JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS
II. CLASSES AT THE UNIVERSITY OF WISCONSIN--MADISON
N. Business 857/757: Seminar in Feasibility and Appraisal Reports--Seminar in Feasibility and Real Estate Counseling as of Spring of 1981
4. Student Projects

Index

857 FEASIBILITY PROJECT OPTIONS

February 6, 1985

1. Land Use Study - Big Sky Drive-In Theatre Site - Two independent student teams - Kurt Welton 221-8855
   Group 2 - Peter Jobson, Peg Olsen, Terry Esquivel
   Group 3 - Mike Amundson, Mike Dean

2. Reuse Study for Specialty Center - Piggly Wiggly Building - University Avenue, Middleton - Two student teams - Kurt Welton 221-8855
   Group 11 - Elaine Worzala, Jim Drewry, Libby Helland

3. J. C. Penney Redevelopment
   Group 4 - Mark Buth, Mark Rasmussen, Don Brumm

4. Conversion of Grimms Bindery as Landmark Structure - One student team Randy Alexander 257-7506
   Group 6 - Paul Koerber, Pete Moegenburg, Tom Degen

5. Conversion of Orpheum Theatre to Commercial/Retail - Randy Alexander 257-7506. One student team.
   Group 13 - Paul Lenhart, Stacy Kalaris

6. Regent Street Shopping Strip between Fraboni's and the Alexaner Office Randy Alexander 257-7506
   Group 7 - Mike Acker, Bob Cook, Stu Zadra

7. Conversion of Baskerville Apartments to embassy suite type hotel.
   Group 8 - Lisa Richman, Scott Kendall, Susan Strnad

8. Development of housegold budget model to demonstrate ability to accumulate a downpayment for a $75,000 house under alternative proposed tax plan.
   Given: Impact of rentals - Pual Magnusson & Ressi 257-5599
   Group 9 - Whit Osgood, Chuck Wagener, John Kraus

9. Projects with Bill Pinkowvitz which pay $300 in travel expense.
   Student teams with private projects.
   Group 5 - Tim Johnson, Paul Rezents, Chris Pitts - Badger (Rubin Furniture)
   Group 14 - John Walsh, Michael Tobias, Michael Broadfoot - Tune Up Clinics - John Early 241-5577

10. Munz Corp. - Office space - Tokay Blvd.
    Group 1 - Bob Korslin, Charles Pettygrove, Reg Pfeiffer

11. American Players Theatre - Relocation study
    Group 10 - Jeanne Anderson, Dave Drewiske, Kelly Havey

12. Schlitz Building - Milwaukee
    Group 12 - Andy Bruce, Steve D'Allura, Bob LeFeber

13. Milwaukee
    Group 15 - Jim Huffman, John Taxman

14. Fiore Site
    Group 13 - Mike Krier, Jim Zemezonak

15. Feasibility study on the 3/4 acre lot on the corner of Wright Street & East Washington Avenue for Flynn-Baker.
    Group 16 - Jim Nickelatti, Tom Lampert

ASSIGNMENT

TO FIND A SITE FOR A MINIWAREHOUSE

R.B. BUSINESS
Prof. Graaskamp
Course No. 857
Coding J-1-2

William Jacobsen

857 d

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LIST OF EXHIBITS

I. PROBLEM ASSIGNMENT

A. Client

Jacobsen Construction Co., Inc.
313 Price Place
Madison, Wisconsin 53705

B. Objective and Goals of Client

Jacobsen Construction Company, Inc. wants to locate a site for a miniwarehouse in the Madison area. Client plans to develop and construct a miniwarehouse project and share the ownership with other investors. The maximum costs of the total facility will be $750,000 with an after tax internal rate of return at least 18% with a possible sale after five years. The investors do not want to contribute additional funds after the initial investment.

Client has agreed to supply construction cost data for the financial analysis of the project. This report is intended to be used by the developer and other investors in the proposed project to determine if they should invest in a miniwarehouse facility.

II. THE MINIWAREHOUSE CONCEPT

A. General Characteristics

Miniwarehouses are separate cubicles of storage space of varying sizes linked in a single building or in a cluster of buildings. The available space per unit is small without amenities. They cost more per square foot to rent than conventional warehouses. They appeal to small users, a group that includes home owners, apartment dwellers and small businesses. With the trend toward smaller homes, condominiums, and more expensive retail space the demand for storage units in miniwarehouses will increase.

Miniwarehouses are geared to the small user with storage space of varying sizes such as 5' x 5', 5' x 10', 10' x 10', 10' x 15', 10' x 20' and larger. They appeal to apartment dwellers who have inadequate storage rooms in their buildings, to homeowners who have need for additional storage, to small volume salespersons who need to store samples and merchandise, to small businesses, and to any other person who has to store small amounts of materials that are easily accessible.

Miniwarehouses offer storage space and nothing more. They have no carpeting, no heat or air conditioning. The units are just dry storage space with a light bulb. The rents for these units are relatively high, $2 to $6 per square foot per year.

These storage units are convenient and easily assessible to the user. Renters carry their own keys and may enter their units without appointment, although some miniwarehouse complexes impose restrictions for security reasons. Miniwarehouses have proven to be highly successful commercial ventures when approached in a logical fashion based on extensive market research.

B. Market and User Profile

The market area is very small with 75% of the renters from a five mile radius of the site and about 60% of them from within a three mile radius. The concensus of the industry is that in a new market the renters will be 65% individuals and 35% businesses with a demand for storage space of about one square foot per person. As the market matures there appears to be a shift in renters to 65% businesses and 35% individuals with a market demand of about 1.5 to 2 square feet per person.

III. MADISON MINIWAREHOUSE MARKET

A. Economic Base of Madison

Madison's economy has been favored by its balance of industrial government and service employment. The area has a civilian labor force of approximately 153,000, 17,000 are employed by the manufacturing industry. There are approximately 5,500 retailers, wholesalers, manufacturers, processors and professional firms in the Madison Metropolitan Area.

Madison has grown rapidly because of its basic jobs: mainly, government and education, research and insurance. The expansion of these is due to several factors: The attractiveness and productivity of the natural environment, the general location in the state of Wisconsin and on the fringe of the most densely populated quadrant of the nation, the industrial genius of both management and labor in the city's factories, the allocation of several government institutions to Madison, and the construction of an attractive city.

The retail trading area of Madison covers the counties surrounding Dane County, and serves approximately 500,000 population. Survey of Buying Power estimates the 1979 total retail sales of Madison Metropolitan Area is $1,537,137,000 and gives the total net effective buying income at $2,667,694,000. The median household cash income is $20,051.

The United States Census, taken in 1980, brought Madison's population to 170,669. This figure includes University students. Dane County's population as of the 1980 census shows 323,080 people (see Exhibit 1).

B. Existing Miniwarehouse Facilities

The City of Madison is surrounded by thirteen miniwarehouse complexes ranging in size from 8,160 to 61,059 square feet. A three mile radius has been drawn around each site to depict the primary market area of each site (see Exhibit 2).

Each miniwarehouse complex was visited and vacancies were noted during March, 1982. The vacancy figures for sites 5, 9 and 10 were supplied by various employees of the complexes and my observations confirmed that they were reasonably correct. The rents listed for each site are the monthly rents and it is the practice of some firms to give discounts for annual leases.

Exhibit 3

Site	Name	Square Feet	Mix	Rent/ Month	Vacancies	Annual Effective Rent Per Sq. Ft.
1	Aquarian Mini-storage	10,400	52-10'x20'	$40	0	$2.40
2	Golf Green Storage	21,600	80-10'x20' 2-40'x40' 2-40'x50'	$35	1	$2.07
Sites 1 and 2 have 1.67 sq. ft. of storage per person.						
3	113 & River Rd.	8,160	34-12'x20'	$35	0	$1.75
Site 3 has .73 sq. ft. of storage per person.						
4	Miniware-houses	28,080	90-12'x26'	$58.50	6	$2.25
5	U-Haul Atlas Ave.	4,816	16-7'x12' 31-7'x16'	$30 $40	1	$4.21
6	Beltline Self-storage	52,300	36-5'x10' 137-10'x10' 32-10'x15' 139-10'x20' 14-10'x25' 2-10'x30' 360 units	$20 $28 $36 $44 $55 $65	 10 10 	$2.76
Sites 4, 5 and 6 have 1.4 sq. ft. of storage per person. Site 12 (53,000 S.F.) Town of Burke, draws from this area.						

