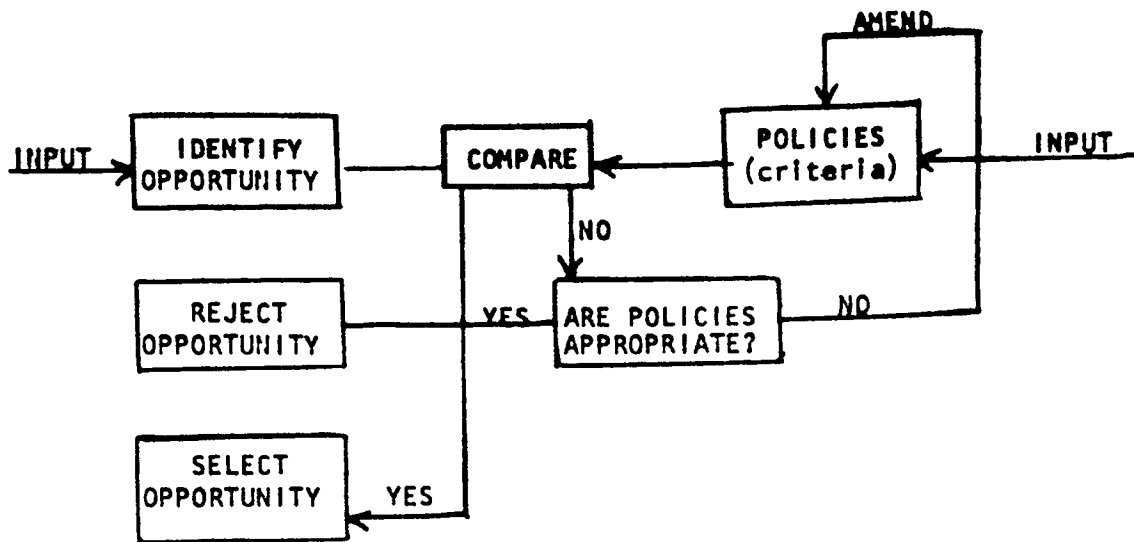
MORNING - SECOND DAY

- 9:00 A.M.     Structuring Market Data Analysis  
                 Demonstration of Report Display of Market Data  
                 Market Segmentation and Prospect Identification
- 10:15             Coffee Break
- Developing a Customer Profile  
                 Designing the Consumer Survey  
                 Drafting Survey Questionnaire  
                 Tabulating Survey Results  
                 Defining a Product Mix and Price Range  
                 Backdoor Approach to Feasibility
- 12:00             Luncheon
- 1:00 P.M.     A Pre-Architectural Program  
                 Front Door Approach to Feasibility  
                 Modeling Cash Flow for Development Project  
                 Evolution of Concepts for Measuring Rate of Return  
                 Evolution of Concepts of Risk Evaluation
- 2:30             Coke Break
- 2:45             Cash-Flow Analysis of Rental Project  
                 Cash-Flow Analysis of Condominium Project  
                 Sensitivity Analysis Related to Departmental Responsibilities  
                 Conclusions as Statement of Alternatives (if, then statements)

## FEASIBILITY ANALYSIS SEMINAR OUTLINE

### I. 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. Feasibility analysis is primarily concerned with the first four and the feedback process. In a cash cycle enterprise, it is the consumer decision to buy or rent which is the initial stimulus to the cash cycle. Therefore the next two days will emphasize the identification of alternative real estate market groups and then profiling of small selected micro market consumers to produce a pre-architectural program.

- H. The artist concept of context, form, fit, and the ensemble is useful because in the planning stages the feasibility analyst is attempting to define the context to which the project must fit; when confronted with the completed project design, the analyst is searching for the critical misfit which would lead to failure.

- I. Combining the concept of enterprise and the concept of fit leads to this definition of the elusive concept "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."--

## 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. Compatability 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. A feasibility study relates to one of three alternative situations:

1. A site or a property in search of a use (market).
2. A use in search of a site and related improvements.
3. A client in search of a real estate opportunity.

### D. Since a real estate decision always involves forecasting of future behavior and conditions, and always involves a cash cycle enterprise, ultimately the various research questions must be converted to financial forecasts and decision rules.

1. Real estate investment means that someone has bought a set of assumptions about the future.
2. Financial assumptions provide both constraints and tests of alternative solutions.
3. Initially financial constraints are stated as proforma expectations but ultimately are refined into tests of alternative solutions (subject matter for tomorrow afternoon).

### E. The initial financial constraints can be stated in terms of the:

1. Front door approach which converts total cost to annual requirements for equity dividends, debt service, operating expenses, and vacancy cushion. Annual requirement dividend by rental unit equals rent.
  2. The back door approach to feasibility which converts the ability to pay of the user to maximum project cost acceptable - the major design constraint.
  3. See Exhibit 2.
- F. Risk in the business situation is the variance between assumptions about the fact in the planning process and realizations in the execution of the program.
1. Since feasibility is operating under conditions of uncertainty, a significant part of analysis is concerned with risk management - methodical analysis of critical assumptions and identification of alternative risk control methods.
  2. The game of 'what if' and the consequences of surprise is cheaper to play on paper while designing the program.
- G. The functions of risk management include:
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.
- H. Risk management methods relate to static risks (those that only cause a loss) and dynamic risks (those where the contingencies could cause a profit or a loss). Risk management methods include:
1. Risk avoidance.
  2. Reduction of frequency of loss (underwriting selection of mortgagee or tenant).
  3. Reduction of severity of loss (mortgage terms, contingent stop loss contracts, sprinkler systems).
  4. Shifting the risk of variance by contract (insurance, fixed price subcontracting, escalator clause).
  5. Limit liability (corporate shell, limited partnership law).
  6. Hedging (sale and lease back with option to buy, the mortgage as a straddle in the market).
- I. For dynamic risks the best risk management devices are knowledge of the facts and incentives to control management motivation.
1. Customer acceptance or lack of it is the primary cause of unfavorable financial results. Investors will require 3% insurance to protect collateral should it burn down. Why not require 1% market research to see if it will rent up?
  2. Financial projections presume aggressive management and execution of the plan. Compensation should parallel performance. (Bad example: real estate trust advisor fees)
  3. Any portion of a total feasibility study is intended to perform risk management functions of identification and measurement of major assumption risks.

#### IV. Defining Strategic Objectives and Client Constraints

The initial strategic objectives and client constraints initially define the approach to market segmentation and analysis. It is therefore critical to make the clients thinking explicit as in many cases his implicit assumptions are hidden at the time of his original contact.

A. A feasibility consultant has 3 alternative situations:

1. A site or a project in search of a market.
2. A known specific market segment in search of site and a project.
3. A specific client in search of an opportunity in real estate.

B. Initial interviews with a client in any of these situations 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.

C. Too many real estate and building professionals understand the above inquiry to mean pandering to the client of his building committee. Just the reverse however should be the purpose. The professional must make the client recognize his implicit program content and must challenge the initial explicit statements of purpose by the client.

1. Staging of the research to permit the client self-examination and discovery to avoid extensive research of unacceptable alternatives.
2. Give the client time to recognize where critical assumptions need analysis be expertise in a team approach.
3. Your hold harmless clause should be an explicit statement as to personal accountability for various assumptions. (See Exhibit 1)

D. The client and the analyst should come to an understanding as to the essence of any particular type of business. First, there are general characteristics to the development process:

1. For example, in the land development game there are five basic strategies:
  - a. Passive investment in raw land
  - b. Master planning of raw land to secure critical public approvals
  - c. Sale of Improved lots or development sites
  - d. Sale of totally improved land and building packages to final user, investor, or public authority (turn key)
  - e. Management of properties as agent for others or for one's own account
2. Note that each phase requires higher volumes with smaller profit margins, shorter periods for execution, increasing cash flows, and more precision in execution.
3. From one phase to the next the critical input shifts from organization with foresight, imagination, and persuasiveness to organizations with internal systems for administrative control and execution - from entrepreneurship to administration.

EXHIBIT ONE

*F* *E* *A* *S* *I* *B* *I* *L* *I* *T* *Y*      *R* *E* *S* *E* *A* *R* *C* *H*      *G* *R* *O* *U* *P*

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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. \_\_\_\_\_



# EXHIBIT 2

## Demonstration of Back-Door, Front-Door Calculations for an Apartment Building with some Commercial Space

(Developed by James R. DeLisle)

What is Rent?

What is TIV?

Front Door  
1.4m TRC

Back Door\*  
\$220/mo./1 bdr.

1	Total Replacement Cost (TRC)	Sp \$%	1400000	
2	Mortgage @ % TRC	Sp % in decimals	.90	
3	Equity @ % TRC	(1 - Ln 2)	.10	
4	Mortgage Constant	Sp in decimals	.0907	
5	Equity Constant	Sp in decimals	.08	.08
6	Net Income Required	(Ln1) [(Ln 2) (Ln4) + (Ln3) (Ln5)]	125,482	115,549
7	Mortgage @ % NIR	Sp % in decimals	.90	.90
8	Mortgage NIR	(Ln6) (Ln 7)	112,934	103,942
9	Mortgage Investment Value	(Ln8) ÷ (Ln4)	1,245,136	1,146,009
10	Equity Net Income	(Ln6) - (Ln8)	12,548	11,607
11	Equity Investment Value	(Ln10) ÷ (Ln5)	156,850	145,087
12	Equity Constant-Residual	(Ln1) - (Ln9) Backdoor		
13	Total Investment Value (TIV)		1,401,986	1,291,097
14	Expenses, Taxes, Reserves @ %GBR	Sp % in decimals	.40	
15	Expense, Taxes & Reserves	[(Ln6) ÷ (1 - Ln14)] - (Ln6)	83,655	76,995
16	Required Effective Gross	(Ln6) + (Ln15)	209,137	192,487
17	Occupancy %	Sp % in decimals	.93	
18	Required Annual Gross	(Ln16) ÷ (Ln17)	224,878	206,976
19	Required Monthly Gross	(Ln18) ÷ 12	18,739	17,750
20	Fixed Source Contribution to Gross			
21	Fixed Source #Reserve Units	Sp #		
22	Fixed Source Revenue/Unit/Mo.	Sp \$'s		
23	Fixed Source Contribution Gross	(Ln21) x (Ln22)		
24	Allocated Mo. Gross	(Ln19) - (Ln23)	18,739	17,248
25	Basic Revenue Unit, # (BRU)	Sp #	45	
26	s.f./unit	Sp. s.f.	560	
27	Relation to Basic Rev. Unit			
28	Type R-2 #	Sp #	9	
29	Type R-2 Relation	Sp % in decimals	1.3	
30	Type C-1 # s.f.	Sp. s.f.	8668	
31	Type C-1 Relation	Sp % in decimals	1.4	
32	Factors			
33	BRU	Ln25	45	
34	R-2 (#in BRU)	(Ln28) (Ln29)	11.7	
35	C-1 (#in BRU)	[(Ln30) ÷ (Ln26)] (Ln31)	21.7	
36	Total Factors	(Ln33) + (Ln34) + (Ln35)	78.4	
37	\$/BRU Unit/Mo.	(Ln24) ÷ (Ln36)	\$239	\$220*
38	\$/R-2/Mo.	(Ln37) x (Ln29)	\$311	\$286
39	\$/C-1 s.f./Mo.	(Ln37) x (Ln31) ÷ (Ln26)	.60	.55

4. The restaurant business must first define the essential ratio of recreation to food to turn over time to establish elements required in a location.
5. Every real estate use has an essential trade off formula which is the essence of the feasibility problem.

#### COKE BREAK

#### V. The Site in Search of a Market

The classic appraisal problem of "highest and best use analysis" and the typical feasibility study begins with a specific site. The various attributes of the site will narrow the potential market demand for that site to a few alternative uses which in turn will define the most probable user and investor.

- A. Louie Carter has a song about things that seem the same but are really not - like a place with birds and bees and grass and trees which to some is just a vacant lot. There is no such thing today as raw land or a vacant lot. Every site has:
  1. Static attributes - physical characteristics of size, shape, topography, soils, etc.
  2. Linkage attributes - relationships to other sites which may tend to generate movements of goods and people to the subject site.
  3. Dynamic attributes - characteristics which affect behavior such as visibility, prestige, or feelings of fear or anxiety.
- B. There has been a revolution in the supply of public information about physical attributes of a site and there is increasing awareness and sophistication on the part of consumers as to which combinations of site attributes best serve their own purposes. As a result the appraiser or the feasibility analyst, beginning with a specific site:
  1. Has a problem in assembling, interpreting and communicating efficiently.
  2. Has increased exposure to a charge of negligence (for example, in Wisconsin, a lower court has ruled that the Soil Conservation Service provides constructive notice of suitabilities).
  3. Must predict if environmental resources can represent an implicit encumbrance on the property.
  4. Must provide a map defining net usable area or space units.
- C. The definition of static site attributes (physical limits and features) should include a concise statement and illustration of:
  1. Size, shape, and area.
  2. Topography.
  3. Soils and water table (and therefore suitabilities).
  4. Set-back lines and building envelopes.
  5. Access controls (proximity is not accessibility).
  6. Concealed utility easements.
  7. Flood plains which have been determined by Corp of Engineers, etc.
  8. Old foundations, etc.
  9. Scarce environmental elements which almost certainly mean environmental impact litigation.
  10. Landmarks or historical structures.

D. The site map and analysis should also include possible physical controls placed by the legal-political characteristics of the site over and beyond basic zoning classification and easements of record. Each factor must be evaluated and their future influences anticipated to some degree unless permission has been granted for a limiting condition to disregard such things as:

1. Water district, harbor commission, or other special district lines.
2. Premises of community master plans still in incubation process.
3. Tax conservancy commitments.
4. Extra territorial zoning or subdivision powers.
5. Attitudes of sewer, water, and highway commissions.
6. Contractual agreements among previous buyers and sellers which may or may not run with the land.
7. Planner views or physical barriers to restrict "sprawl."

E. Anticipate impact of impending legislation which appears to have reasonable probability of passage rather than simply meeting current standards relative to:

1. Septic tank installation.
2. Ground water, depth and conservation of high water recharge areas.
3. Salt water encroachment.
4. Conservation of environmental edges.
5. Conservation of prime agricultural.
6. Impact on off-site areas down wind or down stream.

F. Analysis of the static site attributes should also be in terms of competitive advantages and disadvantages of each attribute in terms of pricing and marketing.

1. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.
2. Some static attributes can provide monopoly advantages because its suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.
3. Keep in mind that static attributes will help identify most probable use and buyer.
4. Lack of fit between static site and merchandising data is a basic cause of unsuccessful projects.

## VI. Linkage Attributes of Subject Site

Linkage attributes have to do with its functional relationships to other features and activity centers which will create customers or serve as the connection between the subject site and users.

A. There are physical linkages which represent the infrastructure of improvements upon which the site depends.

1. Streets, sidewalks, rail, and transit systems serving the site.
2. Access points.
  - a. Traffic department controls, present and proposed
  - b. Rail switching and truck tariff zones
  - c. Indirect controls imposed by factors affecting behavior (see dynamic attributes)

3. Utility services are linkages, too.
    - a. Sewer, water, gas, and electric hook-ups, availability and capacity
    - b. Community energy supplies and sources
    - c. Implicit resources such as stock of wild game, labor pools, alternatives to the auto, etc.
  4. Capacity of existing transportation systems to absorb unit volume generated on site and implications for off-site improvement budgets.
- B. Relationship of subject site to generators of potential needs and uses for the subject site.
1. Employment centers.
  2. Institutional activities.
  3. Neighborhood characteristics, etc.
- C. Relationship to competitive alternative sites and properties.
- D. Relationship of subject site to various categories of potential suitable uses.

## VII. Dynamic Attributes of Subject Site

Dynamic attributes have to do with the mental or emotional qualities of the site and its environment.

- A. First there are image problems and opportunities in the location:
1. Historical community reputation and values attached to the area.
  2. Image conditioning of the approach zone.
  3. Anxiety factors of access and security.
  4. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.
  5. Noise as a function of traffic count.
  6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).
  7. Recycling of old buildings within existing urban areas is fashionable among architects and the upper class.
  8. Recycling may establish historical roots and images (such as the Plantation House at Sea Pines).
- B. Then there are the political images which have been established for a site by the public positions of local politicians or vested interest groups.
- C. Static site attributes can also be related to dynamic environmental interpretations which can be physical, social, or economic in terms of the outreach. Growth management is often more in the mind and its capacity for change than in the physical limitations.
1. More and more projects will depend on financing, directly or indirectly from the federal government, and therefore the analyst and the appraiser must have quick access to worksheets which describe such things as:

- a. FHA work sheets on noise control relative to traffic and other sources
  - b. Federal definitions of the flood plain and procedures for adjustment
  - c. State and EPA worksheets involving projects like shopping centers, planned unit developments, etc.
  - d. FNMA project evaluation forms
2. Recent actions of local administrative agencies for the FHA A-95 form as it may affect feasibility of future projects.
  3. The evolving science of normative measurements of environmental and resources impact.

#### VIII. Definition of Market Alternatives for Site Attribute Package

Filtering through these various attributes the analyst should be able to identify one or more uses which would be legally permissible, physically possible, and suitably located. The site attributes may even suggest that the cost of improvement will be above or below average suggesting the delivered price to the user may possibly be an advantage or disadvantage.

- A. That brings the analyst to the critical question of both appraisal and feasibility "WHO NEEDS IT? AND CAN THEY AFFORD IT?"
- B. There are three readings which should be basic to those analyzing best use:
  1. "Highest and Best Use," William Crouch, The Appraisal Journal, April, 1966, pp. 166-176 (some important points are that the appraiser must prove effective demand and reasonable probability of political permission to use the site).
  2. "Highest and Best Use - Fact or Fancy," Paul Wendt, The Appraisal Journal, April, 1972, pp. 165-174 (some important points are that the opinion of highest and best use must consider so many variables on an after tax basis that the conclusions must vary with investor type just as judgments and analytical skill must vary by appraiser).
  3. "The Importance of the Highest & Best Use Analysis," Paul Tischler, The Real Estate Appraiser, May-June, 1972, (some important points are that proposed use must not only consider highest income to owner but also external costs and impact in others).
- C. Most probable use analysis then requires evaluation of site use alternatives with preliminary estimates of market demand to focus on selected alternatives most likely to meet investment objectives.

