

JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

II. CLASSES AT THE UNIVERSITY OF WISCONSIN--MADISON

A. Business 520: Urban Land Economics (Principles)

3. Assorted Assignments: Student Projects and
Problem Sets (1969 onward)

BUSINESS-ECONOMICS-PLANNING 520
URBAN LAND ECONOMICS

Project I

PART A. TRANSACTION, LEGAL DESCRIPTION, AND ASSESSMENT DATA

1. Property Transaction Records (Register of Deeds Office, City-County Bldg)

The Tract Index provides a key to all transactions of public record concerning real estate. This index will indicate the volume and page of any recorded instrument affecting your parcel. The volumes (marked "Deeds," "Mortgages," "Miscellaneous," etc.) can be found in this office, and include the photostatic copies of the actual instruments. From either the Tract Index or the photostats determine the following information:

- (a) What are the dates of the latest deed entries affecting the ownership of each of the parcels which comprise your site? (If your site consists of only one parcel, obtain the date of the latest entry affecting this parcel.)
- (b) Who are the latest grantees of record for each of the parcels which comprise your site? In what volumes are the deeds recorded? On what pages? What type of instruments were used to convey ownership of these parcels?
- (c) What values are shown for each parcel as of the most recent sale, as revealed by the revenue stamps affixed to the deeds?
- (d) What are the amounts of the latest mortgages recorded for each of the parcels comprising your site? What are the dates of these mortgages?

2. Legal Description (Register of Deeds Office, City-County Building)

From the deed and mortgage recordings analyzed above, obtain the legal description of the parcels comprising your site. This description will be by lot and block or metes and bounds.

3. Assessed Valuation (City Assessor's Office, City-County Building)

Using the parcel numbers for your site, obtain the assessed valuations and tax levies for the parcels comprising your site from the tax rolls.

PART B. ANALYSIS OF SITE AND SITUS PATTERN; PROPERTY ZONING

1. Site Analysis

- a. Obtain a site area map from the Wisconsin Blue Print Company, 340 State Street. Alternatively, a Xerox copy of the site area map appearing in the Dane County Atlas may be obtained at the recorder's office.

- b. Obtain a folding map of Madison at the Memorial Union Main Desk, Brown's, or the Co-op.
- c. At City-County Building:
 - (1) Get a broader detail perspective of site area from the Dane County Atlas.
 - (2) Outline your site with a heavy black line on your area map.
- d. Visit your site and the neighborhood. Note the size, shape, topography, and orientation of the site. Note also any trees, utility lines, etc. Consider how these characteristics might benefit or limit development.

2. Situs Pattern

- a. On the basis of your field inspection above, indicate on your area map land uses in the neighborhood (2 block radius) of your site. Print neatly on street frontage line the names of the typical uses, i.e., single family residence, flats, commercial, etc.
- b. Locate, and indicate on your Madison map, the following:
 - (1) Bus lines serving your site. (Bus routes and schedule may be obtained from any city bus.)
 - (2) The point of nearest convenience shopping and the nearest supermarket.
 - (3) Parks and other cultural amenities.
 - (4) Nearest churches and parochial schools.
 - (5) Nearest public schools (check the city or telephone directory).
 - (6) Any other information which you feel would be valuable in the analysis of your site.
- c. Where any of the factors in b above appear on your area map, so indicate.

3. Zoning (Building Inspector's Office, City-County Building)

- a. Determine the zoning of the site and of the area included on your neighborhood or area map. Lightly color blocks on this map to represent the zoning in effect in your area and prepare a zoning color key for use with your map.

- b. By referring to Madison Zoning Ordinances, pick out any elements that might be either beneficial or detrimental to the subject parcel. For example, what uses does zoning classification R-6 allow which would be suitable to the subject parcel? - which would be detrimental to the subject parcel or to the neighborhood? Remember that zoning is a maximum or minimum limitation, and not necessarily a suggested standard. A copy of the zoning ordinances and the zoning map are on file in the Business School Library.