1980 CENSUS TRACTS AND POPULATION

Madison Area

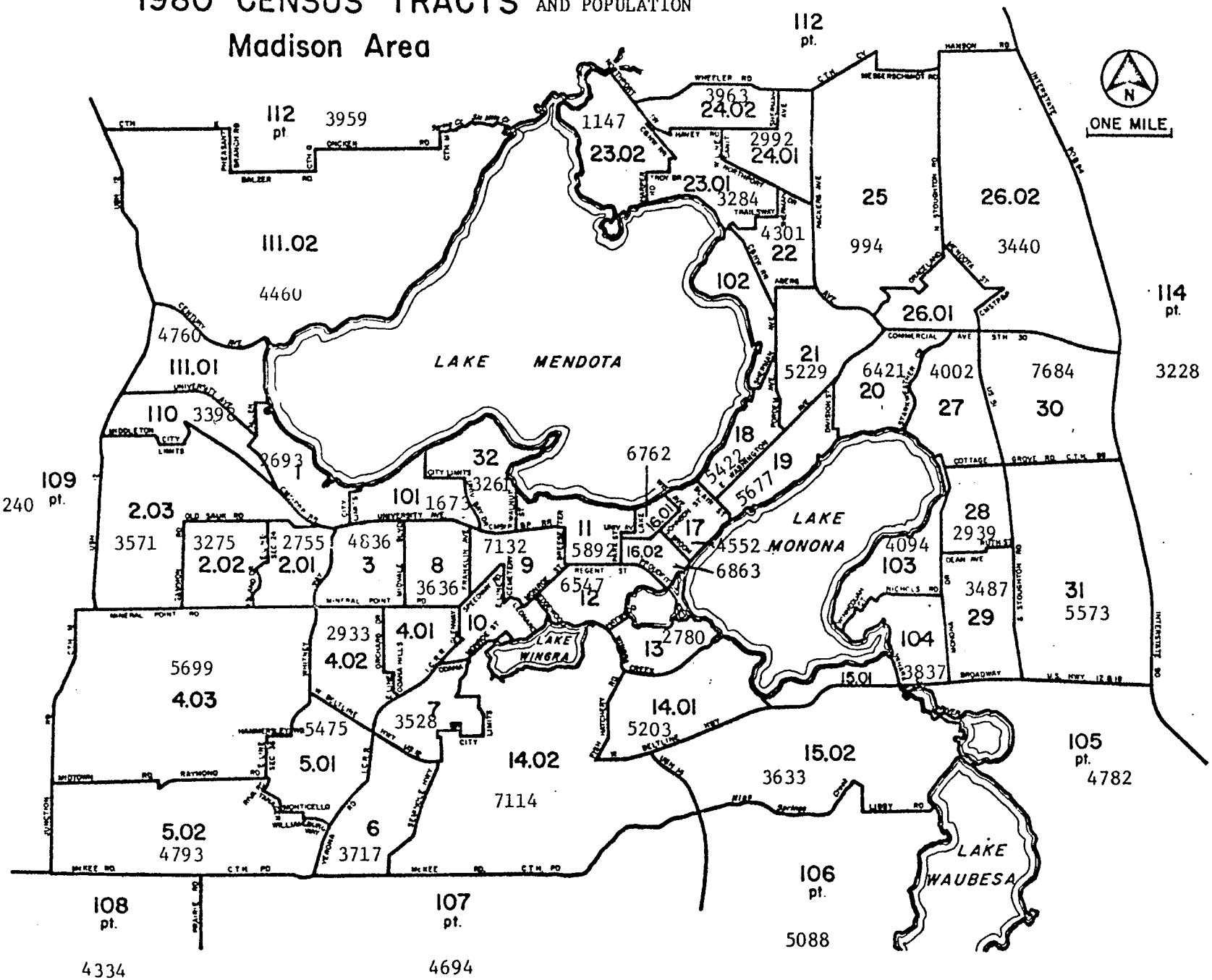


Exhibit 1

Exhibit 4

Site	Name	Square Feet	Mix	Rent/ Month	Vacancies	Annual Effective Rent Per Sq. Ft.
7	R.M.R.	18,400	80-10'x20' 24-10'x10'	$35 $22	0	$2.28
8	American Self-Storage	61,059	88-5'x5' 276-5'x10' 148-10'x10' 40-10'x15' 43-10'x20' 40-10'x25' 22-12'x24' 657 units	$12 $18 $30 $35 $43 $50 $54	12 127 18 8 1 5 5	$2.57
	Sites 7 and 8 have 1.86 sq. ft. of storage per person in their market area.					
9	U-Haul W. Washington Ave. Bldg. 42'x150' 3 floors est. 75% efficient	est. 14,175	4'x4' 4'x8' 5'x12' 8'x11' 10'x12' 5'x11' 8'x15' 10'x11' 12'x11' 10'x15' 258 units	$ 9 $16 $27 $40 $54 $16 $36 $33 $40 $45		Est. $3.80
	The exact mix and vacancy by mix is not known. It has been verified that they have 10% vacancies.					
	Site 9 has .57 sq. ft. of storage per person.					

Exhibit 5

Site	Name	Square Feet	Mix	Rent/ Month	Vacancies	Annual Effective Rent Per Sq. Ft.
10	U-Haul West Towne 2 story est. 75% eff.	25,200	8'x8' (1st floor)	$26		Est. $3.27
			8'x10' (1st floor)	$32		
			10'x10' (1st floor)	$40		
			9'x18' (1st floor)	$60		
			10'x15'	$60		
			10'x10'	$35		
			8'x12'	$33		
			8'x8'	$23		
			5'x8'	$21		
			4'x8'	$20		
			236 units		20%	
11	Seybold Rd. Mini-warehouses	54,240	170-12'x26'	$58	1	$2.21
			8-10'x15'	$52	4	

Sites 10 and 11 offer 1.2 sq. ft. of storage per person in their primary trade area.