EXHIBIT 3

IV. Subject Site Static Attributes

- A. The subject property presently has an irregular shape, as it lies between a somewhat meandering shoreline of Lake Monona to the south and a bend in the 600 block of Williamson Street--a major boulevard arterial on the north which suffers a reduction in width from 120 feet of right-of-way to 100 feet at the west end of the subject property. The property has approximately 425 feet of frontage on Lake Monona, 257 feet of depth on its Blount Street frontage to the southeast, but only approximately 310 feet on Williamson Street and 150 feet of depth on its western border which slices across Lots 3 and 4. These borders encompass about 94,470 square feet of land area. However, this generous site area is misleading, despite its zoning as C-3 Highway Commercial District due to the following: (See Exhibit #2 & #3)
1. A dockline is established for lake front property by the State of Wisconsin which establishes the shoreward point beyond which construction or substantial grade changes are not permitted. This dockline leaves 21,200 square feet of land area between it and the high water level which is set at 1.50 feet, City datum, leaving approximately 73,270 square feet available for development, if it were not for the new Madison waterfront controls.
  2. The site is subject to the more restrictive waterfront development standards as established by City of Madison, Ordinance 4664 (as of 8-5-74), which requires the following:
    - a. A conditional use permit for virtually any change in the status quo. (See 28.04(19) City Building Code.
    - b. Shoreline to building setback shall conform to existing development pattern which in this case has been dictated by the Chicago and Northwestern spur track. From discussions between John Glad and Barney Riley of the City of Madison Zoning Department, on September 17, 18, and 19 it was determined that the building line would be a distance of 101 feet from the lake shore. Thus the area left for development is approximately 49,730 square feet between the rear yard line and Williamson Street.
  3. City of Madison Ordinance 28.09 2d(3) and 28.09 4d (1) further modify C-3 zoning. Residential use is restricted to the second floor and above, and to 50% of the total building floor area unless a conditional use permit for greater residential area is obtained. Recent decisions of City Council suggest flexibility on area limit but reluctance to permit residential on first floor.
- B. The dominant positive feature of the site is its 425 feet of southeast shoreline exposure on Lake Monona, providing an opportunity for a pleasing view and excellent solar orientation. The site has a gradual slope of 4% from Williamson Street down to the lakeshore.
- C. The physical character of site improvements is mixed and negative, generally representing clearance costs before vacant site could be utilized. Lots 8 & 9 are essentially leveled with fill and rubble from a former brewery and the condition of underground footings and

basement floors which remain below the backfill is not known but could pose additional expense for new construction. On Lot 7 is a one and two story building with concrete foundations, a partial basement for a boiler room, and brick mill construction. Outside walls are masonry and building tile with steel industrial windows. Interior of building is a medium strength wood beam and second floor loft system spanned by large wood arch trusses which feature some skylights and a front section of office-display space. The arches, skylights and fair condition of the building would seem to indicate that it has some potential for restoration and reuse.

The remainder of the parcel of Lots 4, 5, and 6 are covered by a one-story garage building, with a small partial basement, a few minor structural additions, and a paved concrete apron on Williamson Street which once served as a Sinclair Filling Station. The wooden roof, supported on light steel trusses has rotted away and would need to be replaced. The balance of the building has been vandalized to the extent there are no windows remaining, wall board has been ripped away, and interior fittings stolen or burned (by unknown occupants to keep warm)? The obsolete layout and vandalism lead to the conclusion that this building should be razed. To the rear of the building is a side track coming from the Blair Street side which has been officially released by the Northwestern Railroad and could be removed.

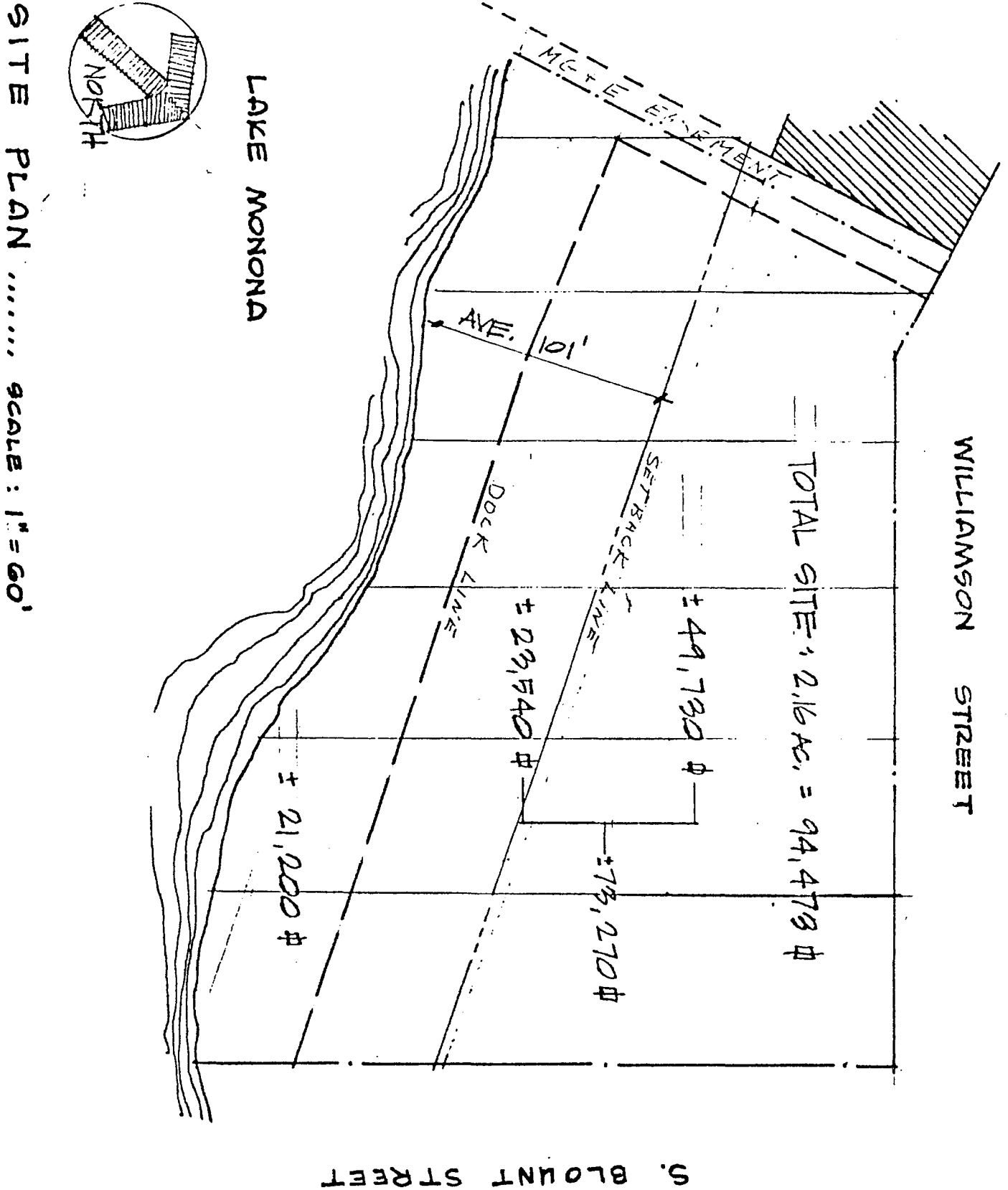
Approximately 100 feet of land between Lake Monona and the existing building is unimproved except for cinder and gravel surfacing and some industrial fencing. There is a concrete alley between lots 6 and 7 to provide access. At the foot of Blount Street, to the southeast corner of the site, is a popular fishing pier. A nearby culvert dumps hot water from the Madison Gas & Electric generator plant into the lake so that the lake never freezes in this immediate vicinity.

At the southwest corner of the site is an easement approximately ten feet in width and an inoperative pumping station which have been the property of Madison Gas & Electric Company since 1899. There is no indication that this interest has been abandoned or released as was the case with the side track.

- D. Utilities available on the Williamson Street frontage include 8" sewer collector, 8" city water line, 6" Madison Gas & Electric gas line, and full electric service. Sewer may be inadequate for extensive apartment development on subject site depending on current load. Madison Gas & Electric may be able to supply steam or hot water for heating from its generator plants two blocks away as it currently supplies several downtown Madison office buildings.
- E. Because of the heavy traffic on Williamson and the boulevard median strip, future development of the subject site will probably be limited to one access point on Williamson and one on Blount Street. Parking will impose a major constraint on the extent of permissible commercial floor area development since City Building Code requires one parking

EXHIBIT #3

Source: Glad, Sarko & Associates





stall for each 300 square feet of commercial area. For residential purposes the limiting factor for development of the subject site is the required lot area per dwelling unit.

Type	Land Area Required	Open Space/DU
Efficiency	700	160
1-bedroom	1000	160
2-bedrooms	1300	320

Development alternatives will be considered after key site linkages and behavior attributes have been identified in Sections V & VI.

#### V. Subject Site Linkages

Site linkages refer to the relationship of the subject property to off-site activities and to other sites; which might facilitate an exchange of people, goods, and services and therefore contribute to the usefulness of the property. Reference to the district zoning map indicates the subject site is at the foot of a major industrial (M-1) zone for the City of Madison. It is also at the gateway to the near east side residential area commonly referred to as the Marquette neighborhood, which is generally zoned R-5 or R-4A. The Williamson Street commercial zone is a relatively low grade retailing area with no cluster of ancillary service or convenience retail stores in immediate proximity to the subject site.

- A. On the northeast side of the subject property, across Blount Street, is located the new and well furnished Elks Club Building, which is the scene of a variety of civic and commercial activities and functions. That is the only civilizing amenity, contiguous to the site. At the northwest corner of the Blount Street intersection is a day care center in a converted, small commercial building, for children of eastside families who are dropped off by parents on their way to work in downtown Madison via public transit.
- B. The northwest site exposure across Williamson Street is dominated by a one-story truck garage and truck pool lot, which is leased on a long term basis to the U.S. Post Office. At the foot of Williamson Street facing Blair is an old filling station converted to a used car lot. The subject site also has a view down Williamson Street to the west, toward an old hotel and several bars along a strip of Wilson Street primarily known for a variety of recent crimes of violence.
- C. The visibility of the subject site from the direction of the Wilson and Williamson Street access points to the west and from John Nolan Drive and Law Park to the southwest, is blocked by an old two-story building on the western half of block 126 in which the subject is located. This building presently houses an annex of the U.S. Post Office and a number of auto parts and appliance wholesalers. Since the federal government is presently considering construction of

consolidated post office operation on the far east side of Madison, it is possible that leases on the garage building and the annex will be terminated within the next few years. As it would be speculative to assume that better neighbors than the U.S. Post Office might be found for these buildings, the compatibility and stability their use must be considered suspect.

- D. Just beyond the immediate contiguous environment of the subject site are a number of adverse influences. East of Blount Street is the major coal-fired generator plant of Madison Gas & Electric, with five tall smoke stacks and a variety of coal unloading and lifting machinery systems. Any building on the subject site would need to be carefully designed to screen out a view of the plant and to avoid undesirable accumulations of soot and noise. At one time there was a major railway station for the Chicago & Northwestern Railroad at the corner of Wilson and Blair. The station has been converted into MG & E offices but switching yards remain east of Patterson Street. Two major rail tracks cross Williamson Street at the Blair-Wilson Street intersection to create a significant psychological and physical barrier between the subject site and the Madison Square six blocks away.
- E. The street linkages of the site are in a significant state of flux. The City Planning and Traffic Engineering Departments are considering two alternative plans to relieve the congestion of the four corner, angular intersection of Williamson, John Nolan Drive, Wilson and Blair Streets, which is further complicated by the Northwestern Railroad crossing through the center of the intersection.
  1. One plan would make Blair Street one way from East Washington to John Nolan Drive in order to divert north-south through traffic around the congested Madison Square via John Nolan Drive. At the same time Blount Street would be made one way to East Washington to handle traffic traveling east on John Nolan Drive. Left turns from Williamson to Blount would require a stop light at that intersection. Various measures are also under consideration to reduce vehicle through traffic in the Marquette neighborhood by a modification of Spaight and Jennifer Streets at the Livingston Street intersection.
  2. An alternative plan--which is apparently the preferred plan--would convert Blair Street into a wider two way arterial connecting John Nolan Drive on the Lake Monona side of the isthmus to East Washington and to Gorham Street on the Lake Mendota side. When considered with the Regent Street improvements already completed at the west end of John Nolan Drive, the Blair Street project would provide an outer loop around downtown Madison. The demolitions required for that street improvement plus those which continue as part of the State Office Building project between Webster and Franklin would eventually lead to a significant renewal of the area between the subject site and the Capitol Square area.

3. Further development of John Nolan Drive and the Blair-Blount connectors together with a reduction of traffic through the Marquette neighborhood, will lead to increasing traffic volumes on Williamson Street. This in turn will create traffic levels which could be unacceptable for FHA residential environmental noise specifications for residential construction and which would constitute a barrier to pedestrian access to the Square. Final traffic plans might also make the automobile route from the subject site to the Square even more circuitous than is presently the case with the median strip preventing left turns toward the Square from the Williamson Street access points of the subject site.

#### VI. Dynamic Site Attributes

Dynamic site attributes are concerned with the attitudes of people as they relate to the subject property or the behavior of the consumer as he evaluates the utility of the property for his own purposes. It has already been suggested that the high intensity intersection at Williamson and Blair would intimidate the pedestrian and may in the future be designed to divert the motorist in directions less than convenient to the subject property. It is a classic case where proximity (to downtown Madison, to Law Park, and to the services on East Washington Avenue) is nevertheless not accessibility with convenience and safety for the occupant of the subject site.

- A. The Madison resident typically associates the site area with the rail yard and tracks, the power plant, and the saloons and bowery atmosphere of Williamson Street between Butler and Blair. While the subject property is on the lakeshore, it is not given a prestige rating.
- B. In several market surveys (Stewart '69, DeLisle '73, and Ibach '74), the subject property has been presented as one of a number of alternative lake view sites which could be selected by prospective luxury apartment or condominium tenants. These reports showed that Lake Mendota in the Mansion Hill area was regarded as the prestige area, and that several alternative sites on the Lake Monona side were all greatly preferred to the subject site, which the Madison consumer does not presently consider residential in character.
- C. The subject site would benefit greatly from a physical and visual connection with Law Park to the southwest and the amenities at the Clark Park beach one and a half blocks to the east. However, the old warehouse building occupied by the Post Office Annex blocks the view from and to Law Park. It would seem desirable to assemble all of block 126 in order to create visual impact for the better on traffic approaching from John Nolan Drive and from Blair Street. Without such assembly, the subject property is cut off from those elements which otherwise might enhance its market recognition.

- D. The marketability of a site depends in part on the attitudes created by the approach zone for pedestrians and motorists. This attitude is a function of the stress and anxiety created by the intensity of traffic, the attractiveness of the visual surroundings, and the sense of safety of the pedestrian who is conditioned to shy from unsavory saloons and lonely industrial night-time zones. All of these negative elements are present to a large degree at the subject site and it would be speculative at best to anticipate any improvement or change in current land uses during the next 3 to 5 years.

## VII. Alternative Redevelopment Strategies for Subject Site

With the assistance of Glad, Sarko and Associates and Bernard Riley, City Zoning Administrator, a variety of development alternatives were explored to establish allowable gross building areas, building configurations, and required parking facilities. Exhibit #4 summarizes all of the alternatives considered. Each of these alternatives was then evaluated in light of current Madison market requirements, consumer acceptability, and floor area ratio intensity of use.

- A. For residential uses a major constraint on development intensity is the land area per dwelling unit, while for commercial uses the required parking index quickly puts a limit on maximum size of development. Given existing ground water conditions, it is assumed there can be only one level of parking below the grade of Williamson Street. Parking ramp construction costs about \$4800 a car stall at today's prices, a factor which drives up building costs faster than off-setting rental rates. Above grade ramps would be economically unfeasible for commercial and would preclude total development of permissible site floor area ratios.
- B. Lot area setback requirements would be most favorable for a two-story building:
  - 1. Minimum setbacks for residential development:
    - Lake Side-Average 101 ft. from shoreline
    - Williamson Street - 20 feet
    - South Blount Street - 10 feet
    - Easement (pump house alley) - 10 feet
  - 2. Minimum setbacks for commercial use:
    - Easement (pump house alley) - 10 feet
    - Lake Shore - 101 feet from shore
    - All Other Sides - none
- C. Exhibit #4 provides a summary of nine different potential combinations of residential and commercial development which might be considered on the subject site. Only three of these appear to be viable for consideration as of this date. The other alternatives have been eliminated from consideration not only because of zoning change required but for additional reasons as follows:

## EXHIBIT #4

## Faubach Site Development Options

Options	Use	Building Area	No. of Stories	Parking Stalls	Location	Primary Constraint	Yard Requirements		
							FR.	S	Zoning Change
A.	Res.	75,000	3	89	AG	* LA/DU	20'	10'	Yes-pkg
B.	Res.	75,000	3	89	BG	LA/DU	20'	10'	No
C.	Comm.	90,000	3	200	BG	Parking	-	-	Yes-pkg
D.	Comm.	60,000	2	100 200	AG BG	Parking	-	-	No
E.	Comm.	33,000	1	111	BG	Parking	-	-	Yes-pkg
	Res.	75,000	3	89	BG	LA/DU	20'	10'	Yes-ORD
F.	Comm.	48,000	2	111	BG	Parking	-	-	Yes-ORD
	Res.	75,000	3	50 89	AG BG	LA/DU	10'	10'	
G.	Comm.	60,000	2	111	BG	Parking	-	-	Yes-ORD
	Res.	75,000	3	92 89	AG BG	LA/DU	20'	10'	
H.	Comm.	208,400	8	696	AG (4-level ramp)	Bldg. Ht.	-	10'	101
	Res.	78,000	3	89	BG	Set Backs	20'	10'	Yes-PUD
	Ramp		4						
I.	Old Comm.	14,200	2	32	AG	Parking	-	10'	No
	Res.	65,000	6	55 37	BG AG	LA/DU	20'	10'	