GENERAL INFORMATION

1. In preparing your materials keep in mind that their accuracy and legibility are important inasmuch as they will be used in connection with Project III.
2. In completing the requirements for Part A, you may outline your answers, where appropriate.
3. In completing Part B-1 and Part B-2, after you analyze and describe the site and situs pattern, draw any conclusions you consider appropriate as to the locational desirability of the subject property, and as to logical uses to which it might be put. Do not consider zoning in writing this part of the report.
4. In fulfilling the requirements of Part B-3, be specific in your description of major elements of the zoning ordinance which affects your property. After reviewing the key aspects of the zoning ordinance, what use would you now recommend for the site? Is this a different use than you described in answering Parts B-1 and B-2 of this project?
5. If, for some reason, you feel that you do not have adequate information on which to base one or more of your conclusions, state that fact. But also include the reason(s) that the information is inadequate and how the situation might be remedied (should you get the missing facts?).

Business-Economics-Planning 520

Urban Land Economics

Project II

Summer, 1969

Prepare to hand in for a grade, solutions to the following problems. Show all work and indicate any assumptions made beyond those provided in the problems.

Problems 1 and 2 are designed to suggest to the student some basic tools of financial and appraisal analysis in real estate investment. These two problems provide a practical introduction to present value theory and the use of mortgage funds. Problem 3 includes both of these concepts, but also causes the student to focus on net spendable income, accelerated depreciation and income and capital gains taxation as important facets of real estate investment analysis. For purposes of these problems, the present value factors may be selected from the tables on pages 138-139 of the text, Real Estate Analysis.

1. The Civic Center commercial property has been analyzed and it has been determined that its earnings from henceforth can be projected on a step pattern as follows: \$80,000 annual net income before income taxes for the first ten years, \$70,000 annual net income before income taxes for the second 10 years, and \$50,000 annual net income before income taxes for the following 10 years, after which time the property would have a residual capital value of \$350,000. An investor wishes to purchase it with 100% equity money at a price which will give him a 12% return before income taxes. What is the most he should pay for this property?

2. Now assume that the above investor would be willing to borrow money to finance purchase of the property, but that he still wants a 12% return on his equity purchase of the property, but that he still wants a 12% return on his equity purchase payment. The bank offers to loan him an amount which could be repaid with a debt service of \$45,000 per year at 6% for 15 years. An insurance company offers to lend him an amount which could be repaid at a rate of \$40,000 per year, 8% interest, for 30 years. Compare the investment opportunities under the two financing arrangements:

(a) How much of a loan is the bank willing to make? How much of an equity investment would the investor be willing to make? What is the total price offer for the property which would be justified under the assumptions? What percent of the value is the loan?

(b) Answer the same questions for the insurance company financing proposal.

3. For this problem, assume that an investor is considering paying \$200,000 for an apartment site. You are analyzing his proposed project and are trying to determine if it will be economical for him to go ahead with the project (that is, will the total after-tax productivity of the project justify the land and improvements cost?). In making your analysis, you incorporate the following assumptions:

(a) First year annual net income of \$60,000 increases by \$2,500 for five years and then by \$3,000 for four years.

Problem 3, cont'd

- (b) The improvements are estimated to cost \$550,000; thus, the total project cost will be \$750,000.
- (c) Mortgage debt of \$582,700 is available. This debt is to be amortized at 7% interest; annual payments are \$50,000.
- (d) The improvements will be depreciated through use of the double declining balance method; the economic life of the improvements is 50 years.
- (e) The sales price following a ten-year ownership period is \$100,000.
- (f) The investor's marginal income is taxed at 50%.
- (g) An after-tax return on equity investment of 15% is sought.
- (h) Capital gains on the sale of the property are taxed at 25%.

With this information provided, answer the following questions:

- (a) What is the total depreciation which the investor will take on the improvements over a ten-year ownership period?
- (b) What is the amount of the capital gains tax?
- (c) What is the amount of mortgage amortization?
- (d) What is the total present value of the net spendable income generated by the project over its ten-year life?
- (e) What is the present value of the net proceeds from the sale of the property?
- (f) What is the total investment value of the project? (This may be more or less than the cost of land and improvements.)

NOTE: You will probably find the lecture handout materials helpful in completing these problems.

Commerce 520
URBAN LAND ECONOMICS
(Real Estate)

Project I.