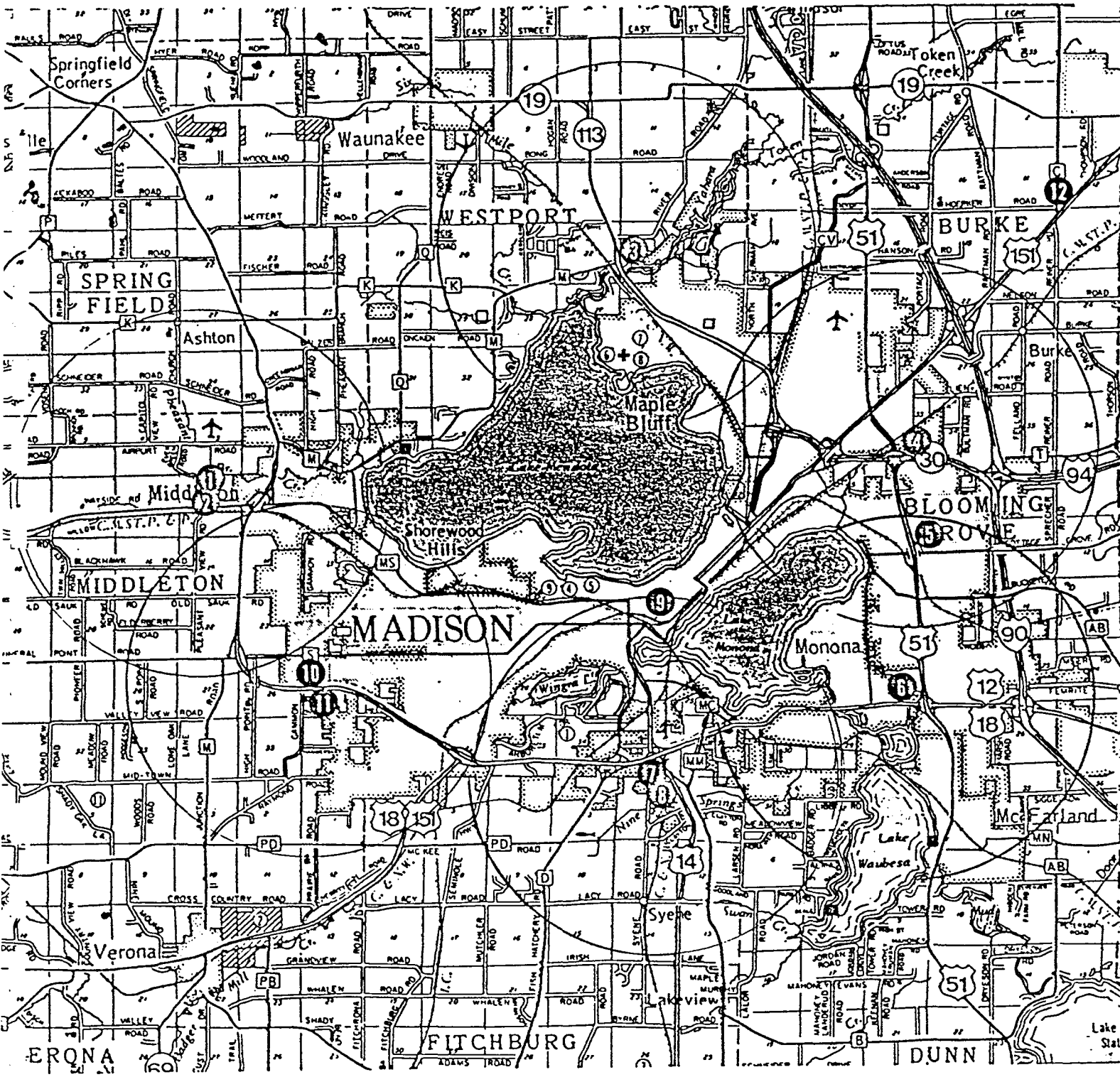
Exhibit 6

Recap Miniwarehouse Density Per Person

Market Areas	Density	Unsatisfied-Demand*
Sites 1 & 2	1.67 sq. ft./person	None
Site 3	.73 sq. ft./person	8,500 sq. ft.
Sites 4, 5 & 6	1.4 sq. ft./person	None
Sites 7 & 8	1.86 sq. ft./person	None
Site 9	.57 sq. ft./person	21,400 sq. ft.
Sites 10 & 11	1.2 sq. ft./person	19,500 sq. ft.

*Assuming that demand is 1.5 square feet per person.

Exhibit 2. Miniwarehouse Locations



Madison is a mature miniwarehouse market and should be able to absorb 1.5 sq. ft. of space per person. Where the three mile market areas overlapped, interpolations were made to allocate population to each site. Site 9 and 10-11 appear to have sufficient unsatisfied demand for space. My inspection of the plans for site #9 on file at the Madison Building Inspection Department revealed that U-Haul of Western Wisconsin has plans for additional buildings of 42'x150' and 32'x157'. It appears that site 10-11 has the most potential for additional warehouse space.

IV. SITE SELECTION

A. Criteria for Site Selection

1. Good accessibility
2. Good approach Zone
3. Good visibility from highways
4. Good traffic count
5. Near dense residential
6. Near a focus of business activity
7. Good drainage - not subject to flooding
8. Proper zoning or can be rezoned
9. In a growth area
10. An area people feel safe in

B. Potential Site (Exhibit 7)

Legal: Lot 4, Willow Run, Town of Fitchburg, Dane County, WI.

Size: 160' x 315'/327' 51,360 sq. ft.

Zoning: Dane County C-2. Miniwarehouses are a permitted use in this zone and there are no public hearings necessary.

There are over 1,500 apartments and many small homes within a one mile radius of this site. Nakoma Shopping Center and two small strip shopping centers are nearby. This year, the adjacent Jamestown Commercial Plat is due for final plat approval and start of construction development. This is a growth area and site 10-11 is also a relatively affluent economic area. The approach zone is excellent and the site has all the characteristics needed for a successful miniwarehouse facility. It is a site that renters will feel safe in.

This site will also draw from Verona and Fitchburg. A 51,360 square foot site will yield about 23,000 square feet of storage. A facility of this size with the increased draw of demand from Verona and Fitchburg will result in about 1.44 sq. ft. of storage per person in the primary market area of Site 10-11. With the addition of our proposed new facility the primary market area for site 10-11 would be shaped as shown in Exhibit 8.

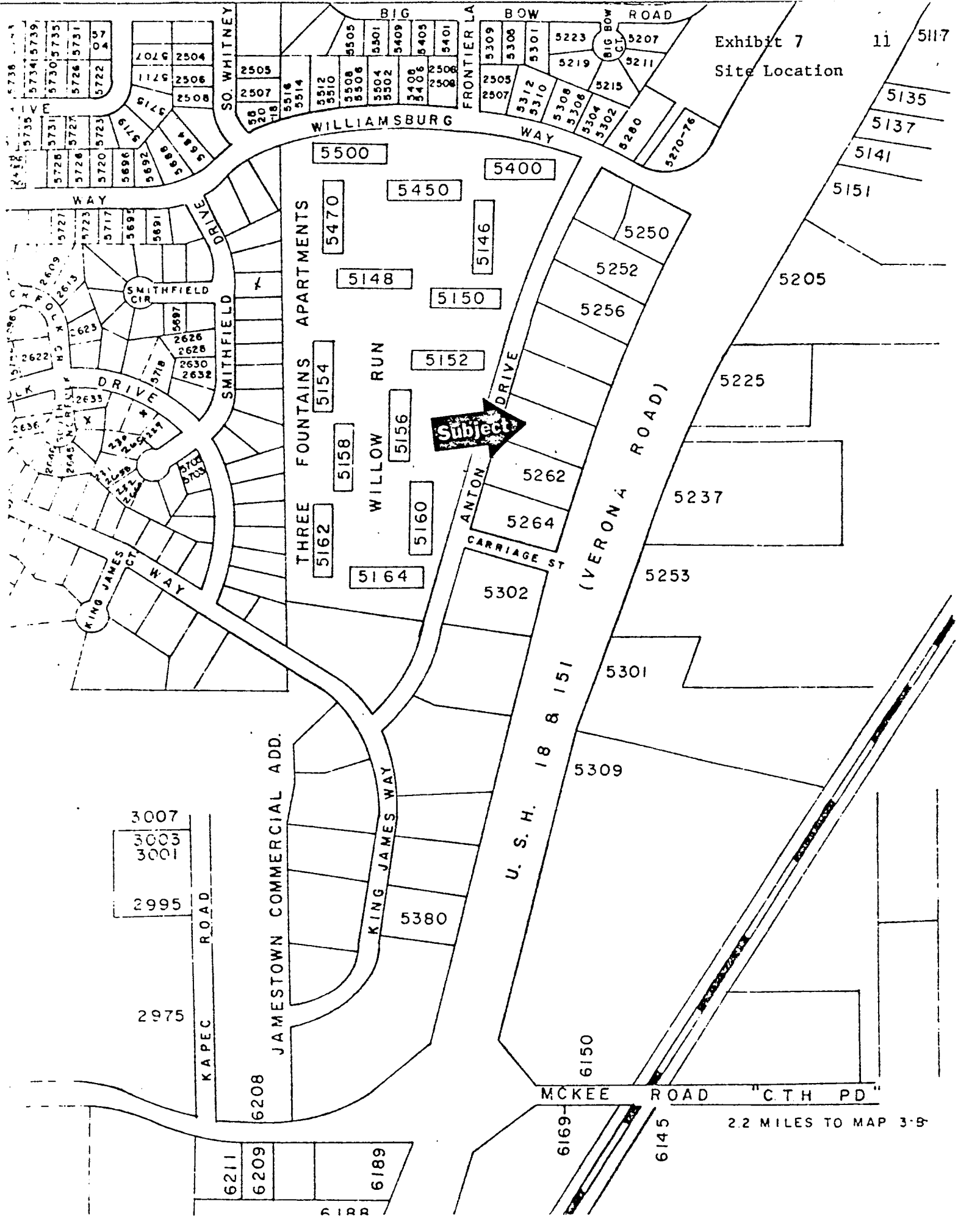


Exhibit 7
Site Location
11
5117
BIG BOW ROAD
FRONTIER LA
SO. WHITNEY
WILLIAMSBURG WAY
5500
5400
5450
5470
5146
5148
5150
5152
5154
5156
5158
5160
5162
5164
THREE FOUNTAINS APARTMENTS
WILLOW RUN
SMITHFIELD DRIVE
SMITHFIELD CIR
KING JAMES CT
KING JAMES WAY
ANTON DRIVE
CARRIAGE ST
Subject
U. S. H. 18 & 151 (VERONA ROAD)
JAMESTOWN COMMERCIAL ADD.
KAPEC ROAD
MCKEE ROAD "C TH PD"
2.2 MILES TO MAP 3-9
5135
5137
5141
5151
5205
5225
5237
5253
5301
5309
5380
6150
6169
6145
6208
6211
6209
6189
2995
2975
3007
3003
3001