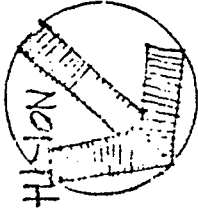
\* Land Area per Dwelling Unit

Sketch #4

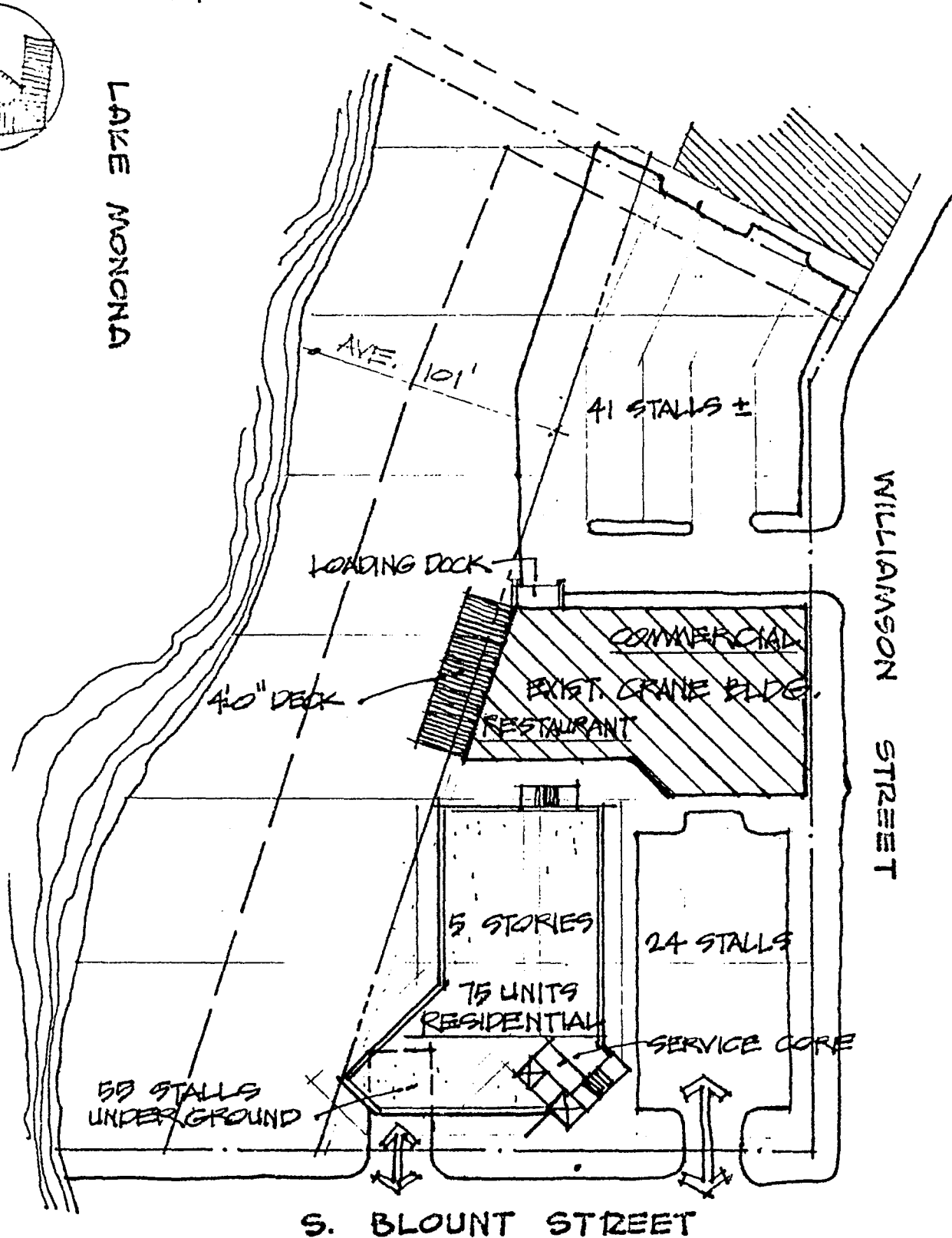
2 PARCEL CONCEPT : COMMERCIAL CRANE BLDG.,  
75 NEW RESIDENTIAL UNITS

OCTOBER 18, '74

SITE PLAN ..... SCALE : 1" = 60'



LAKE MONONA



S. BLOUNT STREET

1. Option A with above grade parking (See Sketch #1) would produce a very cluttered appearance for what would be marketed as a luxury apartment location. It would put cars between the building line and lake, a feature probably unacceptable to City Hall. Indeed above grade parking would represent a security problem and a marketing deterrent in subject site neighborhood.
  2. Option C has been eliminated because there is no room for 100 above grade parking units and no market for speculative commercial office space in Madison. The City already has a significant surplus of A and B grade office space vacant in the downtown area due to construction of new bank office buildings, several speculative office buildings such as VIP, several remodeled office buildings such as the Hovde Tower and Cantwell Building, and another bank building on the boards.
  3. E, F and G (See Sketches #1 & #2) would require an additional conditional use permit from the City Council since the residential development greatly exceeds the maximum of 50% of gross building area permissible under C-3. Indeed a zoning change to PUD or ORD would probably be required and is assumed to be unavoidable. There is also little market for high rent commercial space which is combined with residential on the upper floors. A survey done for Investment Services, Inc. in 1974 (Ibach study) indicated considerable objection by both prospective commercial and higher income residential tenants to such a combination in the same building in Madison. Both F and G require additional above grade parking which means either that part of the first floor of the building must be parking (which hurts its commercial space marketability) or surface parking must be permitted in the lakeshore strip between rear building line and open space which is probably not acceptable to the City according to zoning administrator Bernard Riley.
  4. Alternative H represents the extreme building envelope which could be put on this site were it developed to downtown Chicago standards. It would require one level of underground parking plus four levels of ramp parking before reaching eight stories of commercial space and three stories of residential. That general scheme may be appropriate to the John Hancock Building, but it would be extremely speculative for Madison on any site. There would be no market for 208,000 gross feet of office space in central downtown Madison, let alone in a fringe downtown area. At least the sky is not the limit, as the 15-story height reaches the foot of elevation on the Capitol dome columns.
- D. Three alternative development options (B, D, and I) remain to be explored as the most probable use for the subject site. A preliminary estimate of site value for each of these uses provides an initial indicator of the probability of such uses as seen by a prospective purchaser:

1. Option 1(B) is exclusively a three-story residential building with 89 below grade parking stalls for 89 apartment units, 80% one-bedroom and 20% two-bedroom and could be built with a building area of 75,000 sq. ft. A possible configuration is suggested in Sketch #1, Option A, with the surface parking omitted and parking placed below the building. The number of stories is limited by the need to use the lowest cost construction method available and remain competitive with the large number of efficiencies and one-bedrooms recently built near the Square.
  2. Option 2(D) would be exclusively a 60,000 sq. ft. commercial building, intended primarily as a home office building for a Madison firm. It would offer 200 parking stalls below grade. The 20,000 sq. ft. first floor would cover less than 50% of ground area, leaving guest parking on the surface and good views of lake from Williamson Street.
  3. Option 3(I) is a mixed use alternative (See Sketch #4) and makes use of the existing Crane Building with its interesting wood beam roof and truss interior. The latter offers opportunity for small specialty shops and a restaurant looking over the lake, in the style but not the scale of Toronto's Boardwalk, San Francisco's Ghiairelli Square, or Rochester's River Front Square. The present Sinclair garage building would be demolished to provide 32 parking stalls for the restaurant in the Crane Building. Only 20 stalls would be required since this would be a renovation of an existing structure and would therefore avoid the requirement of one parking stall for each 300 sq. ft. of commercial according to the opinion of Zoning Administrator, Bernard Riley. A residential tower six stories high with 75 apartments on five floors could be built at the Blount Street side of the site to maximize views of the lake and the Capitol and simultaneously to avoid views of the power plant. This building would have no commercial area on the first floor, no enclosed space other than the lobby, no less than 20 surface parking spaces, and 55 underground parking stalls. Residential amenities would not only include the broad lake-front strip but also the adjacent restaurant and miscellaneous specialty shops in the Crane Building.
- E. To select a most probable use from the three alternatives above, it is necessary to make a reasonable preliminary estimate of a sales price consistent with recent transactions in the Madison market and to adjust price for the time required under current conditions to market and convey the existing site to an investor likely to develop the uses proposed. These comparative sales estimates adjusted for the present value of money over the assumed marketing period are summarized in Exhibit #5 where a preliminary pricing formula for each of the three options is displayed. The assumptions for each alternative follow:



REAL ESTATE FEASIBILITY WORKSHOP  
Sponsored by Society of Real Estate Appraisers  
Chapters of Puerto Rico, Palm Beach County,  
Greater Miami & Broward County  
Hilton Hotel, San Juan, Puerto Rico  
April 1-2, 1975

Instructor: Prof. James A. Graaskamp

FIRST AFTERNOON

- 1:00 P.M.     The Real Estate Process  
                 Elements of a Total Feasibility Analysis  
                 Determining Objectives and Decision Criteria of the Client  
                 Defining Audience for Report  
                 Establishing Professional Accountability
- 3:15             Coke Break
- 3:30             Site as a Guide to Market  
                 Static Attributes  
                 Linkage Attributes  
                 Dynamic Attributes  
                 Defining Most Probable Use  
                 Defining the Most Probable Buyer

MORNING - SECOND DAY

- 9:00 A.M.     Structuring Market Data Analysis  
                 Demonstration of Report Display of Market Data  
                 Market Segmentation and Prospect Identification
- 10:15             Coffee Break
- Developing a Customer Profile  
                 Designing the Consumer Survey  
                 Drafting Survey Questionnaire  
                 Tabulating Survey Results  
                 Defining a Product Mix and Price Range  
                 Backdoor Approach to Feasibility
- 12:00             Luncheon
- 1:00 P.M.     A Pre-Architectural Program  
                 Front Door Approach to Feasibility  
                 Modeling Cash Flow for Development Project  
                 Evolution of Concepts for Measuring Rate of Return  
                 Evolution of Concepts of Risk Evaluation
- 2:30             Coke Break
- 2:45             Cash-Flow Analysis of Rental Project  
                 Cash-Flow Analysis of Condominium Project  
                 Sensitivity Analysis Related to Departmental Responsibilities  
                 Conclusions as Statement of Alternatives (if, then statements)

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Morning Session - Market and Merchandising

- I. Real estate market opportunities may be identified and scaled to focus on specific sub-markets of space users. Market data is aggregate data, secondary information, and only tentative.
  - A. There is more aggregate data than one can use and therefore it is necessary to create devices, called models, which will discard most of it as irrelevant and focus what remains on the problem.
  - B. Model structure your research, organize your report and communicate assumptions which must be accepted or challenged by those who must use the report.
    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
  - C. Market definition is a research problem and a research model should relate to the following elements:
    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 is the cost benefit ratio between the method and the question?
  - D. Models begin with secondary market data and then attempt to disaggregate that data by application of various devices or ratios which define specific segments of a market with increasing accuracy.
    1. For example, you have all used a device of a primary, and secondary trade area for a super market or a retail center. Most real estate is a form of retailing and these analogies can be borrowed for many other types of real estate.
    2. Market data will identify the total size of a given opportunity in terms of household in selected income ranges, within a trade area, or number of autos or travelers who represent potential customers.
    3. Merchandising analysis determines what percentage of the total opportunity groups can be captured for a specific project. Absorption rates tell how many people bought lots, rented apartments or leased office space in a given area during a specific period of time. Capture rates are the ratios of this potential which might be secured for a project on the up-side or must be secured for a project to achieve profit goals. The capture rate will reflect the care taken in product definition, pricing, and timing.

- E. There are many ways to communicate the nature of modeling assumptions to the client so that he may participate in the process and understand the sensitivity of different outcomes to different assumptions. Consider the construction of a demand forecast for resort motel rooms near a small ski hill in Wisconsin. There were 9 demand models for different parts of the year:

Summer Season:

Vacationers by the week  
Summer travelers by the night  
In-house summer seminars

Off-Season: (Fall & Spring)

Business seminars  
Weekend mini-vacations for fall color  
Miscellaneous travelers

Winter Season:

Weekend skiers on ski hill  
Cross country skier  
Snowmobilers  
Mini-vacationers  
Business meetings - Monday through Thursday

For example: WEEKEND SKIER MOTEL ROOM DEMAND MODEL

$P \times R \times T \times D \div PR \times MS = \text{Potential Rooms Occupied per Average Weekend Night in Market Area where:}$

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.

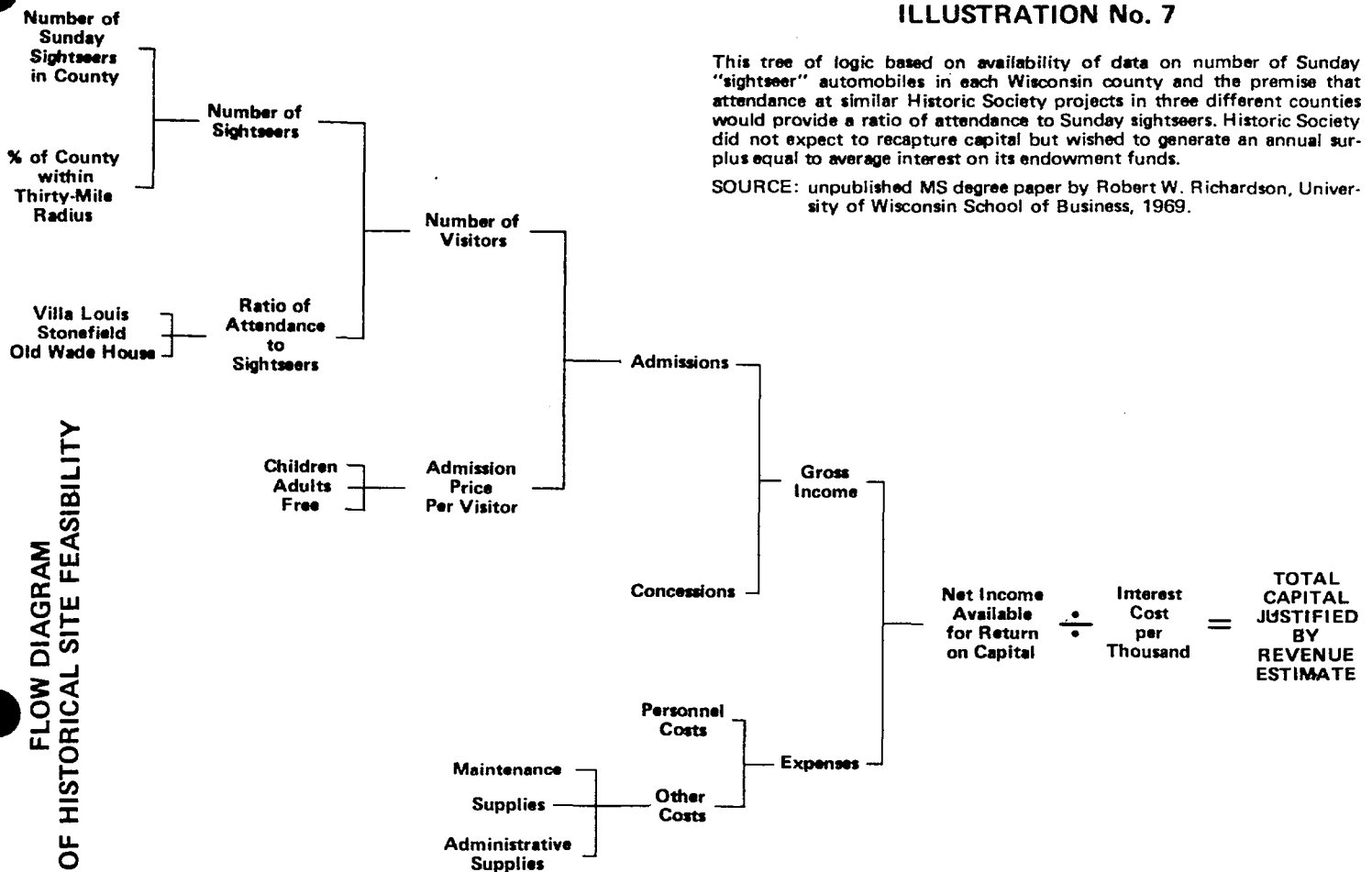
MS = Market Share (%) of weekend skiers that the Wintergreen ski hill can capture.

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

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

## F. Consider flow chart display: (Exhibit #2)



- G. Consider this summary on the market for elderly housing by Heujahr and Binkowski, a Madison, Wisconsin firm. Some of the data is aggregate data and some of the ratios are the product of a questionnaire, the technique we will talk about next.
- H. There are many techniques for building up aggregate data about population, buying power, growth trends, etc. including:
1. Adjustment of 1970 census tract by use of change in automobile registration, DU building permits, or air photo counts.
  2. In Wisconsin building permits and census data are now broken out by 1/4 1/4 sections and referenced to low level aerial photos as in Exhibit #4 (Exhibit #4 consists of items described as Table #3, #7-A, and 7-B).
  3. Cross tabbing of 1970 census data is cheap and useful
  4. Electric and telephone company make detailed projection for various neighborhoods.
  5. City planning offices have developed neighborhood district data
  6. City housing authorities have counts on elderly and low income households.