ANALYSIS OF
ECONOMIC, POPULATION & PHYSICAL DATA
FOR
WISCONSIN CITIES

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This project is designed to acquaint you with information drawn from U.S. Census publications and other sources that have a bearing upon an understanding of urban socio-economic composition and its relation to real estate investment situations in selected Wisconsin cities.

Your assignment in this first project is to make a generalized and preliminary estimate of the relative desirability of certain broad types of real estate investment in two Wisconsin cities. For the purposes of this assignment the subject cities are:

Prepare a written analysis of 2 or 3 types pages, supplemented by whatever tabulated statistical data you consider appropriate, that will indicate how, in general terms, investment would fare in present circumstances (1960) in each of the cities if it concentrates on:

- (a) Small luxury apartments.
- (b) Single family residences of 3 and 4 bedrooms priced between \$15,000 and \$18,000.
- (c) Specialty commercial operations such as art supply shops, music stores, sports equipment centers.

In your analysis give consideration to community population characteristics, conditions of employment and economic activity, housing, public services and the like. Summary observations on all these conditions are presented in the County and City Data Book, 1962, published by the Bureau of the Census, U.S. Department of Commerce. Note particularly tabulations appearing on pages 566-75. Copies of this publication can be found at:

- (a) School of Commerce Reading Room.
- (b) Government Publications Division, Wisconsin Historical Library.
- (c) Reference Desk, Room 120, Memorial Library.
- (d) Reference Room, Madison Public Library.
- (e) Legislative Reference Bureau Library, State Capitol, North.

Commerce-Economics-Planning

URBAN LAND ECONOMICS

Project II

ANALYSIS OF SITE & SITUS PATTERN

The subject parcel of land for this exercise is the vacant lot at _____ . Its legal description is:

"Lot____, Block____, _____
Madison, Dane County, Wisconsin."

1. Site Analysis

- a. Obtain map of site area from Wisconsin Blue Print Company, 340 State Street.
- b. At City-County Building:
 - (1) In County Register of Deeds Office (in rear) look at Dane County Atlas to get broader detail perspective of site area.
 - (2) Outline subject site with heavy black line on your area map.
 - (3) Obtain folding map of Madison at City purchasing office or University Co-op.
- c. Visit site and neighborhood. Note size, shape, topography, and orientation of site. Consider how these characteristics might benefit or limit development.

2. Situs Pattern

- a. On the basis of the field inspection in 1(c), above, indicate on area map land uses in neighborhood (2 block radius) of your site. Print neatly on street frontage line the names of the typical uses, i.e., SF residence, flats, apartments, commercial, etc.
- b. Obtain a Madison Bus Company route schedule and map. Indicate on your Madison map the bus lines serving your site.

OVER

2. Situs Pattern (continued)

- c. Locate, and indicate on map of Madison, the point of nearest convenience shopping and the nearest supermarket.
 - d. Check neighborhood for nearest parks and other cultural amenities. Note their location on your Madison map.
 - e. Locate nearest churches and parochial schools, and indicate where they are on your Madison map.
 - f. Indicate location of nearest public schools. This can be done in field or by checking the City or telephone directory.
 - g. Where any of above factors appear on your area map, so indicate.
3. Write a brief report in three sections. The first section should concern site analysis, the second section, situs pattern analysis. In the third section, draw any conclusions you consider appropriate as to the locational desirability of the subject property, and as to logical uses to which it might be put.
4. In preparing your materials keep in mind that their accuracy and legibility are important inasmuch as they will be used in connection with future projects.

URBAN LAND ECONOMICS

Project III

PROPERTY ZONING, TAX AND TRANSACTION RECORDS

(Same parcel as in Project II)

1. Zoning

- a. Determine zoning for area included on your neighborhood or area map. Color blocks on this map lightly and prepare map key according to master map in Building Inspector's Office, City-County Building.
- b. By referring to Madison Zoning and Planning Ordinances pick out any elements that might be either beneficial or detrimental to the subject parcel. For example, what uses does zoning classification A-2 allow which would be suitable to the subject parcel? - which would be detrimental to the subject parcel or to the neighborhood? Copies of zoning ordinances are on file in the Commerce Library.