Exhibit 8. Primary Market Area

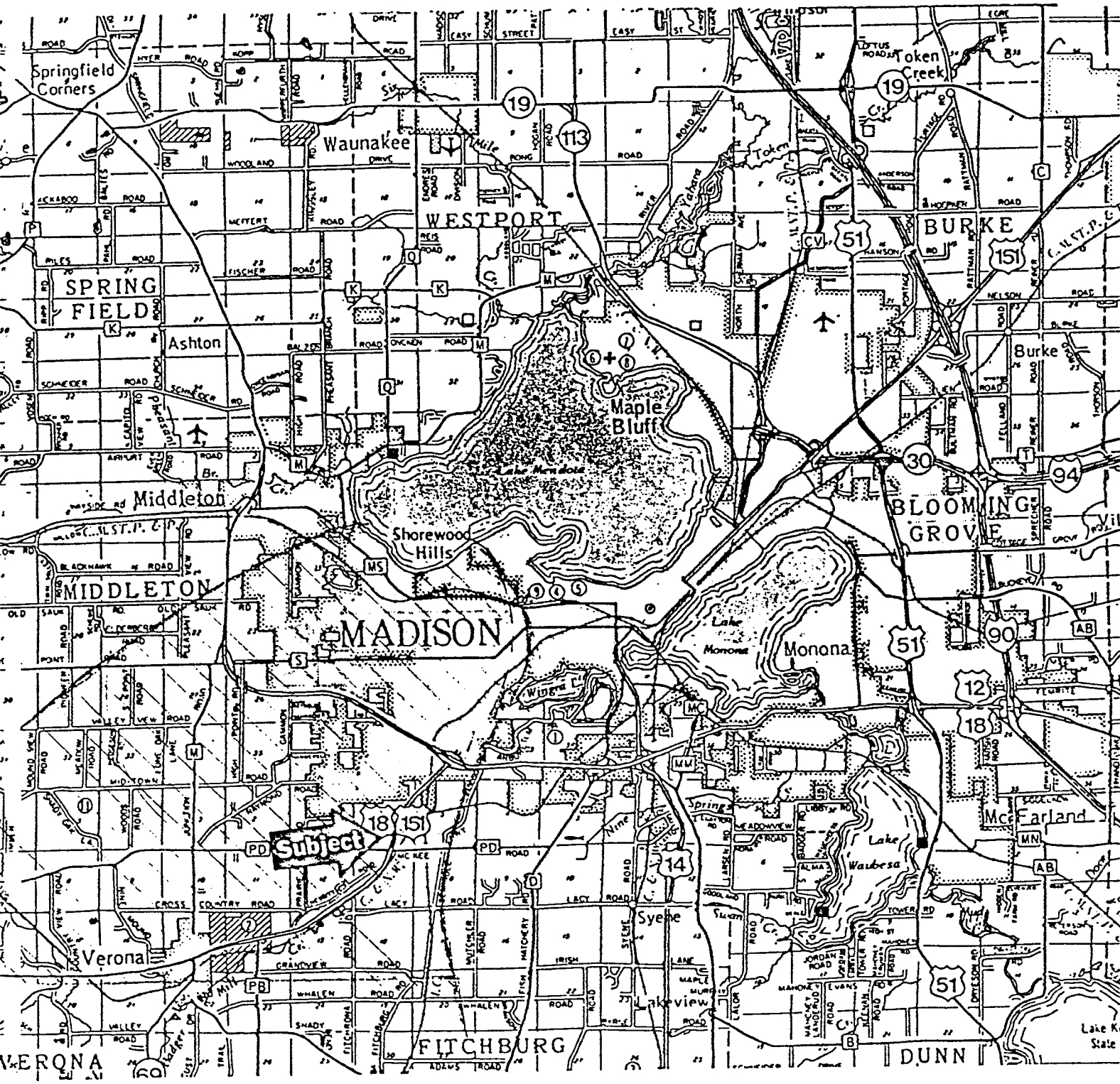
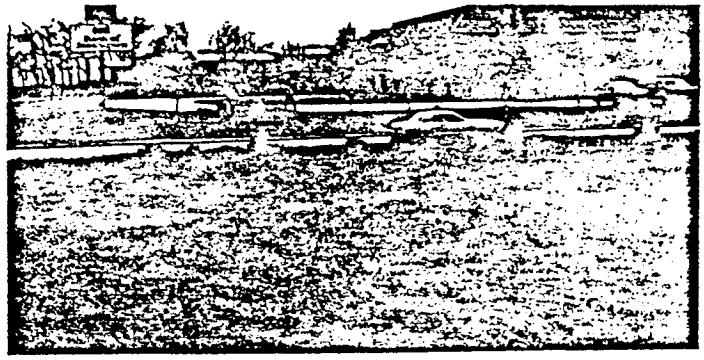
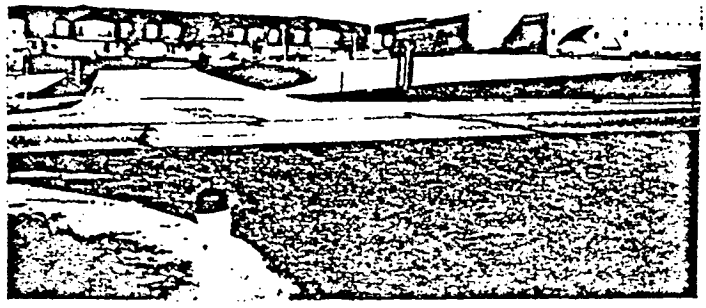


Exhibit 9

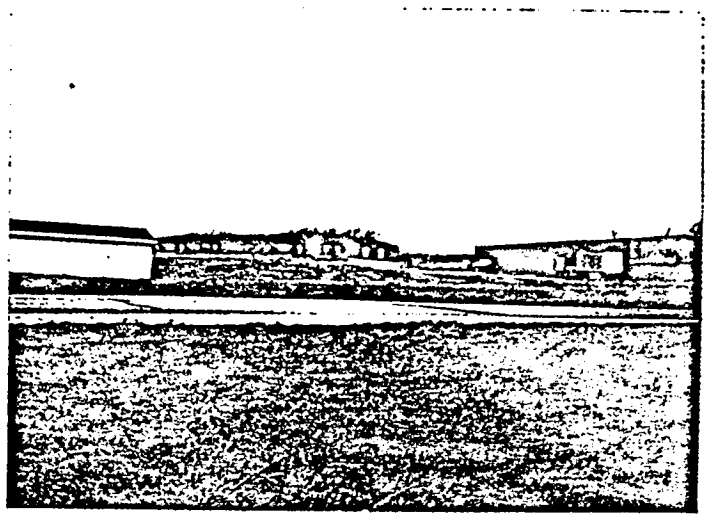


Approach Zone from North



Approach Zone from South

Site



Site View from Highway 18 & 151

Site View from Anton Drive

V. PROPOSED MINIWAREHOUSE PROJECT

A. Project Costs

Land	$ 75,000
*Construction Costs	286,250
Asphalt and Landscaping	12,950
Construction Interest & Legal	15,600
Negative Cash Flow (1st year)	10,200
Developers Fee	50,000
Total Project Costs	$450,000

*Cost as supplied by client for a steel frame and ribbed metal sided building.

Exhibit 10

	June	July	August	Sept.	Oct.	Nov.
Effective Income	1,116	2,232	3,348	4,464	5,580	5,844
Operating expense	900	900	900	900	900	900
Mtg. payments	4,431	4,431	4,431	4,431	4,431	4,431
Cash Flow	-4,215	-3,099	-1,983	- 867	249	513