## 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>
	<u>2,430</u>
Persons age 65+ in the conventional housing market in County in 1974	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>
	<u>263</u>
Elderly households in County qualified for and seriously interested in moving into the proposed development	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>
	<u>77.1%</u>
	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% - 378 "
	<u>708</u>
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	" "

TABLE #3

HOUSEHOLD GROWTH RATE - PRIMARY TRADE AREA 1970-1972  
(Basis for household projection, 1974-1980)

Section	Quarter Section	Households 1970	Increase Households 1970-1972	Households 1972	Increase(%) Household 1970-1972
23	3	13	0	13	0
	4	44	0	45	0
24	1 .25	16	3	19	9 *
	2 .25	10	0	10	0
	3	4	0	4	0
	4	2	0	2	0
25	1	130	50	180	19 *
	2	134	8	142	3 *
	3	36	12	48	17 *
	4	323	104	427	16 * (NG)
26	1	145	4	149	1 *
	2	3	0	3	0
	3	8	0	8	0
	4	1	0	1	0
27	1 .50	0	-	-	-
	4 .67	125	52	177	21 *
34	1	1	0	1	0
	4	5	0	5	0
35	1	28	0	28	0
	2	8	0	8	0
	3	0	0	0	0
	4	25	0	25	0
36	1	23	3	26	7 *
	2	51	5	56	5 *
	3	9	0	9	0
	4	10	0	10	0
19	1 .50	317	4	321	1 * (NG)
	2 .50	240	10	250	2 * (NG)
	3	529	7	536	1 * (NG)
	4	511	1	512	0 (NG)
30	1	273	0	273	0 (NG)
	2	285	40	325	7 *
	3	113	11	124	5 *
	4	19	0	19	0
31	1	20	0	20	0
	2	142	19	161	7 *
	3	10	0	10	0
	4	7	0	7	0
TOTALS		3620	334	3954	4.6%
HGA ('70-'72) *		2609	334	2943	6.4% = G '70-'72
HNG '72 (NG)				2319	
HGA '72				1635	

TABLE #7

# HOUSEHOLD PROJECTION - CALCULATIONS 1974 - 1980

GIVEN: H = Number of Households

HGA ('72) = Total # Households in Growth Areas (\*) 1972

HGA ('74) = Total # Households in Growth Areas (\*) 1974

HNG ('72) = Total # Households No Growth Areas NG - 1972

HI ('72-'74) = Increase # Households (1972-1974)

HI ('74-'80) = Increase # Households (1974-1980)

G ('70-'72) = Annual Projected Increase (%) # Households

Na = Number of Years/'72-'74 Projection Period = 2

Nb = Number of Years/'74-'80 Projection Period = 6

THEN:  $H_{1974} = HNG ('72) + HGA ('72) + HI ('72-'74)$

WHERE:  $HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na$

AND:  $H_{1980} = HNG ('72) + HGA ('74) + HI ('74-'80)$

WHERE:  $HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb$

TABLE #7-A

## I. 1974 - HOUSEHOLD PROJECTIONS

## A. Primary Trade Area (PTA)

$$\begin{aligned}
 \text{Given: } G ('70-'72) &= 6.4\% \\
 HNG ('72) &= 2319 \\
 HGA ('72) &= 1635 \\
 HI ('72-'74) &= [HGA ('72)] [G ('70-'72)] Na \\
 &= (1635) (.064) (2) \\
 &= 209
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: } PTA - H 1974 &= HNG ('72) + HGA ('72) + HI ('72-'74) \\
 &= 2319 + 1635 + 209 \\
 &= \underline{4163}
 \end{aligned}$$

## B. Secondary Trade Area - A

$$\begin{aligned}
 \text{Given: } G ('70-'72) &= 4.8\% \\
 HNG ('72) &= 590 \\
 HGA ('72) &= 390 \\
 HI ('72-'84) &= [HGA ('72)] [G ('70-'72)] Na \\
 &= (390) (.048) (2) \\
 &= 37
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: } STA (A) - H 1974 &= HNG ('72) + HGA ('72) + HI ('72-'74) \\
 &= 590 + 390 + 37 \\
 &= \underline{1017}
 \end{aligned}$$

## C. Secondary Trade Area - B

$$\begin{aligned}
 \text{Given: } G ('70-'72) &= 2.5\% \\
 HNG ('72) &= 2297 \\
 HGA ('72) &= 535 \\
 HI ('72-'74) &= [HGA ('72)] [G ('70-'72)] Na \\
 &= (535) (.025) (2) \\
 &= 27
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: } STA (B) - H 1974 &= HNG ('72) + HGA ('72) + HI ('72-'74) \\
 &= 2297 + 535 + 27 \\
 &= \underline{2858}
 \end{aligned}$$

## D. Secondary Trade Area - C

$$\begin{aligned}
 G ('70-'72) &= 8.5\% \\
 HNG ('72) &= 3574 \\
 HGA ('72) &= 1326 \\
 HI ('72-'74) &= [HGA ('72)] [G ('70-'72)] Na \\
 &= (1326) (.085) (2) \\
 &= 225
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: } STA (C) - H 1974 &= HNG ('72) + HGA ('72) + HI ('72-'74) \\
 &= 3574 + 1326 + 225 \\
 &= \underline{5125}
 \end{aligned}$$



TABLE #7-B

## 11. 1980 - HOUSEHOLD PROJECTIONS

## A. Primary Trade Area (PTA)

$$\begin{aligned}
 \text{Given: } G ('70-'72) &= 6.4\% \\
 HNG ('72) &= 2319 \\
 HGA ('74) &= 1844 \\
 HI ('74-'80) &= [HGA ('74)] [G ('70-'72)] Nb \\
 &= (1844) (.064) (6) \\
 &= 708
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: PTA H 1980} &= HNG ('72) + HGA ('74) + HI ('74-'80) \\
 &= 2319 + 1844 + 708 \\
 &= \underline{\underline{4871}}
 \end{aligned}$$

## B. Secondary Trade Area - A

$$\begin{aligned}
 \text{Given: } G ('70-'72) &= .048 \\
 HNG ('70) &= 590 \\
 HGA ('74) &= 427 \\
 HI ('74-'80) &= [HGA ('74)] [G ('70-'72)] Nb \\
 &= (427) (.048) (6) \\
 &= 123
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: STA (A) - H 1980} &= HNG ('72) + HGA ('74) + HI ('74-'80) \\
 &= 590 + 427 + 123 \\
 &= \underline{\underline{1140}}
 \end{aligned}$$

## C. Secondary Trade Area - B

$$\begin{aligned}
 \text{Given: } G ('70-'72) &= 2.5\% \\
 HNG ('72) &= 2296 \\
 HGA ('74) &= 562 \\
 HI ('74-'80) &= [HGA ('74)] [G ('70-'72)] Nb \\
 &= (562) (.025) (6)
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: STA (B) - H 1980} &= HNG ('72) + HGA ('74) + HI ('74-'80) \\
 &= 2296 + 562 + 84 \\
 &= \underline{\underline{2942}}
 \end{aligned}$$

## D. Secondary Trade Area (C)

$$\begin{aligned}
 \text{Given: } G ('70-'72) &= .085 \\
 HNG ('72) &= 3574 \\
 HGA ('74) &= 1551 \\
 HI ('74-'80) &= [HGA ('74)] [G ('70-'72)] Nb \\
 &= (1551) (.085) (6) \\
 &= 791
 \end{aligned}$$

$$\begin{aligned}
 \text{Therefore: STA (C) - H 1980} &= HNG ('72) + HGA ('74) + HI ('74-'80) \\
 &= 3574 + 1551 + 791 \\
 &= \underline{\underline{5916}}
 \end{aligned}$$

- II. The typical real estate project is primarily concerned with very small micro markets and thus precise market segmentation and identification are the critical elements of a feasibility analysis. The objective is to define a need, a product, and a price which will provide some monopoly advantages to reinforce the desired capture rate.
  - A. There is a interaction between preliminary assumptions which relate to the front door and back door approaches to feasibility analysis.
    1. The front door approach:
 
$$\text{Total project cost} = \text{mortgage balance} + \text{equity capital}$$

$$\text{Cash dividend on equity} + \text{debt service} = \text{net income}$$

$$\text{Net income} + \text{expenses} + \text{real estate tax} + \text{vacancy} = \text{required gross receipts}$$

$$\text{Required gross receipts/space units} = \text{rental price/unit}$$
    2. Back door approach:
 
$$\text{Gross rents} - \text{vacancy} + \text{expenses} = \text{net income available for debt service} + \text{equity dividends}$$

$$\text{Gross rents} \times \text{desired default point} = \text{maximum expenses and outlays}$$

$$\text{Break even cash} - \text{expenses} = \text{Income available for debt service}$$

$$\text{Income available for debt service} / \$1,000/\text{year of loan debt service} = \text{maximum loan}$$

$$\text{Maximum loan} + \text{equity capital to be committed} = \text{total project budget}$$
  - B. Within the general price ranges initially suggested above, the next step in market segmentation will generally be:
    1. Correctly identify the revenue unit or commodity or method of measuring profit of the project in question.
      - a. Per acre
      - b. Per pad
      - c. Per front foot of shoreline
      - d. Per dollar of gross sales
      - e. Per event
    2. As an alternative identify who really signs the check for a particular type of real estate.
      - a. The salesman or the management paying his travel costs
      - b. The doctor or the clinic
      - c. The district manager or the corporate real estate manager
      - d. The ticket buyer or the promoter
  - C. Devices for generating a prospect list
    1. A reverse directory or criss-cross telephone book
    2. Building directories of comparables
    3. Mailing lists of specialty publications
    4. License number spotting
    5. Guest registers
    6. Charge account mailing addresses
  - D. Comparison shopping to define a competitive standard and supply gaps
  - E. Customers surveys to identify a competitive differential and a marketing opportunity gap while market data scales the size of the market.(body count)

- III. The objectives of primary research of a particular market are three-fold; to generate ratios to complete market analysis, to discover needs, anxieties, fears, or changing conditions which will motivate the consumer to relocate, and to identify sites and product features which will best serve their purposes.
- A. The first two items establish the size and character of the market target and the basic theme of merchandising to be followed.
  - B. The third element should produce a pre-architectural program which selects a site, defines negative location factors to be neutralized by design, and product features by competitive standards and by competitive edge.
  - C. Typically one can choose between professional telephone interviews, direct mail questionnaires, and personal interview in depth. These represent increasing costs and reliability at the expense of increasing time required for completion.
  - D. First define the ratios and tables including precise titles you wish to appear on the table, including a mockup of same for the report. Refer to elderly housing chart - Exhibit #3.
    - 1. Ratios should follow a logical reduction pattern. For example:
      - a. How many will consider moving?
      - b. Of those, how many would consider staying in town?
      - c. Of those, how many would consider an apartment?
      - d. Of those remaining who would consider an apartment in town, how many would consider a specific location?
    - 2. Be precise about table headings
  - E. Define a market by age, income, marriage status, number of children, and location prior to move.
  - F. To analyze site and product factors look for basic anxieties or irritations with present alternatives.
  - G. Refer to consumer survey questionnaire (Landmark Research)

# Landmark Research Inc.

November 10, 1971

Thomas L. Turk  
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

☐ No  
↓

☐ Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	_____
Spring	1	2	3	4	5	6+	_____
Summer	1	2	3	4	5	6+	_____
Fall	1	2	3	4	5	6+	_____

2. Do you presently own a summer home or cabin site?

☐ No  
↓

☐ Yes → County \_\_\_\_\_ State \_\_\_\_\_  
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? ☐ Yes ☐ No ☐ Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? ☐ Yes ☐ No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

☐ Yes  
↓

☐ No → What is your main reason? \_\_\_\_\_  
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only one in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify) _____		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

- ( ) Tennis
- ( ) Sail boating
- ( ) Power boating
- ( ) Fall and spring golfing
- ( ) Fall and spring lake fishing
- ( ) Fall and spring fishing in stocked ponds
- ( ) Winter skiing on beginner and intermediate slopes
- ( ) Snowmobiling on an extensive trail system
- ( ) Ice boating
- ( ) Ice skating on an outdoor rink
- ( ) Skeet shooting
- ( ) Trail system for walking
- ( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

- ( ) Ice skating on an indoor rink
- ( ) Indoor tennis court
- ( ) Indoor swimming
- ( ) Sauna and whirlpool bath
- ( ) Handball and paddle ball courts
- ( ) Pool tables
- ( ) Card rooms with bar service
- ( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No  
↓

Yes → Which one? \_\_\_\_\_  
→ What impressed you most? \_\_\_\_\_

9. Do you now own or were you a former owner of a condominium?

No  
↓

Yes → Would you buy one again: ☐ Yes ☐ No  
☐ No → Why not? \_\_\_\_\_

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check one preference)

- ( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.
- ( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.
- ( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.
- ( ) Your ideas \_\_\_\_\_

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

- ( ) Single family detached unit
- ( ) Small clustered groups of two-four units (the Quadraminium)
- ( ) Larger clusters of low rise townhouses in 8-20 units
- ( ) High rise apartment style unit secluded from resort inn
- ( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
- ( ) Have another idea? Please describe \_\_\_\_\_

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyone's preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

<input type="checkbox"/> Family seasonal	( ) \$ 20,000-24,999	( ) \$ 40,000-44,999
<input type="checkbox"/> Legal residence	( ) 25,000-29,999	( ) 45,000-49,999
	( ) 30,000-34,999	( ) Could pay more
	( ) 35,000-39,999	for right house

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

- ( ) Two bedrooms with larger living area or/  
( ) Three bedrooms \_\_\_\_\_
- ( ) Three bedrooms, or/  
( ) Four bedrooms, or/  
( ) Large master bedroom and two 4-bed bunk rooms \_\_\_\_\_
- ( ) Two-story living room with inside balcony, or/  
( ) Living room with beamed cathedral ceiling \_\_\_\_\_
- ( ) Full dining room, or  
( ) Dining "L" plus family-sized kitchen \_\_\_\_\_
- ( ) Sundeck balcony for living room or/  
( ) Outdoor patio at ground level \_\_\_\_\_
- ( ) Walk-in closets in each room or/  
( ) Large work room plus laundry room in each unit & standard closets \_\_\_\_\_
- ( ) One car garage attached to unit or/  
( ) Two car garage in group parking complex, or/  
( ) Carport and lower price \_\_\_\_\_
- ( ) Central air conditioning or/  
( ) Woodburning masonry fireplace or/  
( ) Gas-log fireplace and window air conditioning unit \_\_\_\_\_
- ( ) Contemporary natural decor with wood and rock materials, or/  
( ) Maintenance-free modern masonry and aluminum exteriors, or/  
( ) Well styled colonial detailing \_\_\_\_\_
- ( ) Extensive outside landscaping, or/  
( ) More floor space in each room \_\_\_\_\_

15. Please indicate the number of adults and children who presently live in your household?

Adults (number) \_\_\_\_\_ Children: Under 6 \_\_\_\_\_  
6-12 \_\_\_\_\_  
Age of head of household \_\_\_\_\_ 13-17 \_\_\_\_\_  
Occupation \_\_\_\_\_ 18 & over \_\_\_\_\_  
Hometown \_\_\_\_\_

Number of dogs and cats \_\_\_\_\_

16. Your comments and suggestions \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Thank you.

VI. The construction of the questionnaire follows from a determination of the essential items of data required needed to ~~complete a model~~, profile a customer group, or identify areas of discontent and possible mobility.

A. There are two types of questions, a closed end question and the open ended question which is fishing for comment.

1. The closed end question is fast and relates to factual items which can be answered yes or no, by a number, or with a limited set of alternative responses which can be checked. It is easy to code and quantify.
2. The open end question takes more skill on the part of the interviewer, more time, and considerable more interpretation and analytical time. However it may supply a new insight.

B. Since a survey is an imposition on the respondent, it should be kept short and as many questions as possible should be avoided by the manner in which the mailing list is constructed.

1. For example if you want to reach upper income families use a mailing list already profiled by income age etc. Such lists can be purchased or there may be affinity groups which provide an alternative.
2. Use first questions to weed out those without relevant information for the survey but prompt them to return the questionnaire or otherwise qualify themselves so that you have a profile of the non-response types.

C. Begin with a hypothesis:

1. Purchasers of two bedroom condominiums can be found primarily in rental apartments within a mile of the subject property and represent working couples.
2. That premise generates the following questions:
  - a. Is this condominium unit your first residence in Phoenix?
  - b. If no, what was the address or project name where you lived just prior to moving to your new condominium?
  - c. If yes, did you move from out of town?
  - d. What was the primary reason to buy instead of rent?
  - e. How many people in your household?
  - f. How many have full time employment?
  - g. Why did you buy instead of rent your first home in Phoenix?
  - h. How did you first hear about your present unit?
  - i. What do you like best about the project?
  - j. What do you like best about your individual unit?
  - k. What is the biggest disappointment in the project you selected? in the unit you selected?



D. Each of the above can be asked in either a closed or an open ended fashion.

1. (open ended) In general, how do you feel about the current state of world affairs?

2. (closed) In general, do you feel that the current state of world affairs is (circle one) good, both good and bad, or bad?

VII. In asking questions, the surveyor must be careful to use basic clear English and avoid long questions. If special trade terms must be used, provide a short standard definition. Not everybody knows the difference between a townhouse and an apartment or a single family home and a townhouse.

A. Any word of several syllables is a possible source of trouble:

1. How do you feel about your neighborhood?  
Do you like the people on your block?

B. Answers can be distorted by inserting a name or an issue in the question which may be irrelevant as in:

1. In your opinion is the Peace Corps doing a good job?  
In your opinion is the late President Kennedy's peace Corps doing a good job?

2. This bias is called the halo or reversed halo effect.

C. The leading question is a very common problem. Typically such a question does not give equal presentation to both sides of an issue or imputes favorable or unfavorable behavior to the respondent. For example:

1. In your opinion, should the state university continue to expand and improve, or should it stay at its current level even though some qualified students may not be admitted in the future?

In your opinion, should the state university continue to expand and not improve--even though this would require more tax support, or should it stay at its current level--even though some qualified students may not be admitted in the future?

2. Do you agree with the statement: "The state university should continue to expand and improve"?

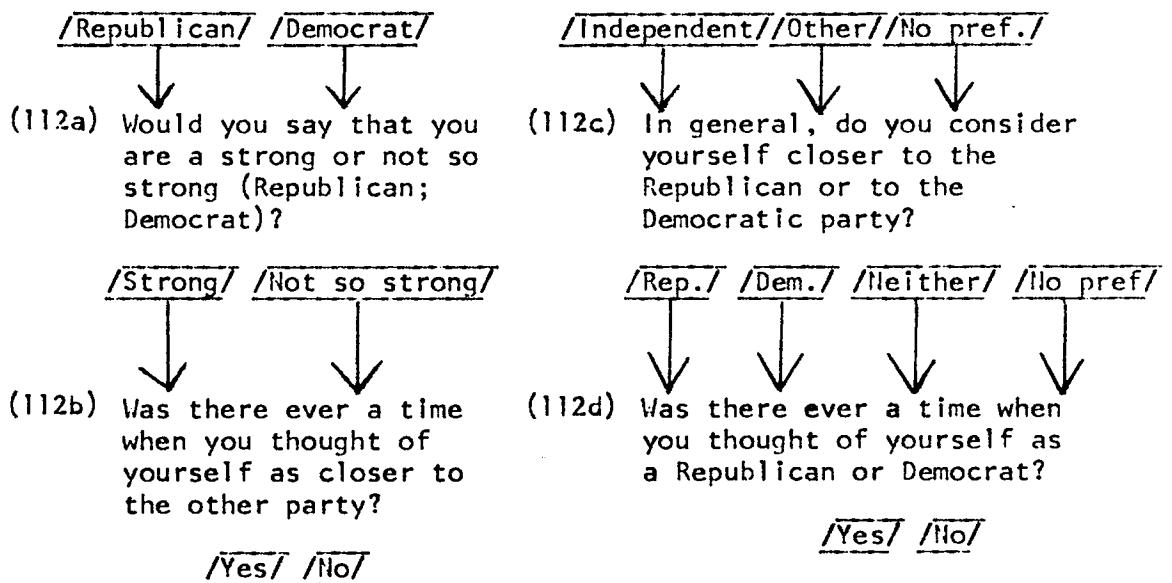
3. Leading by assumption and omission also is illustrated in the next series where each succeeding question is less likely to reveal a person with no religious preference.

Do you have a religious preference, or not?

What is your religious preference, if any?

What is your religious preference? (less likely to reveal those with no preference because it implies you should have one.)

- D. The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.
1. Would you be at all uneasy if people of a different religion or race were to move in next to your home?
  2. As you see it, what are some of the good points and the bad points of the present Governor of this state?
- E. Sensitive questions on family income should be asked at the end of the interview while the opening questions should be of more general interest. When a question about income is asked the response should permit some degree of obliqueness by the respondent.
1. The respondent can select a range of income or perhaps enter the answer with a letter A, B, etc. in place of a dollar amount.
  2. If socio-economic questions are generally short and direct, they are a welcome contrast to the time consuming and thought provoking questions which preceded them.
- F. Contingency questions are those which are asked or skipped depending on the respondent's answer to a preceding question. The survey should be as simple to follow as a well designed road map for an interviewer or a respondent. For example:
- (112) Generally speaking, in politics do you usually think of yourself as a Republican, a Democrat, an Independent, or what?