2. Property Transaction Records and Deeds (Register of Deeds Office, City-County Building)

- a. The Tract Index provides a key to all transactions of public record concerning real estate. In order to identify transactions involving your property, refer to Volume _____, marked _____. Turn to _____.
 - (1) What is date of the latest entry concerning subject lot?
 - (2) Who is the latest grantee of record? What type deed was used for the conveyance?
 - (3) In what deed volume is the entry on file? On what page?
- b. What value is shown for your property at most recent sale as revealed by revenue stamps on the deed in the volumes in this office marked Deeds?

3. Assessed Valuation

With a legal description or property address, you can obtain parcel number, tax levy and assessed valuation of a subject property from the tax rolls in city assessor's office, or office of county treasurer. Indicate in your final report these three facts.

4. With the information you developed in items 1 and 2 above, what use do you now suggest for the property? How does this differ from what you had in mind after project II?

In its present form, the information in item 3 is of limited use. Do not try to include it in your analysis. But do keep its source in mind, and the specific data involved.

5. Write a brief report summarizing your information, analyze its meaning, and include any new conclusions you may have arrived at concerning the subject property.

URBAN LAND ECONOMICS

Project Number VI

REAL ESTATE INVESTMENT PROPOSAL FOR A
SELECTED SITE

A. Purpose

The purpose of this project is to propose a real estate investment project for the site which you selected for previous analysis in Projects II, III, and V. Present your report in a form which would be convincing evidence for a financial institution or a potential investor.

B. Outline of procedure

1. Make a decision as to highest and best use for selected site, briefly supporting your conclusion from your knowledge of the local market as reported in Projects I through V.
2. Make a statement of your investment objective (income, long term capital gain, short term speculation) as related to potential of highest and best use.
3. Make a general description of the concept of the proposed investment and any necessary improvements as related to land use trend, value trend, zoning, and critical design element.
4. Suggest approximate rental values, comparable sales value, tax assessed values construction cost, financial terms, or other information indicating income and cost potential.
5. Analyze proposed investment in terms of:
 - a. approximate cash cost of project
 - b. approximate gross income (if any)
 - c. operating cost, etc.
 - d. financing arrangements
 - e. management possibilities
 - f. form of ownership, organization, etc.
 - g. estimated net income and net income pattern for the life of the investment
 - h. estimated reversion or residual values

C. Investment valuation

Place a valuation on your investment proposal through capitalization of expected earnings and returns.

1. State pertinent assumptions as to desired return on equity, useful life, mortgage terms, and so on.
2. Support your assumptions if you can with market data, interviews, or other authority.

D. Summary and conclusion

Summarize your thinking, and point out any special problems with site or zoning which might change the result. Make a conclusion as to the desirability and risk of the investment, and do not hesitate to conclude that cost does not justify value or that proposal is 5 or 10 years premature in light of existing market. Be objective and realistic in your thinking. As much as possible, relate your investment proposal and its various aspects to the real-life situation.

URBAN LAND ECONOMICS

Project III

REAL ESTATE INVESTMENT PROPOSAL FOR A
SELECTED SITE

A. Purpose

The purpose of this project is to formulate a proposal for a real estate investment project situated at the site which you selected and analyzed in Project I. Present your report in a form which would be convincing evidence for a financial institution or a potential investor.

B. Outline of procedure

1. As a back-drop for your investment decision, make a brief but thorough analysis of the City of Madison. Examine the nature and trend of important socio-economic and physical indicators. What is (and will be) the economic climate for an investment on your site? (Use sources listed below.)
2. Make a decision as to highest and best use for your selected site, briefly supporting your conclusion from your knowledge of the local market as reported in Project I, and from your analysis above.
3. Make a statement of your investment objective (income, long-term capital gain, short-term speculation) as related to potential of highest and best use.
4. Make a general description of the concept of the proposed investment and any necessary improvements as related to land use trend, value trend, zoning, and critical design element. Indicate the form of ownership, organization, etc.
5. Estimate the total investment (in dollars) that will be necessary for the completed project:
 - (a) Substantiate land costs with market information.
 - (b) Estimate the total costs of the improvements.
 - (c) Indicate any other costs (title search, architect's fee, etc.) which may be necessary.
6. Calculate the income that your project will generate:
 - (a) Local market information should be used to substantiate gross income, vacancies, and management and operating expenses.
 - (b) Indicate the income pattern for the life of the investment. Consider city-wide economic factors as well as local factors and the nature of the proposed improvement.