Assumption: 6 month rent up period

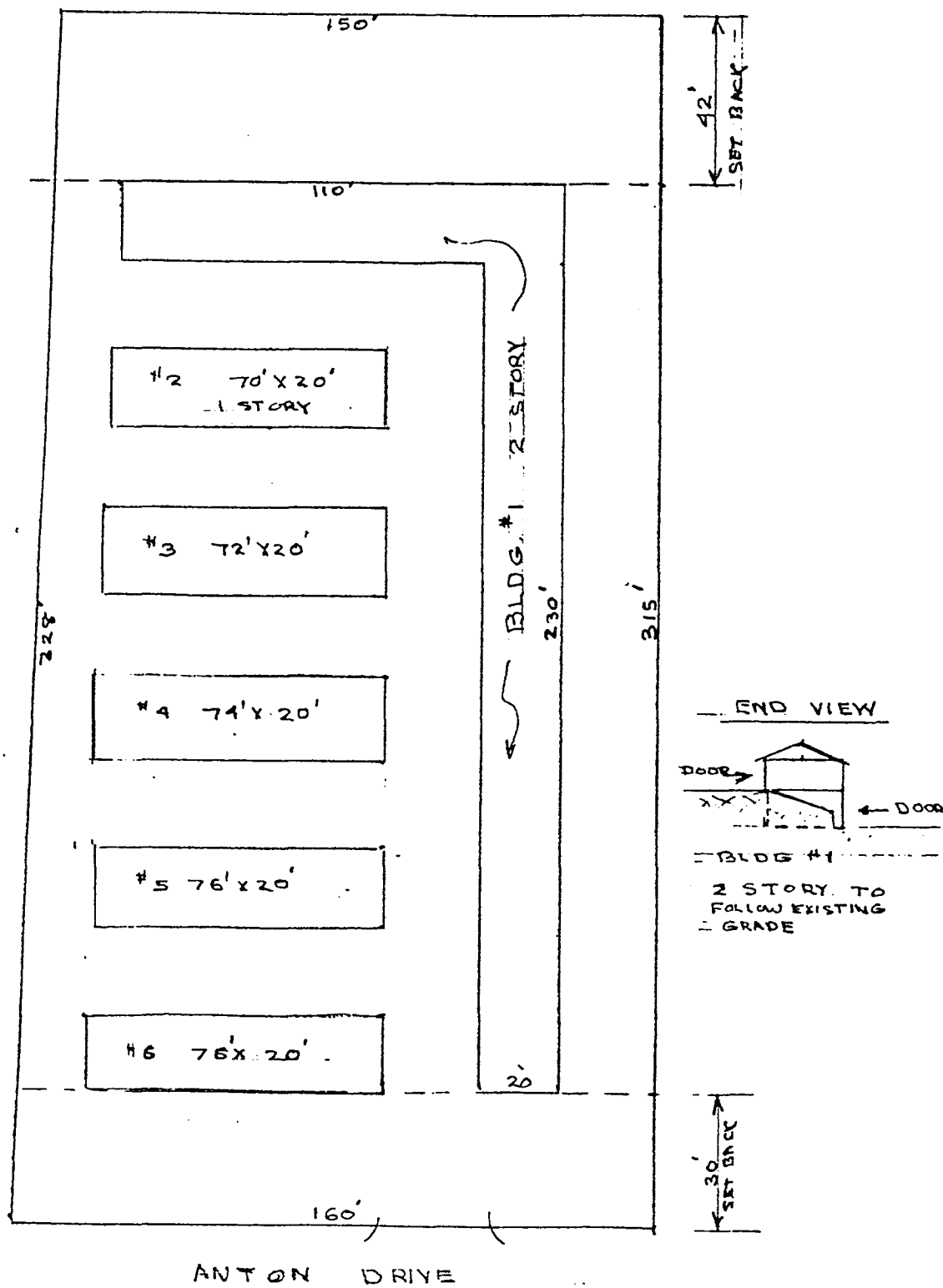
: Most of construction except the foundation would be performed from January through May.

B. Project Mix

Most of the complexes in the Madison area concentrate on the large size storage units. The miniwarehouse industry stresses that it's important to have a mix of small, medium and large size units. Market area 7-8 has a variety of sizes and a number of vacancies. Their renter profile is assumed to be similar to our proposed project. The mix of their units that were rented was 40% large, 30% medium and 30% small. My recommended mix for the proposed project is:

Exhibit 12

HIGHWAY 18 & 151



Scale 1" = 40'

PLOT PLAN

Large	67-10'x20' 1-20'x20'	40%
Medium	56-10'x10' 5-10'x15'	37%
Small	33-5'x10' 5-5'x6'	23%
	162 units	100%

Exhibit 11

Rent Schedule and Revenue Projection

# of Units	Size	Rent/Month	Vacant	Effective Rent
67	10'x20'	$ 55	6	$3,315
1	20'x20'	100	0	100
56	10'x10'	35	5	1,785
33	5'x10'	20	6	540
5	5'x5'	16	1	64
162				5,844

These rents are at or below the rents of Site 10-11. The effective annual rent per sq. ft. is $3.26.

C. Financial Analysis

Assumptions:

Land Costs - $75,000
Improvements - 362,300
Mortgage - 17% - 30 year amortization - 5 year balloon
Depreciation - 15 year straight line
Rents, expenses and market value projection - 6% Increase per year
Investors - 50% Tax bracket (State and Federal)

	Years 1	2	3	4	5
Gross Rent					
Less Vacancy Allowance	As per Exhibit 10 have been deducted				
Effective Gross Income	57,648	74,335	78,795	83,522	88,534
Less Real Estate Taxes	14,675	18,584	19,699	20,881	22,134
Less Expenses (25% of Income)					
Net Income	42,973	55,751	59,096	52,642	66,400
Less Depreciation	24,153	24,153	24,153	24,153	24,153
Less Interest	52,808	52,741	52,663	52,569	52,458
Taxable Income	-33,988	-21,143	-17,719	-14,080	-10,210
Plus Depreciation	24,153	24,153	24,153	24,153	24,153
Less Principal Payments	363	430	509	603	714
Cash Throw-Off	-10,198	2,580	5,925	9,470	13,229
Tax Savings on Other Income	16,994	10,572	8,860	7,040	5,105
Spendable Cash after Taxes	16,994	13,152	14,785	16,510	18,334
Market Value $450,000	477,000	505,620	535,957	568,115	602,201
Less Mortgage $310,800	310,437	310,006	309,497	308,894	308,180
Net Worth $139,200					294,021

Analysis of Sale:

Project Cost	$450,000	
Less Depreciation	120,765	
Basis	$329,235	
Sales Price	$600,000	
Less sales cost	42,100	
Less basis	329,235	
Taxable Gain	$228,665	
Income Tax	$ 45,733	50% Capital Gain
Sales Price	$600,000	
Less Income Tax	45,733	
Less Sales Cost	42,100	
Less Mtg. Pay Off	308,180	
Net Cash	$203,987	

The Internal Rate of Return considering after tax cash flow and reversion is 17.87%.

VI. MARKETING AND MERCHANDISING

A. Design of Product

The building must be attractive and appealing to the renters and the neighborhood. Added attention to design, detail, color and landscaping is important. Maintenance free material should be used. Flexibility in design for moving interior partitions will be important to meet shifting demand for different size units. Client should consider marking the 8' door openings in modules so that they can be converted to two 3' doors or changed from two 3' doors to an 8' door opening.

B. Sales Promotion

The most effective advertising for miniwarehouses is the yellow pages of the telephone directory. If the project will be completed in June of next year, the yellow page advertising must be contracted for in the fall of this year. For the initial rent up period, newspaper classified advertising is also recommended. A large permanent billboard on the site that can be viewed by passing traffic is important. Description brochures are useful for distribution to the nearby apartment complexes and mailing to area residents and businesses. A personal telephone call to area businesses can also be helpful. The timing of this project is very important; it should be ready for rental not later than mid-year to catch the demand generated in the traditional moving periods.

VII. RECOMMENDATIONS

The proposed scenario in this report meets the 18% I.R.R. yield as desired by the client. If the client waited until interest rates dropped to 15%, the I.R.R. yield would be about 19%. The economy is in a recession and the future is unclear.

The project could be delayed until the economic future trend is clear. If the project was delayed it's possible the interest rates could be down to 14%, the construction cost 10% higher and the revenues 6% higher. If this happened the I.R.R. yield would be about 20%.

I suggest that the project be delayed until economic trends are clear. I would also suggest the site be controlled by a long term option or other means without a firm financial commitment. There is unsatisfied market demand for miniwarehouses in this area and the site is excellent.

LAND USE STUDY - Big Sky Drive-In Theatre Site

MEMORANDUM: May 31, 1985

To: Mr. Ken Welton
Mr. Kurt Welton

From: Michael F. Amundson
Michael J. Dean

Re: Lease negotiation/market study and parking study for six-screen multiplex on the Big Sky site.

Enclosed per your request is a summary of our findings on national movie-house leases, with rent levels supported by the attached market analysis. Also enclosed, as requested, is a summary of parking analysis of the proposed movie theater in the context of a mixed-use development. Attached to the summary is the parking report detailing our analysis. We performed an analysis of the parking indexes required for the Big Sky development using contemporary ULI Shared Parking guidelines. We also calculated the parking required by the City of Madison Zoning Ordinance.

We hope you find this report useful for any decision making relevant to the Big Sky development.

EXECUTIVE SUMMARY

I. Market Analysis

In this report, demand strength for adding additional movie screens to the trade area is measured by four demand proxies: 1) trade area population per screen; 2) Dane County sales per screen; 3) trade area age distribution; and, 4) concentration of retail and entertainment enterprise in the immediate vicinity of the site. All four proxies are very favorable for a six-screen addition.

The ratio of primary trade area population per screen is presently 16,700; a six-screen addition reduces the ratio to 13,700. Industry executives consider a ratio of 12,000 to be strong.

Dane County sales per screen for 1985 and 1986, without an addition to supply, are close to $285,000 and $305,000 respectively--surpassing the profitable industry benchmark of $200,000. After adding six screens to supply, the estimated 1986 ratio remains favorable at nearly $250,000 per screen.