- G. Any questionnaire should be pre-tested on ten or twelve characteristic respondents as it will inevitably reveal misunderstandings or other problems with the survey or may suggest another question that should have been asked in order to qualify the results.

- H. For telephone surveys and many mail surveys you almost always find it cheaper or more effective to use professional interview services. They are less likely to bias results and will almost always be faster and cheaper in compiling the data.
1. You provide the contact list, the questionnaire etc.
  2. Even though respondents may be anonymous, replies can be coded by address and a telephone survey or by return envelope in a mail survey.
  3. Keeping records on non-responses is useful to test affinity of mailing list names, bias of non-response or patterns of non-response.
- I. When testing a preference for certain features, qualify the degree of desire with a measure of how much the customer might pay extra for that feature. (see attached apartment survey response and sample questions.)
- J. This type of survey could be done by the professional appraisal society for certain kinds of projects and then used by all the membership to complete their own feasibility studies. A higher quality product at lower cost would be the result and the professional society would gain local stature as a result of releasing some of the information to a local paper.
1. One application would be for FNMA forms such as 1026, part II. (see attached copies)
  2. Determination of market data for establishing market rents for assessment valuation or important elements for market comparison of sales.

21. How much would you pay extra per month for:
- |                               | \$0 | \$1-5 | \$6-10 | \$11-15 | \$16-20 | \$21-25 | \$25+ |
|-------------------------------|-----|-------|--------|---------|---------|---------|-------|
| An apartment with a lakeview  | ( ) | ( )   | ( )    | ( )     | ( )     | ( )     | ( )   |
| An apartment with a fireplace | ( ) | ( )   | ( )    | ( )     | ( )     | ( )     | ( )   |
| A carport                     | ( ) | ( )   | ( )    | ( )     | ( )     | ( )     | ( )   |
| A garage                      | ( ) | ( )   | ( )    | ( )     | ( )     | ( )     | ( )   |
22. Now that you have been living at your present location, what 3 factors do you consider most important? (Please number in order of importance.)
- ( ) Appearance of project
  - ( ) Appearance of community
  - ( ) Quality of schools
  - ( ) Closeness of shopping facilities
  - ( ) Level of neighborhood income
  - ( ) Social class of surrounding area
  - ( ) Nearby recreational facilities
  - ( ) Transportation and nearness of expressways
  - ( ) Rent
  - ( ) Overall location
  - ( ) Site and floor plan of apartment unit
23. How would you rate a "Total Electric" apartment? (Electric heat, air conditioning, cooking, and lights)
- ( ) Very Desirable ( ) Somewhat Desirable ( ) Indifferent  
( ) Somewhat Undesirable ( ) Very Undesirable
24. How would you rate your T.V. reception?
- ( ) Excellent ( ) Good ( ) Fair ( ) Poor
25. Is your T.V. connected to a master T.V. antenna system? ( ) yes ( ) no
26. How important are the following items to you?
- |  | Very<br>Important | Somewhat<br>Important | Indifferent | Somewhat<br>Unimportant | Not<br>Important |
|--|-------------------|-----------------------|-------------|-------------------------|------------------|
| Private Balconies or patios  | ( )               | ( )                   | ( )         | ( )                     | ( )              |
| Laundry facilities in each building  | ( )               | ( )                   | ( )         | ( )                     | ( )              |
| Washer/dryer connection in your apartment  | ( )               | ( )                   | ( )         | ( )                     | ( )              |
| Extra storage space  | ( )               | ( )                   | ( )         | ( )                     | ( )              |
| More than 1 bath   | ( )               | ( )                   | ( )         | ( )                     | ( )              |
| Carpeted stairways & hallways in common areas of apt. bldg.<br>(Areas shared by all residents) | ( )               | ( )                   | ( )         | ( )                     | ( )              |
| Master T.V. Antenna System   | ( )               | ( )                   | ( )         | ( )                     | ( )              |
| Children's day care center and/or nursery school nearby  | ( )               | ( )                   | ( )         | ( )                     | ( )              |

## 27. How important are the following special kitchen features?

	<u>Very</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Indifferent</u>	<u>Somewhat</u> <u>Unimportant</u>	<u>Not</u> <u>Important</u>
Electric self-cleaning oven	( )	( )	( )	( )	( )
Frost-free refrig.	( )	( )	( )	( )	( )
Dishwasher	( )	( )	( )	( )	( )
Trash compactor	( )	( )	( )	( )	( )
Above average kitchen lighting (Luminous ceiling)	( )	( )	( )	( )	( )

## 28. How much would you be willing to pay extra per month for:

	<u>I Expect it</u>	<u>\$0</u>	<u>\$1-2</u>	<u>\$3-4</u>	<u>\$4-5</u>	<u>\$5+</u>
Electric self-cleaning oven	( )	( )	( )	( )	( )	( )
Frost-free refrig.	( )	( )	( )	( )	( )	( )
Dishwasher	( )	( )	( )	( )	( )	( )
Sauna & Exercise Room in community building	( )	( )	( )	( )	( )	( )
Laundry facilities in each apt. building	( )	( )	( )	( )	( )	( )
Washer/dryer connection in your own apt.	( )	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )	( )
Trash compactor	( )	( )	( )	( )	( )	( )
Draperies	( )	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )	( )
Above Ave. kitchen lighting (Luminous ceiling)	( )	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Shared by all building residents)	( )	( )	( )	( )	( )	( )

## 29. How would you rate the area along West 38th Street near Kessler Boulevard for apartment living?

( ) Very Desirable    ( ) Somewhat Desirable    ( ) Indifferent  
 ( ) Somewhat Undesirable    ( ) Undesirable    ( ) Don't know where it is

## 30. Have you seen any apartment complexes with recreational facilities which you have considered outstanding? If so, which project? \_\_\_\_\_

## 31. How much would you be willing to pay extra per month to have those outstanding community facilities in your apartment project?

( ) \$0    ( ) \$1-5    ( ) \$6-10    ( ) \$11-15    ( ) \$16-20    ( ) \$20-25    ( ) \$25+

## INTEROFFICE MEMO

To: \_\_\_\_\_ Date: \_\_\_\_\_  
From: \_\_\_\_\_ Copies To: \_\_\_\_\_  
Subject: \_\_\_\_\_

A consumer preference study, consisting of consumer interviews within the housing market area was preformed. The interviews were conducted in eight of the competitive apartment developments on the west side. The eight developments contain approximately 2600 units. Using a random sampling technique, approximately 750 questionnaires were passed out in these projects. 202 questionnaires were returned to us by mail, which is a 27% return. Also, 147 questionnaires were done by personal interviews. The tabulated results, as presented in Table A-1, are based on 340 usable interviews.

Some of the salient factors derived from the tabulated interviews are presented below:

- (1) Respondents were rental oriented, with 52% having an apartment as their previous residence.
- (2) 49% of the respondents stated that the residence in which they previously lived was located outside of the Indianapolis area.
- (3) Also, 30% of the respondents lived on the Northwest side before moving to their present residence.
- (4) While looking for their present apartment complex, the tenants found the following important:

Size and floor plan of apartment	24%
Rent	20%
Overall location	16%
Appearance of the project	12%
Transportation & nearness of expressway	9%
Closeness of shopping	6%
Appearance of the community	5%
Quality of schools	4%
Social class of surrounding area	2%
Nearby recreation facilities	1%
Level of neighborhood income	1%

- (5) 22% of the respondents were paying \$150.00 or less for rent and 38% were paying between \$170.00 and \$200.00 for rent. Only 18% of the respondents were paying above \$200.00 per month for rent.
- (6) 58% of the respondents indicated they would move within the next two years.
- (7) 20% of the respondents indicated they would move but stay on the North West side of Indianapolis.

## INTEROFFICE MEMO

To: \_\_\_\_\_ Date: \_\_\_\_\_  
From: \_\_\_\_\_ Copies To: \_\_\_\_\_  
Subject: \_\_\_\_\_ Page 2

- (8) 32% of the respondents indicated that they would prefer an apartment next time they moved.
- (9) About 52% of the respondents said that their extra storage was not adequate.
- (10) 71% of the respondents chose indoor extra storage over extra storage enclosed on the patio or balcony.
- (11) Fireplaces were considered very desirable by 56% of the respondents. With only 24% of the respondents saying they would pay nothing for a fireplace.
- (12) Apartments with lakeviews did not fair too well, 52% of the respondents indicated they would pay \$0 for a lakeview, with only 28% paying \$1-5 and 15% paying \$6-10.
- (13) 51% of the respondents indicated they would pay \$1-5 for carports, and 15% of them said they would pay \$6-10.
- (14) Although 77% of the respondents indicated an electric self-cleaning oven was very important or somewhat important, 45% of them indicated they would pay nothing extra for it.
- (15) The respondents felt that a frost-free refrigerator was more important than the electric self-cleaning oven. 65% of them considered the frost-free refrigerator very important and 51% of them said they expected a frost-free refrigerator with only 27% indicating they would pay nothing for it.
- (16) Only 9% of the respondents expected a sauna and exercise room with 55% of them indicating they would not pay anything extra for the facilities.
- (17) 52% of the respondents expected extra storage space, with only 24% indicating they would pay nothing for it.
- (18) 51% of the respondents living in the projects were 2 family households.
- (19) Of the children living in the projects, 45% of them were preschoolers; 30% kindergarten through 6th grade; 9% 7th to 8th grade; and 16% 9th through 12th grade.

I hope the above information can help you in your study. If more information is desired please contact. Table A-1 is attached.

Part II - Market Analysis. (To be completed by Appraiser previously determined to be acceptable to FNMA.)

I. Market Survey.

- a. Map. Exhibit \_\_\_\_\_.  
Define the market area and attach a map highlighting thereon the subject area and competing developments.
- b. Buyer Characteristics. Exhibit \_\_\_\_\_.  
Describe typical buyer characteristics in the market area, e.g., "empty nesters," young couples, singles, retired, buyer seeking to upgrade, buyer seeking tax shelter.
- c. Competition From All Types of Development. Exhibit \_\_\_\_\_.  
Describe competition within the market area to the subject property from all types of real estate development. Discuss the effect of this competition on the subject property.
- d. Competition From Without. Exhibit \_\_\_\_\_.  
Describe what competition from outside of the subject market area may affect the subject property.
- e. Common Area Comparison. Exhibit \_\_\_\_\_.  
Describe common area amenities most preferred by buyers in the market area and the quality of maintenance received by common areas in competitive developments. Identify developments receiving exceptional or poor maintenance.
- f. Transportation Systems. Exhibit \_\_\_\_\_.  
Describe proximity of (time and distance) and the adequacy of transportation systems in terms of employment centers and shopping areas.
- g. Inventory. Exhibit \_\_\_\_\_.
  - (1) Immediate inventory--Report on unsold, finished and ready-to-deliver inventory of competitive developments. If appropriate, indicate the reason for this inventory in terms of market absorption. If the subject property is proposed, indicate whether the inventory will remain on the market as competition.
  - (2) Developing inventory--With reference to developments which are under construction or on which construction will soon commence, identify those which will be competing with the subject in the next two years.
  - (3) Potential inventory--Report any permit applications, tentative map filings, engineering studies and other information derived from spot-checks of governmental agencies which might indicate potential inventory coming on the market.



h. Resale Market. Exhibit \_\_\_\_\_.

- (1) Discuss the value trends for comparable units in the market area.
- (2) Describe any change in buyers' characteristics subsequent to the development's initial sales.

i. Absorption. Exhibit \_\_\_\_\_.

If the subject property is proposed or under construction, provide an estimation of absorption per month. Also, indicate the developer's projected sell-out date of the project.

j. Environment. Exhibit \_\_\_\_\_.

Describe those general environmental factors which may have an influence upon the enjoyment of the units by unit owners and which might, accordingly, tend to have an effect upon demand for comparable units in the subject area.

k. Summary. Exhibit \_\_\_\_\_.

Provide a summary of the competitive position of the subject development in the market place in terms of location, timing, price, and design. Discuss each in detail and its application to a valuation conclusion. Provide an appropriate price range based upon market sales of each type unit in the project.

2. Qualitative Study.

a. Unit/Common Area Interrelationship. Exhibit \_\_\_\_\_.

Comment upon the location and accessibility of the units as they relate to the common area. Isolate locational preferences within the project.

b. Land Use. Exhibit \_\_\_\_\_.

Comment upon the density of the use, the site plan layout and the balance and proportion in land uses.

c. Parking. Exhibit \_\_\_\_\_.

Analyze the adequacy of parking facilities considering numbers, size, restrictions and objectionable factors.

d. Recreational Facilities. Exhibit \_\_\_\_\_.

Analyze the adequacy of recreational facilities in terms of the numbers and price class of units within the project.

e. Supporting Facilities. Exhibit \_\_\_\_\_.

Analyze the adequacy of other facilities associated with the project, e.g., laundry.

f. Unit Features. Exhibit \_\_\_\_\_.

Analyze the quality of the individual units in terms of:  
(1) size, layout and mix; (2) bath and kitchen equipment;  
(3) heating and air conditioning; (4) storage and cabinetry; (5) sound transmission control; and (6) proportion.

Part III - Valuation Conclusions

1. The following table is to be prepared and signed by the two independent fee appraisers who signed the residential appraisal reports. The table should reflect a tabulation of unit-by-unit valuations organized by unit types. Additional sheets should be added as necessary with any comments footnoted.

UNIT TYPE	UNIT NO.	APPRAISED VALUE LOT/UNIT (If applicable)	(PROPOSED) SALES PRICE	EXPLANATION OF DIFFERENCES BETWEEN VALUATION AND/OR SALES PRICES OF DIFFERENT UNITS OF SAME TYPE	VALUE/SALES PRICE- OPTIONAL VARIATIONS AND EQUIPMENT
		\$	\$		\$



Market comparables supporting site values are provided by separate attachment. Exhibit \_\_\_\_\_.

Appraiser Name	Signature	Date
Appraiser Name	Signature	Date

2. Complete the following cost analysis chart:

SITE COST-RAW LAND (Entire Project)	CONSTRUCTION LOAN CHARGES (Including Interest Through Sales Period)	INSURANCE	LEGAL FEES
\$	\$	\$	\$
ENGINEERING FEES	GOVERNMENTAL FILING EXPENSES	BONDING COSTS	TAXES THROUGH SALES PERIOD
\$	\$	\$	\$
ADVERTISING	SALES MERCHANDISING (Including Model Unit Costs)	SALE CLOSING COSTS	
\$	\$	\$	\$
\$	\$	\$	\$

3. Additional Information. Exhibit \_\_\_\_\_.

Identified herein are additional documents or information which the Appraiser is forwarding in support of this valuation report.

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**CERTIFICATION**

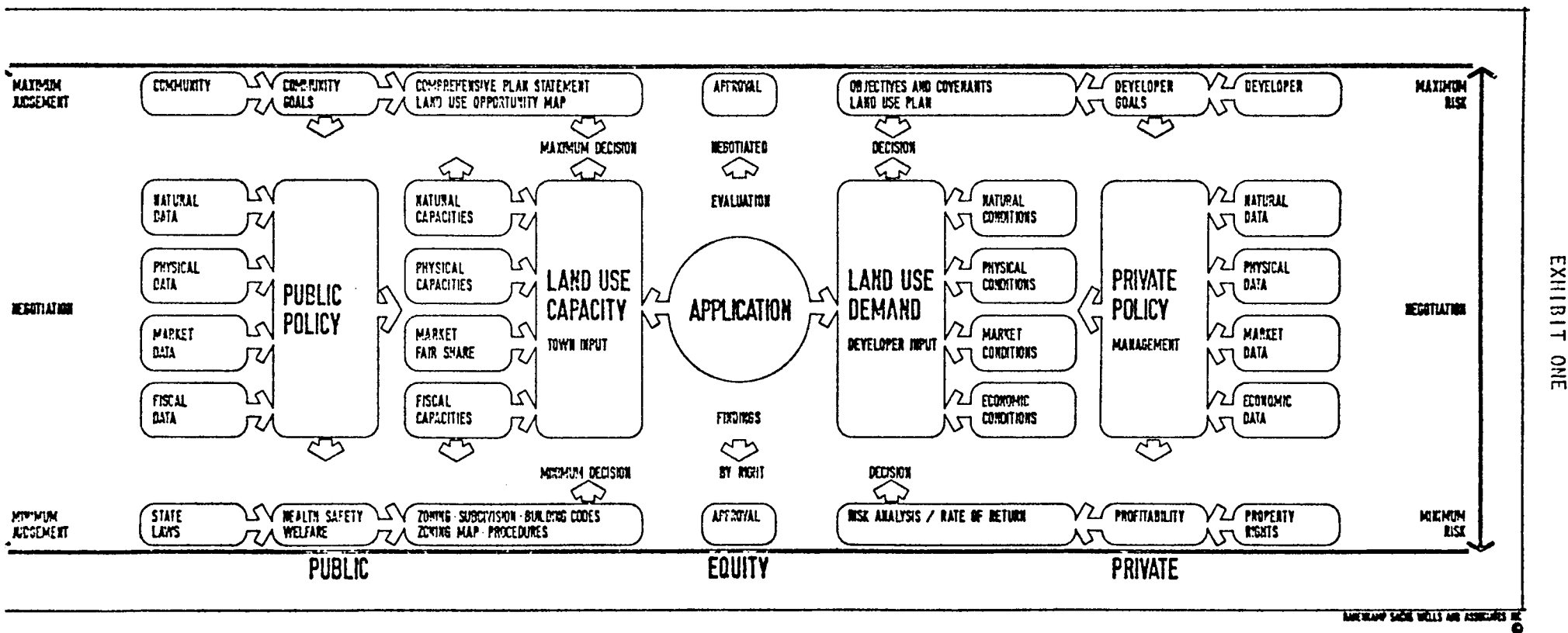
*The contingent and limiting conditions and requirements that are stated on Page 4 of FNMA Form 1004, Appraisal Report, apply to the foregoing Parts II and III.*

Appraiser Name	Signature	Date
Appraiser Name	Signature	Date
Review Appraiser Name (Optional)	Signature	Date

REAL ESTATE FEASIBILITY WORKSHOP  
Sponsored by Society of Real Estate Appraisers  
Chapters of Puerto Rico, Palm Beach County,  
Greater Miami & Broward County  
Hilton Hotel, San Juan, Puerto Rico  
April 1-2, 1975

SECOND AFTERNOON

- I. To this point the feasibility analysis will have assembled all the critical data for the design process as flow charted in Exhibit One.
  - A. The pre-architectural program will be initially specified by the various analyses which have been discussed in our previous session. These constraints and objectives will lead to fairly detailed statement about the space-time product to be built. The next problem is to convert these physical limitations to their corresponding financial implications. The design team should be given:
    1. A definition of rental units in terms of size, features (ranked by customer appeal and indicated as required or desired), mix and rental level or price.
    2. Price should be allocated between direct construction budget, site improvement, land, and indirect cost including profit per unit.
    3. Site analysis should establish essential linkage points, negative elements to be neutralized, environmental factors to be considered or avoided, and special legal or political constraints.
    4. Designers should be given a statement on investment strategy and financial criteria with which alternative design concepts will be evaluated.
  - B. Converting design elements to the cash cycle of the real estate enterprise requires basic assumptions about:
    1. The time-line of financial events for an enterprise
    2. Schedules of outlays
    3. Schedules of receipts
    4. Measures of yield
    5. Measures of risk
  - C. In appraisal and feasibility the nature of these assumptions has been changed as the industry has become more sophisticated in financial management. It is useful to see how feasibility differs from appraisal by the comparison summarized on Exhibit One.
  - D. When the view point changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.