7. Indicate the financing arrangements which are feasible for your project.
8. Place a valuation on your investment proposal by capitalizing the expected returns:
 - (a) State pertinent assumptions as to desired return on equity, economic life, depreciation, income and capital gain taxes, residual value, mortgage terms, etc., which you have not substantiated in the local market.
 - (b) Show your investment calculations.

C. Conclusion (Investment decision) and summary

1. Summarize your thinking up to this point. Make a decision as to the desirability and risk of your investment proposal. Would it be a wise investment?
2. Point out any special problems of site, zoning, or neighborhood trends which might change the result.
3. Review again your highest and best use. In view of the knowledge gained from this project, would you propose the same use again?

D. Sources of information

As much as possible, relate your investment proposal and its various aspects to the real-life situation.

1. The following publications dealing mainly with city-wide factors are on reserve in the Commerce Library. They can be helpful in predicting the future.

Madison Area Transportation Studies:

- 1) Tech. Report No. 15, Economic Analysis
- 2) Tech. Report No. 16, Population, Land Use, Etc.
- 3) Tech. Report No. 19, 1985 Projections

Madison Planning Department Publications

- 1) Madison's Plan for Use of Land
- 2) Information Series, Nos. 1 to current
- 3) Neighborhood Planning, Report No. 2
- 4) Campus Next Door
- 5) The Near West Neighborhood

Federal Housing Administration, Vacancy Studies:
1963, 1965, and 1966

County and City Data Book, 1967

Land Subdivision, City of Madison

Building Code, City of Madison

Zoning Ordinance, City of Madison

2. Henry Hoagland, Leo Stone,
Real Estate Finance
 3. Urban Land Institute,
The Community Builders Handbook
 4. James Downs, Jr.,
Principles of Real Estate Management
 5. American Institute of Real Estate Appraisers,
The Appraisal of Real Estate
 6. William Casey,
The Real Estate Desk Book
 7. E. H. Boeckh and Associates, Inc.,
Boeckh's Manual of Appraisals
 8. F. W. Dodge Company,
Dow Building Cost Calculator
 9. Madison League of Women Voters,
Zoning
2. Besides many government publications, the following are suggested as sources of information for selling prices (vacant land or improved land), rents, operating expenses, vacancies, costs of buildings, financing, arrangements, etc.:
- (a) Real estate brokers and salesmen
 - (b) Property managers (agents)
 - (c) Investors in property
 - (d) Owners or managers of specific properties
 - (e) Public records including the title records (tax stamps, stated amounts, etc.)
 - (f) Daily classified ads
 - (g) Local banks, savings and loans, etc.
- Use those sources which you feel will give you adequate information. Be aware of the different units of measurement (e.g., price or rent per square foot, front foot, dwelling unit, room, etc.). Also be aware of any unusual circumstances regarding vacancies, excessive expense situations, terms of rent or sale, differences in quality and services included, etc.
3. On a separate sheet of paper, list those individuals or firms, with their addresses, who were particularly helpful to you. Also include on this list any useful publications you consulted which are not included under the above sources of information.

3

Project ~~II~~

REAL ESTATE INVESTMENT PROPOSAL FOR A SELECTED SITE

A. PURPOSE

The purpose of this project is to formulate a proposal for a real estate investment project, ~~situated at the site which you selected and analyzed in project I.~~ Present your report in a form which would be convincing evidence for a financial institution or investor.