The favorable trade area age profile stengthens the defined trade area population per screen ratio. Nationally, 38% of the population is under 30 years of age; within the trade area, 51% of the population isunder this age. Since roughly 67% of the moviegoers nationally are under the age of 30, the trade area age profile favors this type of use.

Finally, the fourth demand proxy--concentration of retail and entertainment activity surrounding the site--is favorable. The far west side of Madison is perhaps the most concentrated pocket of retail and entertainment activity in the county. Further, much of the county's construction activity is contained in or near this area. Conventional industry thought favors adding more screens to such a vibrant pocket if the present screens are doing well.

These elements of the chosen demand proxies are not means to an end, but ends themselves: the criteria seriously considered by national exhibitors. These criteria have been judged at arm's length to be relatively favorable and thus the exhibitor would strongly consider adding screens to the market--and what he would pay to do so is tied to the strength of the aforementioned demand proxies and to the structure of past deals.

Recent leases between developers and exhibitors indicate that the national movie-houses look for 15 to 20 year net leases with 2 to 3 year renewal options. Minimum rent is 18% to 20% constant of construction budget (construction budget includes land and all development costs). Exhibitors thus favor build-to-suit leaseback arrangements. Construction costs range from $55 to $60 a square foot (movie theaters require far more steel and costly construction materials that add about $15 to per square foot cost of ordinary retail structures; costs based on interviews only). Twenty percent of $60 cost/square foot yields a $12-14/square foot base rent. On a 24,000 square foot movie house costing $1,440,000, annual base rent could be as high as $290,000. One executive stated that some recent deals have hit the $14/square foot range. The following market analysis supports the hypothesis that Madison is underscreened. Current market ratios of sales/screen and population/screen are very strong--strong enough to support these rent levels.

Past leases show lessors' participating in 6 to 8% of gross receipts. Eight percent participation is considered successfull bargaining. However, operators bargain for recapture of real estate taxes, insurance, and common area maintenance charges. Base for participation should be as low as possible--bases below $2 million in gross receipts have been negotiated. Movie-houses have been known to redefine "gross receipts" after lease has been signed. National operators that do not achieve $1.5 to 2.0 million in gross receipts within first 12 to 18 months do not renew options.

II. Parking Study

We performed an analysis of the parking indexes required for the Big Sky development using contemporary ULI Shared Parking guidelines. We also calculated the parking required by the City of Madison Zoning Ordinance. Although the parking requirements in most zoning ordinances will exceed the actual demand indicated by analysis using the shared parking methodology, we found no significant difference between the shared parking total and the City-mandated aggregate total. Parking indices for a development featuring 100,000 square feet of office, 37,000 square feet of retail, 5,000 square feet of restaurant, and 1,500 seats of cinema (roughly 24,000 square feet GLA) are as follows:

City of Madison	Spaces	ULI data	Spaces
Office 3.3 spaces/1000 GLA	217	Office 3 spaces/1000 GLA	291
Retail 3.3 spaces/1000 GLA	123	Retail 3.8 spaces/1000 GLA	97
Restaurant 10% of capacity	25	Restaurant 20 spaces/1000 GLA	60
Cinema 1 space/6 seats	250	Cinema 1 space/4 seats	263
Total	615	Total	711

The figures shown for the ULI method are calculated for the peak demand time of 2:00 p.m. on a weekday in June. The actual peak demand projected by the shared parking methodology was 711 occupied stalls at 8:00 p.m. on a Saturday evening in June.

The parking study serves two purposes:

1) shared parking analysis confirms the adequacy of City parking requirements.

2) projections of demand by use and time of day may be used to design the parking facilities so that the most intensive uses--office and cinema--each have an adequate amount of

parking for day-to-day demand and use the less convenient parking (such as retail slack) during peak periods.

The actual projected hourly demand for each use in the peak month of June is displayed in Appendix L.

Note the intensive parking demand of the six-screen multiplex. If such a theater housed 1,500 seats and required 24,000 square feet, ULI research indicates that 263 stalls, or one stall per 91 feet of GLA, would be required at peak by this use alone. If we allocate 325 square feet per one stall, the theater would require 263 * 325 = 85,500 square feet. Added to the building footprint of 24,000, the multiplex requires 109,500 square feet--or more than 2.5 acres.

OVERVIEW

The following report is disected into a market analysis and a parking analysis. Market analysis, presented first, is directed at gauging demand for six additional movie screens within Dane County. By use of demand proxies, an estimate of demand is converted to lease terms pursuant to our client's directive to provide him the wherewithal to negotiate a lease with a national film exhibitor on a site our client controls via an option to purchase.

Following market analysis, a study of the likely unit parking demand of a multi-screen movie complex is presented. Attention is paid to the seasonal and temporal demand of the movieplex itself and how this demand is modified in the context of a multi-use development on the site.

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INTRODUCTION

This report is primarily aimed at fashioning a lease negotiation strategy for a client who expects to be opposite a negotiating table from a national film exhibitor[1]. To our knowledge, two exhibitors have expressed interest in the Big Sky site on Madison's far west side, which our client controls through an option to purchase. Our client wishes to gauge the extent of exhibitor interest in adding screens to Madison and, in particular, on the west side. Specifically, we are to determine at what dollar range are deals with film exhibitors being made and on what terms.

To ascertain film exhibitor interest in adding screens to the Madison area on the Big Sky site, we must understand how the exhibitor looks at a market. Questions such as how a reading of demand intensity is taken and what demand proxies are used to measure market opportunity are critical to gaining the exhibitors' perspective. Once we know how the exhibitor looks at market opportunity and makes a determination of the feasibility of adding additional screens, we are able to bridge exhibitors' inferred level of interest or disinterest to a range of contract rent and hence give our client critical information of about how much exhibitors are able to pay as rent for opportunity to exhibit film near, or on, our site (we assume there is not any price competitiveness among west side sites for the new movieplex).

From interviews of past and present national exhibitor executives and other research, it became clear that exhibitors considering adding screens to a market look at four criteria. The ratio of trade area population per number of screens in trade area and, secondly, sales in trade area per number of screens in trade area are used as proxies for screen demand for a particular market. Thirdly, exhibitors look at trade area age profiles and, fourthly, exhibitors inventory the amount of retail and entertainment activity near the site being considered.

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1. See Appendix A for brief overview of film industry economics.

Our efforts then were directed at defining 1) the appropriate trade area for a multiplex[1] on the Big Sky site; 2) the number of competitive screens in the trade area; 3) total trade area movie-theater sales; 4) age cohort analysis; and, 5) analysis of West Side retail/entertainment activity.

These elements of the chosen demand proxies are not means to an end, but ends themselves: the criteria seriously considered by the national exhibitors. If these criteria are relatively favorable, the exhibitor will add screens in the market--and what he pays to do so may be tied to the relative strength of the demand proxies.

PROXIES OF DEMAND

Having decided to evaluate four criteria thought to be seriously considered by the national exhibitors, we will briefly embellish on each criteria.

1. Sales per screen: ratios above $200,000 per screen are considered strong ratios and indicate a market could hold more screens.

2. Population per screen: ratios above 12,000 people per screen are considered strong and imply that a particular market is underscreened (exhibitors look for ratios to be at least 10,000 at a minimum).

3. Age profile: exhibitors prize age profiles that favor the under 30 age cohort as two-thirds of total attendance are under 30. Eighty-five percent of total attendance is made up of those under 40 years of age[2]. Here, the upshot of cohort analysis is that given two markets with equal populations, the market with a population profile skewed to the younger cohorts will spend more on movies than the other, older market.

4. Pocket of retail/entertainment activity: exhibitors look to see if there is a "pocket" where people are used to going for

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1. Multiplex, as used in this paper, is defined as any multi-screened movie theater with 3 or more screens.

2. "Who Goes to the Movies" study by Opinion Research Corporation, 1985; commissioned by the Motion Picture Association of America.

> entertainment and shopping, and if there is a multiplex in the pocket and the pocket is profitable for the multiplex, the pocket ought to hold 10 to 12 more screens just as easily as it holds 4.

Summarizing then, our determination of market feasibility then will center on the above criteria in the context of what the industry considers favorable and unfavorable.

DETERMINATION OF TRADE AREA AND POPULATION PER SCREEN RATIO

The trade area is defined by reconciliation of four parameters: license-plate mapping, newspaper circulation, driving-time mapping, and competitor location.