1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.
  2. Exhibit Two, Col. C summarizes the assumptions of modern capital budget decision models.
  3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.
  4. Financing Real Estate Development, Harry A. Golemon, AIA editor Atoray Publisher Englewood, N.J. 07631.
- E. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.
1. The time line for significant financial events
  2. A schedule and amount of outlays for each period
    - a. Capital outlays
    - b. Expense outlays
    - c. Debt service outlays
    - d. Tax outlays
  3. A schedule and amounts of receipts for each period
    - a. Operating revenues
    - b. Sales proceeds
    - c. Borrowed funds
    - d. Derivative receipts or savings
  4. Measures of yield
    - a. Periodic dollars of profit
    - b. Periodic return in dollars invested
    - c. Average periodic return on total resources
    - d. Total cumulative dollar increase in net worth
  5. Measures of risk
    - a. Capacity for absorbing surprise
    - b. Range of variation in alternative outcomes
    - c. Definition of maximum loss
- II. Before one can provide much financial analysis of the elements above, it is necessary to structure the forecast to permit rapid testing of alternatives.

## EXHIBIT TWO

### COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar

<u>Traditional Income Appraisal</u>	<u>Ellwood Valuation</u>	<u>Modern Capital Theory</u>
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern



3. A system firm which provided mail-back service as well as Tymshare network programs is: OMNIMETRICS, 3325 Wilshire Boulevard, Suite 1215, Los Angeles, California, 90005, 386-1360.

- III. Measuring rate of return is really an elaboration on buy-low-sell-high when looking at streams of outlays and receipts over time. Some basic questions which should be asked before using one measure or another in a feasibility report are:
  - A. Who is reading the report and what method does he use? Some may be interested in total dollars as real estate is their business while others may be interested in rate of return since money management is their business.
  - B. What is the definition of the equity investment? Cash equity up front, net cash after tax shelter, or liquidating cash equity?
  - C. What is the precise definition of items to be included as a return on investment as opposed to a return on service and how are shares in these items distributed? Floors? Ceiling? Priorities?
  - D. What reinvestment assumption does the client wish to make in evaluating the project?
    1. Prospective rate which disregards reinvestment
    2. Reinvestment at the safe rate ala Moskold
    3. Reinvestment at the discounting rate ala Inwood or IRR
    4. The modified internal rate of return for money managers
  - E. Method for determining the resale or liquidating price assumption
- IV. The feasibility study is asking the client to purchase a set of assumptions about the future and the analyst should identify the consequences of the most critical but variable assumptions and the protection which the investor may or may not have available to "lay-off" the risk.
  - A. Required market segment for planned absorption as a percent of total market opportunity and protection provided by monopoly characteristics of project.
  - B. Direct cost overruns and the possibilities of shifting the risk by contract.
  - C. Significant timing upsets as a result of political regulation or seasonal markets and possible risk control for carrying charges.
  - D. The use of the equity pay back ratio - the ratio of total cash received cumulatively to original cash investment plus exposure if any on notes and mortgages.
  - E. Designing the project for a conservative default ratio or cash break even point both in structuring the financing and phasing the project.
  - F. Funded holding power should be at least three times cash equity required plus exposure on notes.

- A. Exhibit Three provides a systematic organization of receipts and outlays for a rental property.
  - 1. These items must be forecast for quarterly and annual periods.
  - 2. Careful definition is the first step in structuring the financial term with both lenders and partners.
- B. Mini-mod demonstrates a simple model for a typical rental project but this model has several flaws: (see Exhibit Four)
  - 1. Nothing is done about cash flows during the construction period.
  - 2. Projections are made on a simple straight line basis.
  - 3. It is not a valuation model; it is an investment analysis.
- C. TAP is an after-tax Ellwood model which does permit erratic and alternative methods of predicting resale value. However it does not handle the construction phase very well because it does not permit refinancing. (see Exhibit Five)
- D. A more useful model for feasibility analysis has been developed by John Nabors of Dallas, Texas. He is both a real estate analyst and a computer systems man. One of his techniques is shown in Exhibit Six.
  - 1. This model handles direct and indirect cost of construction phase.
  - 2. It is one of the few computer models which provide sensitivity analysis in a form appropriate to the prearchitectural program and in a form which permits the analyst to make exquisite recommendations to the client as to financial and design flaws or objectives.
- E. A number of computer modeling services are being marketed to architects, which are not only useful to appraisers but demonstrate how rapidly appraisers are becoming obsolete if they continue to use the basic income approach for feasibility analysis.
  - 1. A system which implements the process of classification and scheduling fundamentals extremely is called REAP which is available on Tymshare from the vendor CLM/Systems, Inc., 292 Main Street, Cambridge, Massachusetts 02142, (617) 492-6210. (For a partial example see Exhibit Seven).
  - 2. A timesharing computer service also on the Tymshare network is Comarc Design Systems, The agriculture Building Embarcadero at Mission, San Francisco, California 94105 (415) 392-5268 P.O. Box 3919 San Francisco, California 94119. (They have programs which will compute LUI, test MPS standards, provide pre-tax analysis of land and condominium sales projects, and after-tax analysis of office, industrial, and apartment structures.)

**SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-  
PRODUCING PROPERTY**

**PART I. ANNUAL RETURNS TO INVESTOR**

BASIC APPRAISAL A LA SRA 201	A.	ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES
	B.	DEDUCTIONS FROM POTENTIAL GROSS
	1.	NORMAL VACANCY
	2.	SEASONAL INCOME LOSS
	3.	COLLECTION LOSSES
	4.	FRANCHISE FEES, DEPOSITS RETURNED, ETC.
	C.	ADD "OTHER" INCOME FROM SERVICE SALES
	D.	DERIVE EFFECTIVE GROSS INCOME.
	E.	DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
	1.	FIXED EXPENSES
	2.	VARIABLE EXPENSES
	3.	REPAIRS AND MAINTENANCE
	4.	REPLACEMENTS
	F.	DERIVE NET OPERATING INCOME
MORTGAGE EQUITY APPROACH	G.	DEDUCT ANNUAL DEBT SERVICE
	1.	CONTRACT INTEREST
	2.	SUPPLEMENTARY VARIABLE INTEREST
	3.	PRINCIPAL AMORTIZATION
	H.	DERIVE CASH THROW--OFF
PART I OF IMV INVESTMENT VALUE APPROACH	I.	ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS
	J.	DEDUCT TAX DEPRECIATION ALLOWANCE
	K.	DERIVE TAXABLE INCOME
	L.	DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME
	M.	DEDUCT INCOME TAX FROM CASH-THROW OFF (H)
	N.	DERIVE AFTER-TAX CASH FLOW
	O.	ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)
	P.	ADD SURPLUS FROM REFINANCING
	Q.	DERIVE SPENDABLE AFTER-TAX CASH

**PART II. RESALE RETURNS TO INVESTOR (OVER)**

**PART 11.    RESALE RETURNS TO INVESTOR**

- A.   ESTIMATED RESALE PRICE (EOY)**
- B.   DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS**
- C.   DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE**
- D.   DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING**
  - 1.   SHORT AND LONG TERM NOTE BALANCES DUE**
  - 2.   PREPAYMENT PENALTIES**
  - 3.   DEDUCT EQUITY SHARES TO NON-OWNER INTEREST**
- E.   DERIVE PRE-TAX REVERSION TO EQUITY**
- F.   DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST**
  - 1.   DEDUCT CAPITAL GAINS TAX**
  - 2.   DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION**
  - 3.   DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME**
- G.   DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR**

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	GRASS RENT	\$	RATE OF GROWTH OF GROSS RENT	
LAND	.00	1	.	0	\$ 40000.	EXPENSES	\$ 8400.	RATE OF GROWTH OF EXPENSES	.0200
BUILDING	1.00	1	35.	3	\$ 165300.	R E TAXES	\$ 9000.	RATE OF GROWTH OF R E TAXES	.0500
PARKING	.50	1	10.	3	\$ 7200.	INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100
FURNISHINGS	1.00	1	7.	1	\$ 13200.	VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900
ELEVATOR	.80	1	12.	3	\$ 12500.	EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	\$ 7625
TRANSACTION COST	1.00	1	35.	3	\$ 1800.	STAGING YR( 0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200
7TH YR REFURBISH	1.00	8	7.	1	\$ 10000.				
TOTAL INITIAL INVESTMENT					\$ 240000.				

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

## FINANCING PLAN

## FIRST ASSUMED MORTG. \$ 180000.

	MONTHLY PAYMENT \$	1477.	INTEREST RATE .0775	STARTS	1	ENDS	5	BONUS	INTEREST .0000	OF GROSS RENT
	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

## SELLERS 2ND MORTG \$ 15000.

	MONTHLY PAYMENT \$	185.	INTEREST RATE .0850	STARTS	1	ENDS	5	BONUS	INTEREST .0000	OF GROSS RENT
	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

## REFINANCED FIRST \$ 190000.

	MONTHLY PAYMENT \$	1589.	INTEREST RATE .0800	STARTS	6	ENDS	10	BONUS	INTEREST .0400	OF GROSS RENT
	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

## REFURBISH CHATTEL \$ 10000.

	MONTHLY PAYMENT \$	150.	INTEREST RATE .0900	STARTS	8	ENDS	10	BONUS	INTEREST .0000	OF GROSS RENT
	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	3818.	5192.	3125.	4410.	5723.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	434.	911.	1390.	1870.	1145.	1557.	937.	1323.	1716.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	29365.	5227.	14268.	4104.	3930.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	29365.	5227.	4268.	4104.	3930.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
MARKET VALUE	242400.	244800.	247200.	249600.	252000.	254400.	256800.	269200.	271600.	274000.
BALANCE OF LOANS	191298.	184767.	179014.	172789.	166054.	185983.	181634.	185985.	179858.	173211.
NET WORTH OF PROPERTY	51101.	60032.	68185.	76810.	85945.	68416.	75165.	83214.	91741.	100788.
CAPITAL GAIN	10253.	20506.	30759.	41013.	51266.	61519.	71773.	83455.	95329.	106757.
CAPITAL GAINS TAX	1537.	3075.	4613.	6151.	7689.	9227.	10765.	12518.	14299.	16013.
INCOME TAX ON EXCESS DEPRECIATION	1084.	1890.	2426.	2702.	2729.	2401.	1828.	1362.	663.	.
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
PERCENT INITIAL EQUITY PAYBACK AFTER TAX	.0517	.1609	.2946	.4233	.5471	1.0797	1.1843	1.2696	1.3517	1.4303
NET INCOME-MARKET VALUE RATIO	.0773	.1087	.1087	.1087	.1087	.1087	.1087	.1046	.1046	.1047
RETURN ON NET WORTH BEFORE TAXES	.1086	.3052	.2511	.2318	.2158	.1510	.1978	.3093	.1676	.1601
RETURN ON NET WORTH AFTER TAXES	.1290	.2372	.2196	.2061	.1933	.1406	.1939	.1762	.1665	.1553
CASH RETURN ON ORIG CASH EQUITY BEF TAX	-.0269	.1482	.1539	.1596	.1653	.6102	.1357	.3041	.1085	.1129
CASH RETURN ON ORIG CASH EQUITY AFT TAX	.0517	.1091	.1336	.1287	.1237	.5873	.1045	.0853	.0820	.0786
DEFAULT RATIO	.9763	.8339	.8054	.8029	.8004	.8204	.8185	.8508	.8484	.8461
LENDER BONUS INTEREST RATE	.0000	.0000	.0000	.0000	.0000	.0122	.0110	.0115	.0114	.0120
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
PRESENT VALUE OF PROJECT BEFORE TAXES	238306.	242903.	245505.	247329.	248531.	247609.	247992.	255579.	255349.	255001.
PRESENT VALUE OF PROJECT AFTER TAXES	238058.	240050.	241378.	242202.	242600.	241500.	241748.	246686.	246477.	246115.
EQUITY RATE W/ COST OF CAPITAL AT .120	.1290	.1793	.1837	.1889	.1862	.1775	.1742	.1706	.1677	.1639

## EXHIBIT FIVE

# INVESTMENT MARKET VALUE ANALYSIS

## DATA INPUT FORM

PROJECT ID: EDUCARE SEMINAR PROBLEM FIVE  
UNIVERSITY OF WISCONSIN  
Date: 2 DECEMBER 1970

ANALYSIS OF AN ACTUAL SALE: In June 1970 a New York manufacturing corporation, with much taxable income, purchased a 306-unit, poorly located and unattractively planned garden apartment complex in Virginia, paying cash above existing 6% mortgages. The land is zoned commercial, but if it were vacant it would probably not sell at much more than if zoned for row houses. If the purchaser obtains a shift in the tax assessment, from land to buildings, reducing the land value to \$268,000, what would be the IMV for an equity yield of .0875? The actual purchase price was \$2,640,000.

Next, prepare a price-yield curve surrounding the actual purchase price, and while doing so, determine the yield at such purchase price. Do this under the assumption that the land assessment will be reduced.

Finally, what would a REIT have paid for this property, to have obtained the same equity yield (.0875), but failing to get the land valuation, as assessed, below its present \$450,000? Note that in order for the REIT to achieve a suitable cash-flow-to-equity ratio, it would have had to refinance the property at the best available terms as of the purchase date.

PREPARED BY:  
MBA

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 EDUCARE SEMINAR PROBLEM FIVE  
101 UNIVERSITY OF WISCONSIN

USED FOR ELLWOOD'S VALUATION

AVG. ANNUAL NET INCOME

BEFORE TAX YIELD

AFTER TAX YIELD

102 217000 , .15 , .0875

OPERATION CODE:

- 1-Produces IMV for a given after tax equity yield rate
- 2-Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:

- 1-Constant net income value for each year
- 2-Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

OPERATION CODE

PROJECTION TERM (yrs)

NET INCOME CODE

103 1 , 10 , 2

NET INCOME [If net income is constant enter the value in position (1) only]

(1) (2) (3) (4) (5)

104 220000 , 220000 , 218000 , 218000 , 216000

(6) (7) (8) (9) (10)

105 216000 , 214000 , 214000 , 210000 , 210000

(11) (12) (13) (14) (15)

106 \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

(16) (17) (18) (19) (20)

107 \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

OWNERSHIP FORM CODE:

- 1-Corporation (Operating losses applied to other investments)
- 2-Corporation (Operating losses carried back/carried over)
- 3-Corporation (Taxable income offset by losses from other investments)
- 4-Corporation (Set-up solely for this investment)
- 5-Non-corporation (Operating losses applied to other investments)
- 6-Non-corporation (Operating losses carried back/carried over)
- 7-Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:

- 1-No recapture
- 2-FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)
- 3-All other residential rentals (After 100 months-declines 1% per month)
- 4-All non-residential-100% recapture

OWNERSHIP  
FORM CODE

FEDERAL  
TAX RATE

STATE TAX  
RATE

STATE CAPITAL  
GAINS RATE

EXCESS DEPRECIATION  
RECAPTURE CODE

108 1 , .48 , .10 , .10 , 3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:

- 1-% of IMV (Enter the % in the APP/DEP AT RESALE column)
- 2-\$ amount (Enter the \$ amount in the APP/DEP AT RESALE column)
- 3-Reversionary \$ amount (Enter the \$ amount in the APP/DEP AT RESALE column)

APP/DEP CODE

APP/DEP AT RESALE (\$ OR %)

SALES COMMISSION RATE (0 if none)

109 3 , 1860000 , .0175

5-2



**DEPRECIABLE CAPITAL ASSETS:****METHOD CODE:****ASSET CODE: Asset value as a:**

- 1—\$ amount (Enter the \$ amount in the ASSET VALUE column)  
 2—% of IMV (Enter the % in the ASSET VALUE column)  
 3—% of the difference between IMV and land value (Enter \$ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

- 1—Straight line  
 2—125%  
 3—150%  
 4—200%  
 5—Sum-of-years-digits

NUMBER OF ASSETS (0 to 6)

LAND VALUE (0 if ASSET CODE 3 is not used)

110 3 , 268000

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE (\$ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	<u>3</u>	<u>.64</u>	<u>2</u>	<u>26</u>	<u>0</u>
112	<u>3</u>	<u>.19</u>	<u>2</u>	<u>13</u>	<u>0</u>
113	<u>3</u>	<u>.17</u>	<u>1</u>	<u>5</u>	<u>0</u>
114					
115					
116					

**MORTGAGES:****MORTGAGE CODE:**

- 1—Existing mortgage or mortgage of known \$ amount (Enter the \$ amount in the KEY FIGURE column)  
 2—New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

- 3—Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the \$ amount for cash equity in the KEY FIGURE column)  
 4—Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

**TERM AND ANNUAL CONSTANT:**

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

NUMBER OF MORTGAGES (0 to 6)

117 2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES (\$ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	<u>1</u>	<u>1186414</u>	<u>.06</u>	<u>0</u>	<u>.09170491</u>
119	<u>1</u>	<u>855518</u>	<u>.06</u>	<u>0</u>	<u>.09713413</u>
120					
121					
122					
123					

5-3

1st RUN

100 EDUCARE SEMINAR PROBLEM FIVE  
101 UNIVERSITY OF WISCONSIN  
102 817000,.15,.0875  
103 1,10,2  
104 220000,220000,218000,218000,216000  
105 216000,214000,214000,210000,210000  
108 1,.48,.10,.10,3  
109 3,1860000,.0175  
110 3,268000  
111 3,.64,2,26,0  
112 3,.19,2,13,0  
113 3,.17,1,5,0  
117 2  
118 1,1186414,.06,0,.09171491  
119 1,855518,.06,0,.09713413