B. OUTLINE OF PROCEDURE

1. As a back drop for your investment decision, make a brief but thorough analysis of the city of Madison. Examine the nature and trend of important socio-economic and physical indicators. What is (and will be) the economic climate for an investment on your site? Use the sources listed below.
2. Make a decision as to the highest and best use for your selected site, briefly supporting your conclusion from your knowledge of the local market and your analysis above.
3. Make a statement of your investment objective. That is, your investment objective is income, long term capital gain, short term speculation as related to potential of highest and best use.
4. Outline a general description of your concept of a proposed investment and any necessary improvements as related to land use trends, value trend, zoning, and critical design element. Indicate the forms of ownership, organization, etc.
5. Estimate the total investment, in dollars, that will be necessary for a completed project.
 - a. Substantiate land costs with market information.
 - b. Estimate the total costs of the improvements.
 - c. Indicate all other cost that may be necessary. Such as title search, architect's fee, etc.
6. Calculate the income that your project will generate:
 - a. Local market information should be used to substantiate gross income, vacancies, and management and operating expenses.
 - b. Indicate the income pattern for the life of the investment. Consider city-wide economic factors as well as local factors and the nature of the proposed improvement.
7. Indicate the financial arrangements that are feasible for your project.
8. Place a valuation on your investment proposal by capitalizing the expected returns.
 - a. State your pertinent assumptions as to the desired return on equity, economic life, depreciation, income and capital gain taxes, residual value, mortgage terms, etc., which you have not supported from the local market.
 - b. Show your investment calculations.

C. CONCLUSION AND SUMMARY

1. Summarize your thinking up to this point. Make a decision as to the desirability and risk of your investment proposal. Would it be a wise investment?
2. Point out any special problems of your site, zoning, or neighborhood trends that might change the results.
3. Review your highest and best use. In view of the knowledge gained from this project, would you propose the same use again?

D. SOURCES OF INFORMATION

As much as possible relate your investment proposal to the real-life situation.

1. The following publications dealing with city-wide factors are on reserve at the School of Business Library. They can be helpful in predicting the future.

Madison Area Transportation Studies:

1. Tech. Report No. 15, Economic Analysis
2. Tech. Report No. 16, Population, Land Use, Etc.
3. Tech. Report No. 19, 1985 Projections

Madison Planning Department Publications

1. Madison's Plan for Use of Land
2. Information Series, Nos. 1 to current
3. Neighborhood Planning, Report No. 2
4. Campus Next Door
5. The Near West Neighborhood
6. _____
7. _____

City and County Data Book

Land Subdivision, City of Madison

Building Code, City of Madison

Zoning Ordinance, City of Madison

2. Henry Hoagland, Leo Stone, Real Estate Finance
3. Urban Land Institute, The Community Builders Handbook
4. James Downs Jr. Principles of Real Estate Management
5. American Institute of Real Estate Appraisers The Appraisal of Real Estate
6. William Casey The Real Estate Desk Book
7. E.H. Boeckh and Associates, Inc. Boeckh's Manual of Appraisals
8. F.W. Dodge Company Dodge Building Cost Calculator
9. Marshall & Stevens (Swift) Building Valuation Guide
10. Assigned text.

E. OTHER SOURCES OF INFORMATION

1. Besides the government publications, the following are suggested as sources of information for selling prices of land both vacant or improved, rents, operating expenses, vacancies, cost of construction, financing, arrangements, etc.:

- a. Real estate brokers and salesmen
- b. Property managers or agents
- c. Investors in property
- d. Owners or managers of specific properties
- e. Public records
- f. Daily classified ads
- g. Local banks, savings and loans

Use those sources which you feel will give you adequate information. Be aware of the different units of measurement of dwelling units vs commercial sites. Keep an eye out for any unusual circumstances regarding vacancies, excessive expense situations, terms of rent or sale, differences in quality and services included, etc.

2. In you wish, list on a separate sheet those individuals or firms who were particularly helpful to you. In addition list any periodical or other source of information that is not listed above.

Commerce 520

Project V

MARKET ANALYSIS

Purpose. The purpose of this project is to introduce you to some of the sources of information for market data, to acquaint you with the market mechanisms, and to enable you to analyze a selected market. The scope of this project is obviously limited, but you will nonetheless want to proceed as though you were acting as a consultant for a \$10,000 fee. You will be expected to apply the techniques used here in your investment proposal (Project #6). Review Chapter X of your text so that you have a clear understanding of the market framework.

Assumptions and Procedure. You are on the verge of investing in some real property in the downtown Madison area (within 10 blocks of the University-Square area). You are as yet, however, not convinced that the market situation is as favorable as some would have you believe. Since you are a prudent investor you feel you must know more about the market.