License-plate mapping, or "spotting," was first completed in order to outline a crude trade area. License plates of patrons at the West Towne Cinemas (a three-screen multiplex behind West Towne Mall) were recorded and traced. This initial trade area delineation presumes that the trade area of West Towne Cinemas would be contiguous to or contained within the new theater's trade area. West Towne Cinemas are one mile from the site and within eyesight. We are comfortable with this assumption; the Big Sky location is as good as most theaters in Dane County and is served by the same main linkages as West Towne Cinemas. The added draw of six versus three screens should give a multiplex on the Big Sky site a trade area of at least equal size and probably greater than that of West Towne Cinemas. (However, good-site and off-site linkages are presumed--access from both Mineral Point Road and High Point Road and traffic lights at the intersection of these roads is critical for ease of ingress/egress).

METHODOLOGY

Nearly six hundred license plates were recorded during March 15

through March 24, 1985. From auto registration records, domiciles of moviegoers were traced. Recording of license plates was twice-daily on every day of the week. Out-of-state-plates, cylces, patron drop-offs, and pedestrians were not recorded. Out-of-state plates accounted for 5% of the cars parked; the number of drop-offs, cycles, and pedestrians is unknown, though none were observed. Recorded truck plates had to be dropped as truck registration records could not be accessed without substantial fee. We estimate that out-of-state and truck plates accounted for 10% of all vehicles observed. Recordings were made after all three features were in progress.

Movie features on six of the eight days were FANTASIA (G), A SOLDIER'S STORY (PG) and MISSING IN ACTION: TWO (R). Features on the 23rd and 24th were MISSING IN ACTION: TWO (R), FRIDAY THE 13TH V (R), and PORKY'S REVENGE (R). The first set of features faced no competition within the county; however, the two of three films in the second set of features faced competition from theaters on Madison's far east side.

Results of the license plate mapping (Appendix B) show moviegoers coming not only from all parts of Dane County, but also from contiguous counties of Sauk, Iowa, Green, Rock, Jefferson, Dodge and Columbia. Inferred primary and secondary trade areas from the maps in Appendix B include Dane, Sauk, Columbia, and Iowa Counties--as well as portions of Green, Rock, Jefferson, and Dodge--and with the trade area skewed west consistent with the presence of six screens on the far east side of Madison. Appendix C outlines the inferred primary and secondary trade areas facing the West Towne Cinemas as ascertained from the plate mapping. Appendix D depicts the location of competitive supply. Comparison of Appendices C and D shows the influence of eastside competitive screens on the inferred trade areas of West Towne Cinemas.

Table 1 shows that of total cars traced, 41% came from the City of Madison, while 64% originated from Dane County. The counties Dane, Sauk,

Iowa, and Columbia accounted for 82% of the traced domiciles. Adding other counties to this area only captures a marginal percent of the tracings. As Table 1 shows, adding Green, Rock, Jefferson, and Dodge Counties to the defined trade area only picks up another 4% of the traced plates--not marginally significant. Therefore, Green, Rock, Jefferson and Dodge Counties will be considered secondary trade areas, which are not included in the population per screen demand proxy.

For several reasons, Green, Jefferson, and Rock Counties are omitted from the initial trade area. Both eastern counties (Jefferson and Rock) are served by other competitive areas such as Janesville, Beloit, and Waukesha County and hence are not thought to be consistently part of Dane County's movie-house trade area. Further, were people from Jefferson and Rock Counties to drive to Dane to see a movie, they would pass numerous screens prior to arriving to the West Towne area. Hence, Jefferson and Rock Counties are omitted from the primary trade area as initially sketched.

Green County had too few tracings to be considered within the primary trade area, but Green County residents do support Dane County theaters in some small way. In general, an argument can be made that this first sketch of the primary market area underestimates trade area size.

By selecting our four-county primary trade area, we believe we minimize bias inherent in plate mapping since the defined trade area is smaller than the dispersion of plate tracings. As Table 1 shows, 18% of the cars traced came from without this four-county area; an additional 5% had out-of-state plates. From this potential 20% to 25% reduction in trade area is a cushion that absorbs such biases as 1) vehicle owners who have recently moved but have not amended the auto registration form; and, 2) students at Madison Area Technical College or the University of Wisconsin who are living in Madison during the school year but who have a "permanent" residence outside of Dane County.

Table 1: Results of License-Plate Mapping, Domiciles of Moviegoers

Domicile	Number of Cars Traced	Percent of Total Cars Traced	Percent of Total Cars Observed
City of Madison	236	41%	39%
Dane County	368	64%	61%
Balance of Dane County	132	23%	22%
Within Dane, Sauk, Iowa, and Columbia Counties	474	82%	78%
Within Dane, Sauk, Iowa, Green, and Columbia Counties	483	84%	80%
Within Dane, Sauk, Iowa, Green, Rock, Jefferson, Dodge and Columbia Counties	492	86%	81%
Out of Eight-County Region	83	14%	14%
Out of State	--	--	5%
TOTAL	575		605

Two-thirds (64%) of the weeks patrons reside within Dane County (Table 1 and Appendix A and B). Forty percent live within the City of Madison. Thus, more than one-third of moviegoers came from without Dane County; 16% came from without the four-county region of Dane, Iowa, Columbia, and Sauk (again, the percentages do not include 10% of patrons who drove trucks or who had out-of-state plates.) Although students at the University were on break throughout the tracing period, many of these distant tracings could be students or individuals who have recently moved to Dane County. But sheer number of drivers traced suggest distant driving for moviegoers and hence an extended trade area.

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1. Trucks comprised 5% of the sample, but were not traced.

2. The number of trucks and out-of-state plates observed is estimated to be 10%.

3. License plate mapping is subject to numerous assumptions.

Trade area defined by driving time is often employed by retailers. Fifteen to twenty minute driving times are thought to trace sales area when referenced to locations of competitive supply. Bearing in mind Madison's central county location and the location of competitive supply (Appendix D), plate mapping suggests to the contrary that many of West Towne Cinemas' patrons drive over twenty-five minutes and often drive past other theaters. Retail driving-time theory seems not a useful analog for moviegoing behavior.

The implied trade area, when juxtaposed over location of competitive supply, indicates moviegoers are driving to a particular film--not to the most proximate screen. Clearly, some fraction of moviegoers come to Madison to do more than see a film. Nonetheless, driving time, disregarding the influence of competitive supply, skews the trade area west as travel time becomes significant. Approximately 70% of moviegoers of the week surveyed drove 30 minutes or less; yet, we hesitate to affix any significant temporal breakpoint to the moviegoing market.

Further, movie attendance has a substantial seasonal variation. Even though variations among cinemas are large, cinemas featuring the most currently released films follow a more or less predictable pattern[1]. Three seasonal peaks tend to occur, corresponding to the seasons of new film releases and students' vacation periods. The largest peak occurs in June and July, following by a slightly lower post-Christmans peak and an early fall peak (September - October). Attendance dips most significantly in March, November and pre-Christmas December.

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1. ULI-the Urban Land Institute, Shared Parking. Washington, D.C.: ULI-the Urban Land Institute, 1983, p. 21.

Days of the week impacts trade area as well. Friday and Saturday attendance always exceed weekday attendance (except for the first three weeks of January). Both phenomena modify trade areas. Our observations have led us to conclude that each film has its own trade area--depending on depth and location of competitive runs of the same film, on the characteristics of the particular picture itself, and on the particular week and month of the year.

In our case, for six of the eight field survey days, films showing at West Towne Cinemas had no competition whatsoever in the county. The last two survey days saw two of three features being played crosstown. This competition no doubt truncated the Cinemas' easternmost trade area. Proximity will be important when movies are featured on both sides of town. With six screens on the eastern Madison fringe, similar roster of features on both sides of town will truncate the site's easternmost trade area. (Interestingly, redundancy of film in the county may slacken as the supply of movies increases. In 1984, 398 new feature-length films were released, compared to about 250 in 1980, a 59% increase in four years. Major studio production for 1985 is forecasted to be up 40% from 1984[1]. Increased proliferation of film will translate to less local redundancies and more robust trade areas).

Summarizing then, trade areas for movieplexes competing in a given market are continually changing with the films each features, and all competitors are exogenously influenced by industry peaks and troughs. Such dynamism is hard to capture with a one week plate mapping exercise. However, the methods we used, regardless of limiting assumptions and biases, probably render a trade area approximating average size and density of the many trade areas West Towne Cinemas face throughout the year.

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1. Alex Ben Block, "Now Playing: Exhibitor Power," Forbes, (April 8, 1985): 54-59.