2 Dec 72

5-4

2ND RUN

OLD INPUT  
READY  
103 2,10,2  
REPLACE INPUT

(COMPUTER IS NOW IN OPERATION CODE 2, PREPARED  
TO ASK USER FOR A NUMBER OF TRIAL IMV AMOUNTS,  
TO GIVE USER THE AFTER TAX YIELD FOR EACH)

2 DEC 70-2

(5-6

INVESTMENT MARKET VALUE ANALYSIS  
EDUCARE SEMINAR PROBLEM FIVE  
UNIVERSITY OF WISCONSIN

1ST RUN

PREPARED BY A COMPUTER IN CONSULTATION WITH  
M. B. HODGES, JR MCLEAN, VIRGINIA

\*\*\*\*\*  
INVESTMENT MARKET VALUE:

BEFORE TAX YIELD OF 15.00%: \$ 2357132

AFTER TAX YIELD OF 8.75%: \$ 2492436

\*\*\*\*\*  
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

EXISTING 6.00% 17 YRS 9 MONS \$ 1186414

EXISTING 6.00% 16 YRS 1 MONS \$ 855518

EQUITY CASH: \$ 450504

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE \$ 1860000

LESS: MORTGAGE BAL. 1094217  
SALES COMMISSION 32550

CASH REVERSION BEFORE TAXES \$ 733233

LESS: CAPITAL GAINS TAX(ALT.) 231206  
TAX ON RECAPTURED DEPR. 13867  
TAX PREFERENCE TAX 0

CASH REVERSION AFTER TAXES \$ 488160

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	MORTGAGE AMORTIZE	CASH FLOW AFTER TAX
1	220000	120576	184713	-85289	-45373	71336	73461
2	220000	116176	177515	-73691	-39203	75736	67291
3	218000	111504	170851	-64355	-34236	80408	60324
4	218000	106545	165877	-54422	-28952	85367	55040
5	216000	101279	163039	-48318	-25705	90633	49793
6	216000	95689	84706	35605	18941	96223	5147
7	214000	89755	84171	40074	21319	102157	769
8	214000	83454	84171	46375	24671	108458	-2583
9	210000	76765	84171	49064	26102	115147	-8014
10	210000	69662	84171	56167	29880	122250	-11792

2 DEC 70 -2

5-5

2ND RUN

WHAT IS TRIAL IMV AMOUNT NO 1 (0=STOP)?2564000

AFTER TAX YIELD 6.92%

DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 2 (0=STOP)?2650000

AFTER TAX YIELD 5.19%

DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 3 (0=STOP)?2475000

AFTER TAX YIELD 9.27%

DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 4 (0=STOP)?2750000

AFTER TAX YIELD 3.60%

DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 5 (0=STOP)?2350000

AFTER TAX YIELD 13.07%

DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 6 (0=STOP)?2850000

AFTER TAX YIELD 2.33%

DO YOU WANT DETAIL(0=NO,1=YES)?0

2 DEC 70-2

5-7

GRAPHIC ANALYSIS FOR INVESTMENT MARKET VALUE

**(EDUCARE FIVE)**

Investment Criteria

10 Year Ownership Projection Term.

\$ 217000 Average Annual Net Income  
or as shown annually on FORM E.

\_\_\_\_ % Loan-to-Value Ratio; or assumption of  
mortgage balance(s) shown on FORMS C & D

Terms of mortgage(s) shown on FORM C.

Land Value = \$ 268000; or \_\_\_\_ % of IMV.

Capital Imps. at Cost of \$ \_\_\_\_.

Ordinary State Income Tax Rate = .10 %

Ordinary Federal Income Tax Rate = .48 %

No Monetary Inflation or Deflation Assumed  
During Ownership Projection Term.

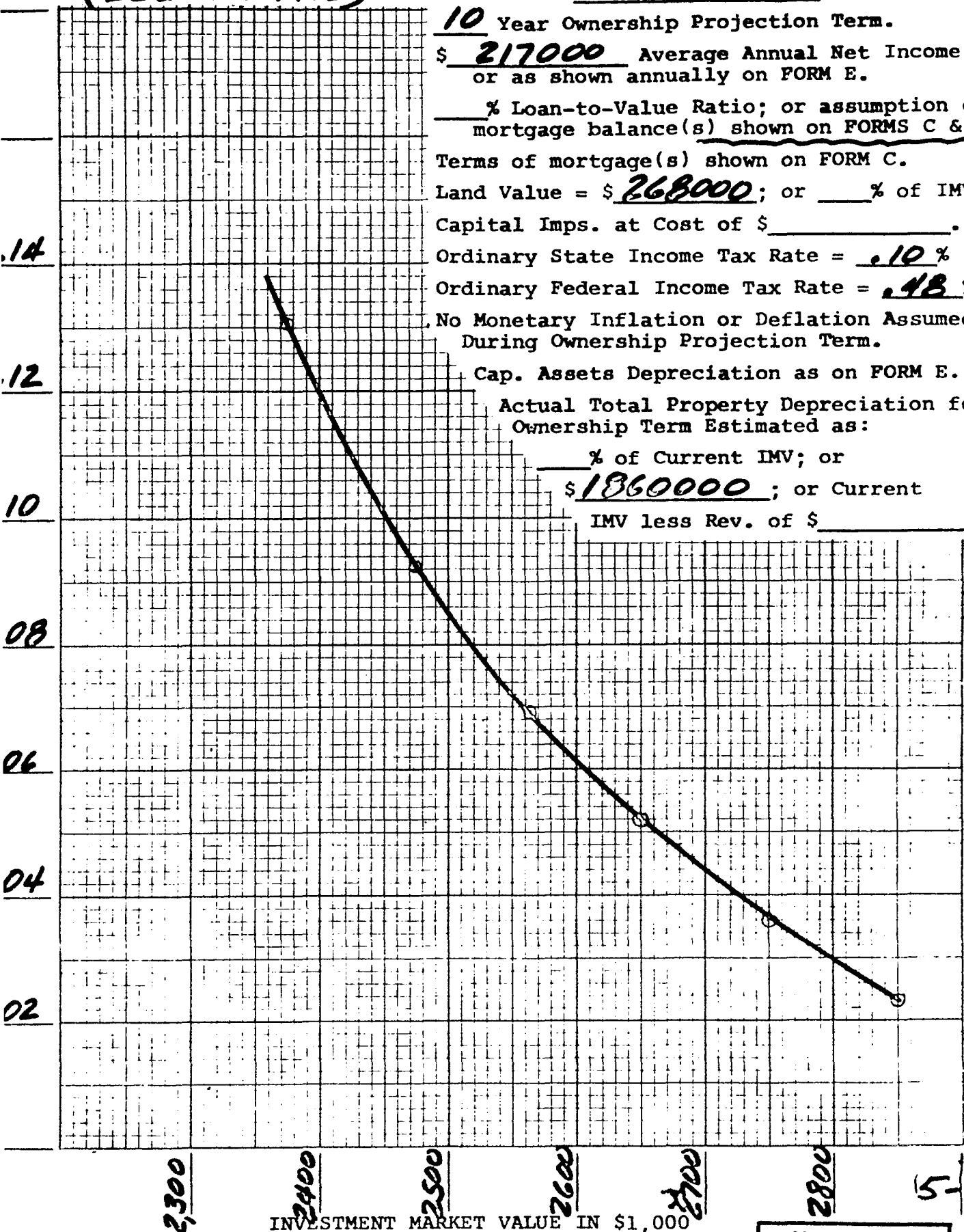
Cap. Assets Depreciation as on FORM E.

Actual Total Property Depreciation for  
Ownership Term Estimated as:

\_\_\_\_ % of Current IMV; or

\$ 1860000; or Current

IMV less Rev. of \$ \_\_\_\_.



3RD RUN

INVESTMENT MARKET VALUE ANALYSIS  
 EDUCARE SEMINAR PROBLEM FIVE  
 UNIVERSITY OF WISCONSIN

PREPARED BY A COMPUTER IN CONSULTATION WITH  
 M. B. HODGES, JR      MCLEAN, VIRGINIA

\*\*\*\*\*  
 INVESTMENT MARKET VALUE:

BEFORE TAX YIELD OF 15.00%:      \$ 1875093

AFTER TAX YIELD OF 8.75%:      \$ 2095923  
 \*\*\*\*\*

DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

NEW 1ST 10.25% 25 YRS 0 MONS \$ 1571942

EQUITY CASH:      \$ 523981

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE      \$ 1860000

LESS: MORTGAGE BAL.      1336034  
       SALES COMMISSION      32550

CASH REVERSION BEFORE TAXES      \$ 491416

LESS: CAPITAL GAINS TAX(STD.)      149296  
       TAX ON RECAPTURED DEPR.      8291  
       TAX PREFERENCE TAX      15355

CASH REVERSION AFTER TAXES      \$ 318474

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	MORTGAGE AMORTIZE	CASH FLOW AFTER TAX
1	220000	160466	136674	-77140	-33170	14281	78423
2	220000	158931	131348	-70279	-30219	15816	75472
3	218000	157231	126417	-65648	-28228	17516	71481
4	218000	155349	122737	-60086	-25836	19398	69089
5	216000	153265	120637	-57902	-24897	21482	66150
6	216000	150956	62676	2368	1018	23791	40235
7	214000	148400	62280	3320	1427	26347	37826
8	214000	145569	62280	6151	2644	29178	36609
9	210000	142434	62280	5286	2272	32313	32981
10	210000	138961	62280	8759	3766	35786	31487

2 DEC 72

59

3rd RUN

OLD INPUT  
READY

103 1,10,2  
108 5,.40,.04,.05,3  
110 3,450000  
117 1  
118 2,.75,.1025,300,0  
REPLACE INPUT

(PLACES COMPUTER BACK INTO CODE 1 OPERATION  
WITH NEW DATA FOR A REAL ESTATE INVESTMENT  
TRUST AS THE PROSPECTIVE PURCHASER.  
NEW FINANCING REQUIRED TO GET THE REIT  
A CASH FLOW RETURN SATISFACTORY TO ITS  
STOCKHOLDERS)

2 Dec 70-2

5-10



JOHN H. NABORS, JR.

EXHIBIT SIX  
PROGRAM SUMMARY  
DESIGN ANALYSIS PROGRAM

The Design Analysis Program is basically a method of determining a number of possible annual cash flows from a proposed income property based upon up to five different values of six different cash flow parameters:

- 1 = Rental Rates e.g. \$6.50/sq ft/yr
- 2 = Vacancy Rates e.g. 10% of potential rental revenue
- 3 = Expense Rates e.g. \$2.50/sq ft/yr
- 4 = Financing Conditions e.g. 9½% 30 yrs paid monthly
- 5 = Building Efficiency e.g. 85% of gross space
- 6 = Loan Ratios e.g. 90% of construction and land costs.

The basic format used is that of a planning format of an annual cash flow proforma: Rental Revenue adjusted for a Vacancy Allowance less Operating Expenses and Debt Service, yielding Annual Cash Flow.

This basic format reflects a single set of conditions that result in a single cash flow quantity. Actual practice reveals that parameter 1, 2, and 3 will constantly vary between years and within the year. Parameters 4 and 6 will be negotiated prior to construction by the developer, while parameter 5 will be established in the design phase and adjusted somewhat with the initial leasing strategy.

During the planning phase of an income property, best estimates of the values of these six parameters are utilized to prepare a cash flow pro forma. The DESIGN ANALYSIS PROGRAM allows the financial analyst to vary each parameter throughout a range of values to study the effect upon the pro forma annual cash flow. With five different values for six parameters, there are exactly 361 different annual cash flows.

The program allows the analyst to produce a 5 by 5 table of annual cash flows by varying one or two of the parameters over a range of values while using a primary or basic value for each of the other parameters. In addition, the breakeven rental rates or the rates of return on initial equity are given for the corresponding cash flows.

The total cost of construction and land can be input to the program or can be calculated through the use of the Construction Cost Estimate subprogram. The total cost of the structure can be computed from per square foot costs, component structure costs, professional fees, and land costs. Interim interest costs for land and construction are both computed.

Date \_\_\_\_\_  
Run # \_\_\_\_\_

## RJE DATA FORM

<u>Line # in</u> <u>DESRJE</u>	<u>Answer</u>	<u>Question by the Program</u>
350	\$ _____	IS THERE A CONSTRUCTION DATA FILE? (If Answer is NO, delete lines 360,370,380)
360	\$ _____	CONSTRUCTION DATA FILE NAME?
370	\$ _____	LIST THE CONSTRUCTION DATA?
380	\$ _____	OUTPUT THE CONSTRUCTION COST SCHEDULE?
390	\$ _____	IS THERE A CASH FLOW DATA FILE? (If answer is NO, no more data is needed.)
400	\$ _____	NAME OF CASH FLOW DATA FILE?
410	\$ _____	LIST CASH FLOW DATA?
420	\$ _____	OUTPUT LOAN AND DEBT SERVICE CALCULATIONS?
430	\$ _____	OUTPUT ALL CASH FLOW TABLES?
440	\$ _____	OUTPUT SENSITIVITY TABLE?

EXAMPLES

Example 1: No construction file, do not list data file or debt service data; output all tables.

350	\$NO
390	\$YES
400	\$ (file name)
410	\$NO
420	\$NO
430	\$YES
440	\$YES

Example 2: Construction and cash flow data files exist, output all data lists and tables.

350	\$YES
360	\$(file name)
370	\$YES
380	\$YES
390	\$YES
400	\$(file name)
410	\$YES
420	\$YES
430	\$YES
440	\$YES

CONSTRUCTION COST SCHEDULE  
DATA INPUT - SHORT FORM

100	_____	_____	_____	_____	Bldg ID#, Mo, Day, Yr
101	_____	_____	_____	_____	60 character title(ctrd)
102	_____	_____	_____	_____	60 character title(ctrd)
103	_____	_____	_____	_____	Gross sq ft or Acreage in Tract
104	_____	_____	_____	_____	Run Number
CONSTRUCTION COSTS: (use 201 and 202 or 203)					
201	_____	_____	_____	_____	Shell - sq ft, \$/sq ft.
202	_____	_____	_____	_____	Interior - sq ft, \$/sq ft.
203	_____	_____	_____	_____	Building - sq ft, \$/sq ft
204	_____	_____	_____	_____	Grade Parking-sq ft/space, spaces, \$/sq ft.
205	_____	_____	_____	_____	Structured Parking " " " "
206	_____	_____	_____	_____	Landscaping/Lighting Costs -\$ or \$/sq ft.
207	_____	_____	_____	_____	Furniture, Fixture & Equipment " " "
208	_____	_____	_____	_____	Sq ft, \$/sq ft or 0,0
(209)	_____	_____	_____	_____	Title
210	_____	_____	_____	_____	Sq ft, \$/sq ft or 0,0
(211)	_____	_____	_____	_____	Title
212	_____	_____	_____	_____	Sq ft, \$/sq ft or 0,0
(213)	_____	_____	_____	_____	Title
214	_____	_____	_____	_____	0, \$, or % of Shell & Interiors
(215)	_____	_____	_____	_____	Title
(216)	_____	_____	_____	_____	Title
(217)	_____	_____	_____	_____	Title
218	_____	_____	_____	_____	Constr.Contingency-0, \$, or % of Shell & Interior
301	_____	_____	_____	_____	Architecture Fees Enter 0, \$
302	_____	_____	_____	_____	Engineering Fees or % of Subtotal
303	_____	_____	_____	_____	Loan Origination Fees of lines
304	_____	_____	_____	_____	Legal & Closing Fees 201 - 218
305	_____	_____	_____	_____	Taxes & Insurance
309	_____	_____	_____	_____	Optionally titled fees and
310	_____	_____	_____	_____	costs: 0, \$ or % of Subtotal
311	_____	_____	_____	_____	Title of line 201-218
312	_____	_____	_____	_____	Title
401	_____	_____	_____	_____	Constr Interim Int Rt, Constr.Period-Months
402	_____	_____	_____	_____	Other expenses 0, \$ or % of Subtotal
(403)	_____	_____	_____	_____	Title
(404)	_____	_____	_____	_____	Title
500	_____	_____	_____	_____	Zero or \$ Cost of Land (or use line 501)
501	_____	_____	_____	_____	Cost of Land -sq ft or Acres, cost/unit
502	_____	_____	_____	_____	Interim Land Cost-% of Land cost
					Interest rt, months.
503	_____	_____	_____	_____	Interim Land Cost " " " " " "
504	_____	_____	_____	_____	Interim Land Cost - \$/month, months
505	_____	_____	_____	_____	Other land costs-\$ or % of Land Cost

Complete lines with ( ) only if corresponding data is non-zero.