1. Select an area within the downtown area which you feel would have good potential for you as an investor. Make a brief survey of the area and on the basis of your knowledge of land uses, zoning, long-term trends, etc., select several alternative investments which you feel would be good. The "subjects" could either be existing improved properties or vacant parcels on which you plan to build.
2. Select an alternative which is characterized by one of the following land use categories:
 - (a) office buildings
 - (b) apartment buildings
 - (c) retail stores

You may want to limit yourself to a particular sub-market of the above categories (e.g., high-rise apartment buildings).

3. Macro analysis. Familiarize yourself with the urban-wide factors which would affect the demand and supply of any space which might compete with your property now or in the future. Institutional factors are also important.

Important considerations might include economic base, population, age distribution, number of families, number of housing units, building activity, vacancies, etc.

Various publications are on reserve in the Commerce Library and Memorial Library:

Madison Area Transportation Study

Population, Land Use, Socio-Economic Factors
Economic Analysis

Madison's Plan for Use of Land

City of Madison Planning Department Information Series,
Nos. 1-11.

FHA Vacancy Study (1963 and 1965)

4. Micro analysis.

You will want to determine the selling prices of land or improved properties and the rental values for your particular submarket and geographic area.

Besides many government publications, the following are suggested as sources of information:

- (a) Real estate brokers and salesmen
- (b) Property managers (agents)
- (c) Investors in property
- (d) Owners or managers of specific properties
- (e) Public records including the title records
(tax stamps, stated amounts, etc.)
- (f) Daily classified ads.

Use those sources which you feel will give you adequate information. Be aware of the different units of measurement (e.g. price or rent per square foot, front foot, dwelling unit, room, etc.). Also be aware of any unusual circumstances, vacancies, excessive expense situations, terms of rent or sale, differences in quality and services included, etc.

5. Summary.

Write a 2-3 page summary of your findings in parts 3 and 4. Include only those materials which you feel are particularly relevant. However, include enough material so that your conclusions are logical and clear.

6. Conclusions.

Write a concluding analysis indicating:

- (a) The price or prices you can expect to pay for the property.
- (b) The rentals you can expect to receive from the property. Include the occupancy rate, expenses, etc. you might expect.
- (c) Any changes that you expect in the demand-supply relationship which you feel will affect the sales or rental value of your property in the future.
- (d) Include any assumptions, or qualifying or limiting factors -- that is, anything which might affect the reliability or level of your value predictions.

7. Supplement.

- (a) Include a list of those individuals or firms who were particularly helpful.
- (b) Include the actual data that you collected. Your worksheets are OK.

Discussion Problems

Name _____

The following problems are designed to acquaint you with the concepts of present value and discounting, and with the tables for finding present value. Use the materials and tables from Real Estate Analysis, Chapter VI, in understanding the problems and determining your answers.

There is no objection to working with other students, so long as you understand what you are doing.

Formal Project #4 will also involve the investment calculus, but will be more complicated and require more thought. The problems on this sheet should give you enough working knowledge to do a good job in that project.

These problems will be discussed in class March 15-16. Have them done before hand!

1. If you expect to receive a return of 7% on your investment, how much would you pay now for the right (a) to receive \$2,000 25 years from now, (b) to receive \$250 per annum for the next 25 years?

2. What is the PV of an annuity of \$1,100 for 15 years at 3%? What is the PV of a \$1,000 reversion 20 years hence at 3%?

3. Why are all the factors in the "PV of \$1" Table less than one? Why are all the factors in the "PV of \$1/yr." Table more than one (except for year one)?

4. How much would you pay for a property if you could expect a net income of \$1,800 per year for 15 years and could then sell the property for \$12,000? Assume that you want a 7% return on your investment and that you will not borrow any money. Diagram the problem.

5. How much would you pay for the property in problem four if instead you sold it after 30 years for \$4,000 and the expected income during the second 15-year period is \$1,600? (Still no borrowed money.)

6. Using the facts and assumptions in problem five how much would you pay for the property if you could now borrow money at 5% interest? The payments on the mortgage (including principal and interest) are \$300 per year and the loan will be completely amortized in 10 years.

7. What was the initial amount of the mortgage in problem six? Why is there a difference in value between problems five and six? Would you as an investor be satisfied with a 7% return in problem six if you were satisfied with a 7% return in problem five? Why or why not?