File Name \_\_\_\_\_

INPUT FORM  
CASH FLOW ANALYSIS

100 \_\_\_\_\_ 0 or 1 0= lines 101-107 required 1= use constr. data  
 101 \* \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Building ID#, Mo., Day, Year  
 102 \* \_\_\_\_\_ Title Line 1  
       Description Line 1 up to 60 characteristics  
 103 \* \_\_\_\_\_ Title Line 2  
 104 \* \_\_\_\_\_ Gross Square Footage in Tract  
 105 \* \_\_\_\_\_ Gross Square Footage in Building  
 106 \* \_\_\_\_\_ Total Construction Cost  
 107 \* \_\_\_\_\_ Run Number

\*Items are entered only if value is 0 on Line 100

200 \_\_\_\_\_ Number of Rental Rates (1 to 5)  
 201 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Rental Rates in\$/sq ft  
 202 \_\_\_\_\_ Number of Vacancy Rates (1 to 5)  
 203 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Vacancy Rates in %  
 204 \_\_\_\_\_ Annual Parking Income \$ or 0  
 205 \_\_\_\_\_ Other Income \$ or 0  
 206 \_\_\_\_\_ Number of Operating Expenses (1 to 5)  
 207 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Operating Expenses in\$/sq ft  
 208 \_\_\_\_\_ Number of Financing Conditions (1 to 5)  
 209 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Interest Rates (Annual %)  
 210 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Term in Years  
 212 \_\_\_\_\_ Number of Building Efficiency Rates (1 to 5)  
 213 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Efficiency Rates (% of Gross)  
 214 \_\_\_\_\_ Number of Cash Flow Tables (0 to 10)

215 \_\_\_\_\_, \_\_\_\_\_ Enter Parameters to be output  
 216 \_\_\_\_\_, \_\_\_\_\_ 1 Rental Rate  
 217 \_\_\_\_\_, \_\_\_\_\_ 2 Vacancy Rate  
 218 \_\_\_\_\_, \_\_\_\_\_ 3 Operating Expense Rate  
 219 \_\_\_\_\_, \_\_\_\_\_ 4 Financing Conditions  
 220 \_\_\_\_\_, \_\_\_\_\_ 5 Building Efficiency  
 221 \_\_\_\_\_, \_\_\_\_\_ 6 Loan to Cost Ratios  
 222 \_\_\_\_\_, \_\_\_\_\_  
 223 \_\_\_\_\_, \_\_\_\_\_ 2XX \_\_\_\_\_ ROW \_\_\_\_\_ COLUMN  
 224 \_\_\_\_\_, \_\_\_\_\_

230 \_\_\_\_\_ Number of Loan to Cost Ratios (1 to 5)  
 231 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ Loan Ratios in %

240 \_\_\_\_\_ 01 or 2 1 = Breakeven Rental Rates 2 = Rates of Return

250 \_\_\_\_\_ 10000

## CONSTRUCTION COST ESTIMATE

150,000 SQ FT BUILDING - 6.333 AC SITE

CONSTRUCTION COST OF \$ 30 PER SQ FT

DATE: 8/28/1974

BLDG: 6001

RUN : 1

## CONSTRUCTION COSTS

## DOLLARS

CONSTRUCTION-SHELL	150000 SQ FT AT \$ 26.00	\$ 3900000
CONSTRUCTION-INTERIOR	150000 SQ FT AT \$ 4.00	\$ 600000
GRADE PARKING	500 SPACES AT \$ 525	262500
LANDSCAPING/LIGHTING		100000

## SUBTOTAL CONSTRUCTION

4862500

ARCHITECTURE FEES	AT 4.0 PCT	194500
ENGINEERING FEES	AT 1.0 PCT	48625
LOAN ORIGATION FEES	AT 1.0 PCT	48625
TAXES AND INSURANCE	AT 1.0 PCT	48625

## CUMULATIVE SUBTOTAL

5202875

## INTERIM INTEREST-CONSTRUCTION

\$ 5202875 AT 12.0 PCT FOR 13 MO X .5	338187
DEVELOPER'S PROFIT AT 2.0 PCT OF \$ 5202875	104057
CONTINGENCY AT 2.0 PCT OF \$ 5202875	104057

## TOTAL CONSTRUCTION COSTS

5749177

## LAND COSTS

275865 SQ FT AT \$ 3.95	1089669
INTERIM INTEREST-LAND	
100.00 PCT OF \$ 1089669 AT 12.00 PCT FOR 13.00 MO	141657
5.00 MONTHS AT \$ 7132 PER MONTH	35660

## TOTAL LAND COST

1266986

## TOTAL LAND AND CONSTRUCTION COST

7016162

## LOAN DATA FOR EACH SET OF FINANCIAL CONDITIONS

AMOUNT FINANCED \$ 5612930 EQUITY \$ 1403232

LOAN RATIO 80.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	566359
8.50	30.0	9.2270	517903
9.00	30.0	9.6555	541955
9.75	30.0	10.3099	578685
10.00	30.0	10.5309	591090

AMOUNT FINANCED \$ 4911313 EQUITY \$ 2104849

LOAN RATIO 70.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	495564
8.50	30.0	9.2270	453165
9.00	30.0	9.6555	474210
9.75	30.0	10.3099	506349
10.00	30.0	10.5309	517203

AMOUNT FINANCED \$ 6314546 EQUITY \$ 701616

LOAN RATIO 90.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	637153
8.50	30.0	9.2270	582641
9.00	30.0	9.6555	609699
9.75	30.0	10.3099	651020
10.00	30.0	10.5309	664976

AMOUNT FINANCED \$ 7016162 EQUITY \$ 0

LOAN RATIO 100.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	707948
8.50	30.0	9.2270	647379
9.00	30.0	9.6555	677444
9.75	30.0	10.3099	723356
10.00	30.0	10.5309	738862

## CASH FLOW PRO FORMA USING PARAMETER NORMS

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

DATE: 9/ 5/1974  
BLDG: 4444  
RUN : 1

GROSS SQUARE FEET IN BUILDING: 150000  
BUILDING EFFICIENCY : 85 PCT  
NET LEASEABLE SQUARE FOOTAGE : 127500  
  
LAND AND CONSTRUCTION COST : \$ 7016162  
LOAN TO COST RATIO : 80.0 PCT  
ORIGINAL LOAN AMOUNT : \$ 5612930  
  
EQUITY REQUIREMENT : \$ 1403232  
  
PERMANENT INTEREST RATE : 9.50 PCT  
TERM OF LOAN 30 YEARS  
  
ANNUAL DEBT SERVICE : \$ 566359

## ANNUAL DOLLARS

GROSS INCOME : 127500 SQ FT AT \$ 8.50	1083750
LESS: VACANCY ALLOWANCE OF 10.00 PCT	108375
	-----
GROSS EFFECTIVE INCOME	975375
 OPERATING EXPENSES: 127500 SQ FT AT \$ 2.50	 318750
	-----
NET OPERATING INCOME	656625
 DEBT SERVICE (10.09 PCT CONSTANT)	 566359
	-----
PRO FORMA CASH FLOW	90266

RETURN ON EQUITY 6.43 PERCENT

JOHN H. NABORS, JR.

## SENSITIVITY TABLE

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

FIXED PARAMETERS		PAGE	3 OF 4
SITE :	275865 SQUARE FEET	DATE	9- 5-1974
BUILDING :	150000 SQUARE FEET	BLDG	4444
EFFICIENCY:	85.00 PCT OF GROSS		
LOAN RATIO:	80.00 PCT OF \$ 7016162		
EQUITY :	\$ 1403232		
FINANCING :	30 YEARS 9.50 PCT		
REVENUE :	\$ 8.50 PER SQ FT		
VACANCY :	10.00 PCT OF LEASEABLE		
QTR INCOME:	\$ 0 ANNUALLY	RUN	1
EXPENSES :	\$ 2.50 PER SQ FT		
CONSTRUCTION AND LAND COST	7016162		
CONSTRUCTION INTERIM RATE	12.000 PCT		
CONSTRUCTION PERIOD	13 MONTHS		
LAND INTERIM RATE IS	12.00 PCT		

## EFFECT OF UNIT CHANGES IN FIXED PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLOW	EFFECT ON CONSTRUCTION
DECREASE CONSTRUCTION COST \$ 100,000	11930	-118235
DECREASE CONSTRUCTION \$ 1.00 PER SQ FT	17895	-177352
DECREASE CONSTRUCTION PERIOD 1 MONTH	3724	-36911
DECREASE CONST AND LAND INTERIM 1 PCT	4035	-39987
INCREASE BUILDING EFFICIENCY 1 PCT	7725	
DECREASE RENTAL RATE \$ .10 PER SQ FT	11475	
DECREASE VACANCY RATE 1PCT	10838	
DECREASE OPERATING RATE \$ .10 PER SQ FT	12750	
DECREASE PERMANENT RATE .25PCT	12244	
DECREASE PERMANENT LOAN TERM BY 1 YEAR	-3514	
DECREASE PERMANENT LOAN TERM BY 5 YEARS	-22121	
DECREASE THE LOAN RATIO BY 5 PERCENT	35397	

EQUIVALENT EFFECTS TO YIELD  
A \$ 10000 INCREASE IN ANNUAL CASH FLOW

DECREASE CONSTRUCTION COST BY \$	.56 PER SQ FT
DECREASE CONSTRUCTION PERIOD BY	2.7 MONTHS
DECREASE INTERIM INTEREST BY	2.48 PCT
INCREASE BUILDING EFFICIENCY BY	1.29 PCT
INCREASE RENT RATE BY \$	.09 PER SQ FT
DECREASE VACANCY BY	.92 PCT
DECREASE EXPENSE RATE BY \$	.08 PER SQ FT
DECREASE PERMANENT RATE BY	.20 PCT
INCREASE PERMANENT LOAN TERM BY	2.3 YEARS
DECREASE LOAN RATIO BY	1.4 PERCENT



## Introduction

REAP provides developers, investors, and financiers an unusually powerful set of capabilities for proposing and analyzing real estate development and investment projects. Although it is impossible in a single example to illustrate all of the REAP features, the following typical investment situation serves as a vehicle to display some of the more important REAP capabilities. Throughout the example, the description of the situation is followed by the actual REAP English language commands used to describe the situation.

## The General Project Concept

The HSF Investment Trust is an investment vehicle for one of the wealthy families in Atlanta. HSF has been approached by the Central Development Company (CDC) to become a limited partner in a joint venture to build a medium sized office building in downtown Atlanta. In return for an initial equity input and low interest loan, HSF will receive a substantial portion of the tax losses and cash flows until the original equity has been returned; thereafter, HSF will continue to receive the tax losses plus one-half the cash flow. Project ownership will be equal.

The immediate CDC problem is to make a proposal to HSF that will be attractive in terms of overall cash flow, return on investment, and payout, with detailed schedules showing cash requirements, financing arrangements, depreciation, project income and expense, tax losses, cash flows, returns, etc. To determine just what mixture of tax loss, interest, and cash flow can best meet the overall HSF investment portfolio objectives, and to test various project alternatives for the most beneficial arrangements on costs, financing, timing, required income levels, sensitivity to vacancy rates, etc., CDC has turned to the powerful set of capabilities offered by REAP.

CDC first identifies itself to the REAP system by the command

REAP ID 'CDC' DATE 11 15 71

The project, to be called the "One Peach Tree Plaza" will be given the code name 'PTP' and the project number 7112.

PROJECT NAME 'ONE PEACH TREE PLAZA' ID 'PTP' NUMBER 7112

CDC, as a well managed development company, has a cost accounting and management system that depends on a chart of accounts breakdown of building and operation costs. This chart of accounts is entered as

#### CHART OF ACCOUNTS

101.00	'LAND ACQUISITION'
102.00	'LEGAL FEES'
103.00	'ARCHITECTURAL & ENGINEERING FEES'
104.00	'BASIC BUILDING'
105.00	'TENANT IMPROVEMENTS'

These accounts are used in assigning project costs and cash requirements. Land costs for the 30,000 square feet parcel are projected at \$50 per square foot, and it is expected that the current option to buy will be exercised on December 31, 1971.

In general, cash requirements are entered as a series of steps, with these land costs entered as follows:

#### PROJECT CASH REQUIREMENTS SCHEDULE

STEP 1 COMMENT '30000 SF LAND AT \$50/SF' AMOUNT 1500000  
DATE 12 31 71 ACCOUNT 101.00

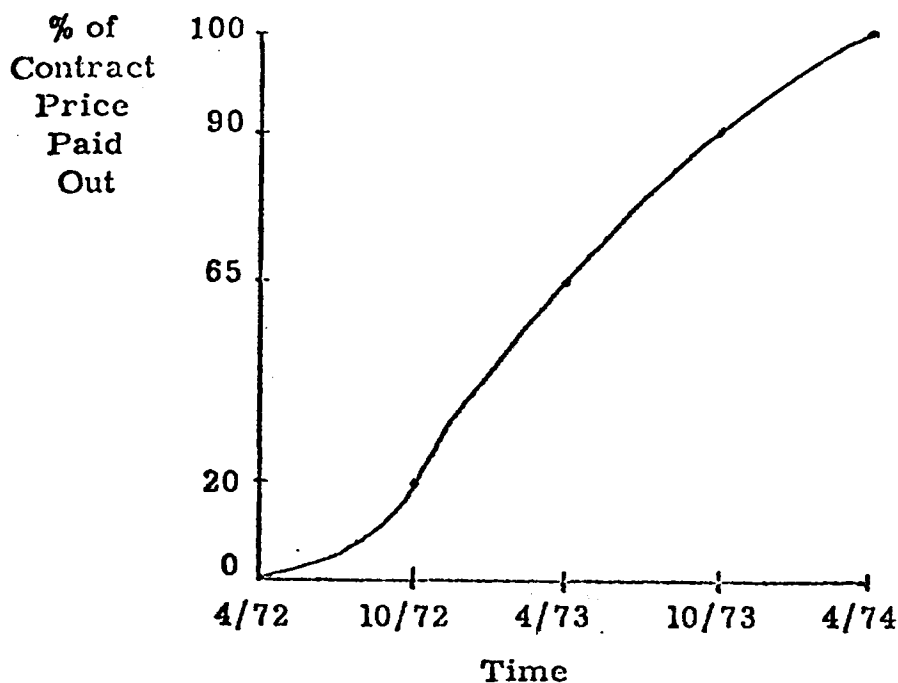
Certain legal fees are expected on the project, and are to be paid in two installments - 25,000 on July 1, 1972 and another 25,000 on December 31, 1973.

STEP 2 AMOUNT 25000 DATE 7 1 72 ACCOUNT 102.00 -  
COMMENT 'LEGAL FEES'

STEP 3 AMOUNT 25000 DATE 12 31 73 ACCOUNT 102.00 -  
COMMENT 'LEGAL FEES'

Overall, the plan calls for a twenty story tower, with 300,000 square feet

of space at a cost of approximately \$30 per square foot on the basic building. The total basic building cost will be paid out monthly to the general contractor over a two year period, beginning April 1, 1972, according to a construction requisition curve which has the following shape:



This cash requirement is given as

STEP 4 COMMENT 'MAIN CONSTRUCTION CONTRACT' AMOUNT 9000000 -

ACCOUNT 104.00 CURVE 20 65 90 PAYOUT 2 BEGINNING 4 1 72

Architectural and engineering fees, estimated at 5% of the basic building cost, amount to 450,000, and are paid over a one year period of time beginning January 1, 1972 according to the following schedule:

March 31, 1972	15% of fee
June 30, 1972	50
Sept. 30, 1972	90
December 31, 1972	100

This is entered as:

STEP 5 AMOUNT 450 000 ACCOUNT 103.00 CURVE 15 50 90 PAYOUT 1 -  
BEGINNING 1 1 72 COMMENT 'ARCHITECT' FEES'

Tenant improvements are reckoned at a \$5/sq. ft. allowance, for a total of 1,500,000, and are to be paid out in approximately equal amounts over a 1 1/2 year period beginning October 1972.

STEP 6 AMOUNT 1500000 ACCOUNT 105.00 CURVE 25 50 75 PAYOUT 1.5 -  
BEGINNING 10 1 72 COMMENT 'TENANT IMPROVEMENTS'

Although the actual project costs will be allocated in somewhat more detail when the project is better defined by CDC, the steps outlined above outline the gross overall costs and their expected distributions over time. By issuing of the command

DISPLAY PROJECT COSTS ON PROJECT 7112

EVERY 12 MONTHS FOR FIRST 5 YEARS BEGINNING 12 31 71

CDC is able to obtain the project cash requirements schedule shown in Figure 1. Note that the various project costs have indeed been spread over differing time periods, beginning on different dates, as requested by the initial input.

Using this project cash requirements schedule, CDC is now able to formulate a financing program composed of several loans. The current owner of the land has agreed to finance 1,000,000 of the land cost until the end of the construction period (i.e., for the 2 1/4 year period 12/31/71 - 3/31/74) on an interest only basis at 10%.

#### FINANCING

LOAN 1 AMOUNT 1000000 RATE 10 INTEREST ONLY -  
PAYOUT 2.25 BEGINNING 12 31 71

Construction financing in the amount of 10,000,000 at 12% over the two year construction period beginning April 1, 1972 has been arranged, and will be paid out according to the following construction requisition curve.

ONE PEACH TREE PLAZA

PROJECT ID PTP  
PROJECT COSTS  
-----

NUMBER 7112.00

DATE 11/15/71

	12/31/71	12/31/72	12/31/73	12/31/74	12/31/75	12/31/76
30000 OF LAND AT \$50/SF						
STEP 1	1500000.	0.0	0.0	0.0	0.0	0.0
LEGAL FEES						
STEP 2	0.0	25000.	0.0	0.0	0.0	0.0
LEGAL FEES						
STEP 3	0.0	0.0	25000.	0.0	0.0	0.0
MAIN CONSTRUCTION CONTRACT						
STEP 4	0.0	3149992.	5249994.	599996.	0.0	0.0
ARCHITECT FEES						
STEP 5	0.0	434989.	14999.	0.0	0.0	0.0
TENANT IMPROVEMENTS						
STEP 6	0.0	166666.	999999.	333332.	0.0	0.0
	-----	-----	-----	-----	-----	-----
TOTAL COSTS	1500000.	3776647.	6289992.	933328.	0.0	0.0

FIGURE 1

ONE PEACH TREE PLAZA

PROJECT ID PTP  
INTEREST TABLES  
-----

NUMBER 7112.00

DATE 11/15/71

		12/31/71	12/31/72	12/31/73	12/31/74	12/31/75	12/31/76
PROJ PTP	LOAN 1	AMOUNT 1000000.	RATE 10.00	INTEREST ONLY	BEGIN	12/31/71	
PAYOUT 2.3	DEBT CONST.	0.0					
INTEREST		0.0	100000.	100000.	25000.	0.0	0.0
AMORTIZATION		0.0	0.0	0.0	0.0	0.0	0.0
REMAINING PRINCPL		1000000.	1000000.	1000000.	0.0	0.0	0.0
LUMP SUM PAYOUTS		0.0	0.0	0.0	1000000.	0.0	0.0
PROJ PTP	LOAN 2	AMOUNT 10000000.	RATE 12.00	CONSTRUCTION	BEGIN	4/ 1/72	
PAYOUT 2.0	DEBT CONST.	0.0					
INTEREST		0.0	214531.	904530.	290937.	0.0	0.0
AMORTIZATION		0.0	0.0	0.0	0.0	0.0	0.0
REMAINING PRINCPL		0.0	4703121.	9489575.	0.0	0.0	0.0
LUMP SUM PAYOUTS		0.0	0.0	0.0	9999991.	0.0	0.0
PROJ PTP	LOAN 3	AMOUNT 13000000.	RATE 9.50	AMORT. TERM 20.0	BEGIN	4/ 1/74	
PAYOUT 0.0	DEBT CONST.	11.19					
INTEREST		0.0	0.0	0.0	819220.	1210292.	1186091.
AMORTIZATION		0.0	0.0	0.0	150205.	243844.	268045.
REMAINING PRINCPL		0.0	0.0	0.0	12849792.	12605943.	12337893.
TOTALS FOR ALL LOANS							
INTEREST		0.0	314531.	1004530.	1135156.	1210292.	1186091.
AMORTIZATION		0.0	0.0	0.0	150205.	243844.	268045.
REMAINING PRINCPL		1000000.	5703121.	10489575.	12849792.	12605943.	12337893.
LUMP SUM PAYOUTS		0.0	0.0	0.0	10999991.	0.0	0.0
FINANCING PROCEEDS		1000000.	4703121.	4786454.	2510425.	- 0.0	- 0.0

FIGURE 2