Table 2: 1985 Population and Age
Profile of Primary and Secondary Trade Areal

County	Total Population	Number Under Age 30	Percent of Population Under Age 30	Number Under Age 40	Percent of Population Under Age 40
Primary Market:					
Dane	340,0002	181,0003	53%	230,900	68%
Sauk	46,000	20,300	44%	26,300	57%
Iowa	20,000	10,000	50%	12,500	62%
Columbia	45,000	20,200	45%	25,900	58%
Subtotal: Primary Market	451,000	231,500	51%	295,000	66%
Secondary Market:					
Dodge	78,000	37,000	48%	46,800	60%
Jefferson	67,000	33,700	50%	42,400	63%
Rock	142,000	74,400	52%	93,200	66%
Green	31,000	14,500	48%	18,700	60%
Subtotal Secondary Market	318,000	159,600	50%	201,100	63%
Total, entire eight county region	769,000	391,100	51%	496,700	65%
National	---	---	38%		56%

Thus, the numerator of the first demand proxy 'population per screen', will be the aggregate populations of Dane, Sauk, Iowa, and Columbia Counties, also defined as the primary market area. Table 2 presents the estimated current population figures for the the primary, secondary, and overall trade area, along with a breakdown of trade area age distribution relative to the aggregate national distribution.

1. National population data is for 1984. County populations used are 1980 Census estimates for 1985. Thus, 1985 age distributions are assumed to be similar to 1980 distributions.

2. Figures rounded to nearest one thousand.

3. Figures rounded to nearest one hundred.

Table 3: 1985 Trade Area Population per Screen Ratio, Present and Hypothetical 6 Screen Addition

Trade Area	Total Population	Ratio with Present Screens (27)	Ratio with 6 Screen Addition	Ratio with 8 Screen Addition
Dane, Sauk, Iowa, Green, Rock, Jefferson, Dodge, Columbia	769,000	28,500	23,300	21,900
Dane, Sauk Iowa, Green, Columbia	482,000	17,800	14,600	13,800
Dane, Sauk, Iowa, Columbia	451,000	16,700	13,700	12,900
Dane	340,000	12,600	10,300	9,700

Table 3 divides the populations variously-defined trade areas by the present number of competitive screens and by the hypothetical screen total if six or eight screens are added to the market. The ratio of primary trade area population per screen is presently 16,700; a six screen addition reduces the ratio to 13,700. If 20% (57,000) of secondary trade area population is included in numerator, the ratio with present screens is 508,000/27, or 18,800; with a six-screen addition, the ratio is nearly 15,400. An argument could be made to include some percentage of secondary trade area in the population per screen ratio. As the above example shows, a 20% secondary trade area inclusion greatly increases the ratio. (Recall 18% of plates traced came from without the primary trade area).

Both figures are relatively strong to industry benchmarks of 10,000 to 12,000[1]. Recall that these ratios do not include the 10% of the

1. Source: Telephone interviews with Mr. Robert Peltzman, Real Property Advisors (Kansas City), March and April, 1985. Mr. Peltzman worked for American MultiCinemas' Real Estate Operations for approximately five years.

plates that went untraced (out-of-state and trucks); further, these ratios do not include the 18% of traced patrons who live outside of this five county region. Hence, this demand proxy is conservative. Given that the industry looks for population per screen ratios above 10,000 with a ratio of 12,000 indicative of a market window, the ratios derived from plate mapping are very favorable.

This initial sketch of the trade area is underscored by analysis of regional newpaper circulation of the Wisconsin State Journal and the Capital Times (recall that the overlapping of driving times on the map of traced domiciles to qualify trade area was rejected as capricious and irrelevant). Moviegoers, a priori, look to papers for features, show times, and locations; thus it is not coincidental that the presumed cumulative trade area of Dane County movie theaters is approximately coterminous with Madison Newspaper's south-central Wisconsin newspaper circulation[1]. Dane County movie houses, as implied by the license spotting, are supported by surrounding counties of Iowa, Sauk, Columbia, Dodge, Green, Jefferson, and Rock Counties (Appendix E shows the cumulative trade area for all Dane County screens).

Madison's daily and Sunday papers cover a 14 county area, blanketing the presumed trade area[2] (see Appendix F for map of primary market area as defined by Madison Newspapers Incorporated). Circulation goes north to Adams county; from there, west to the Mississippi River; and then, south to Lafayette, Green, and Rock Counties. Circulation on Sunday numbers 140,000; weekdays, 117,000. Simmon's 1983 National Study of Local Newspaper Ratings considers Sauk, Iowa, Columbia, and Dane Counties as MNI's "primary" market area. Seven surrounding counties--Richland,

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1. Ibid. Also, interview with Mr. Brian W. Koenig, Director of Marketing, Madison Newspapers Incorporated, Madison, Wisconsin, April, 1985.

2. Ibid, Mr. Brian W. Koenig.

Lafayette, Green, Rock, Walworth, Jefferson, and Dodge--are considered to be "secondary" market areas by this study.

In addition, Audit Bureau of Circulation's (ABC) Audit Report: Newspaper (1984) defined the counties Dane, Columbia, Sauk, Iowa, Lafayette, and Green, as well as parts of Rock, Jefferson, Grant, and Richland Counties as MNI's "retail trading zone."

To review, newspaper circulation of MNI blankets the initially-sketched trade area based on plate spotting and strengthens the legitimacy of West Towne Cinemas' presumed primary and secondary trade area. Geographic definitions of "primary" market area (Simmons), "retail trading zone" (ABC) and "primary market area" (MNI) either are contiguous to, or overlap, the primary trade area driven by the plate spotting. Since the industry and intuition indicate moviegoers look to newspapers for movie data, the West Towne Cinemas are no doubt pulling in MNI readers from hinterland counties beyond those four designated as the trade area. Our definition of West Towne Cinemas primary trade area is coterminous with MNI's primary market area as defined by Simmon's--that is, Dane, Sauk, Iowa, and Columbia Counties. Furthermore, ABC's retail trading zone fully includes all or parts of seven other south-central Wisconsin counties. In particular, ABC's retail zone includes all of Green County and portions of Rock and Jefferson Counties--all three of which were included in our secondary trade area. Thus, MNI's trade areas are consistent with West Towne Cinemas as initially specified. West Towne Cinemas and hence any new far west side Madison multiplex will face a four-county primary trade area and a several county secondary trade area.

COMPETITIVE SUPPLY

Briefly, the denominator of the trade area population per screen--the number of competitive screens within the trade area--is a simple tally of screens now serving the market. Presently, Madison houses thirteen indoor theaters and two outdoor theaters all totaling thirty-two screens (see Appendix G for roster of theaters, location, seating, number of screens and license holders; see also Appendix D for map showing present competitive supply). Twenty-seven of these screens are indoors. Recently, competitive supply has reacted to a perceived market gap in area screens by adding 6 screens over the past three years (Westgate subdivided one larger theater into two smaller ones in 1983; Hilldale did the same late-Winter 1985; Eastgate, a freestanding four-screen multiplex, opened mid-1984). In addition, several small cities within counties ringing Dane County--Baraboo, Columbus, Monroe, and Dodgeville--have small indoor theaters, but these feature films that lag behind current releases. Moviegoers in these counties opt most often for Madison theaters and such hinterland theaters achieve minimal sales and are not thought to be competitive with the major theaters in the trade area[1].

Outdoor screens are excluded from demand proxy ratios by the exhibitors. Such exclusion is intuitive since Midwest outdoor theaters have short seasons, and outdoor moviegoing has been declining rapidly over the last ten years. One former executive termed such competition irrelevant[2].

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1. Mr. Robert Peltzman. Also, from analysis of plate mapping.
2. Mr. Robert Peltzman.

Competitive screens within the Dane County movie theater trade area then only include major Madison indoor screens, which presently total 27.

TRADE AREA RECONCILIATION

Minimal reconciliation of the two trade area indicators--plate mapping and newspaper circulation--is required: a multiplex on the Big Sky site will net sales from primarily Dane, Sauk, Iowa, and Columbia Counties, as well as secondarily from other counties (notably Green, Rock, Jefferson, and Dodge). All populations in the first four counties are included in trade area population tally. The trade area, so defined, is conservative because we know 20% of our sample reside outside this area.

DETERMINATION OF THEATER SALES PER SCREEN

Having determined favorable population/screen ratios exist in trade area, aggregate theater sales per screen must be determined to see if they corroborate strong demand relative to supply as measured by trade area population relative to present supply of screens.

Macro analysis of state and county movie theaters' taxable receipts, by Standard Industrial Classification (SIC) code, shows sales for movie theaters increasing from $38 million in 1977 to almost $51 million by 1982, and from there to $62 million by 1984[1]. This represents a seven year percentage growth of 57% or almost 7% compounded annual growth.

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1. U.S. Department of Commerce, Bureau of the Census. 1982 Census of Service Industries, Geographic Area Series: Wisconsin, table 2a, p. 9. Also, interviews with Mr. Bruce J. Biermeier, State of Wisconsin Department of Revenue, March, 1985.

Share of receipts by outdoor theaters is declining. SIC code for motion picture theatres is 783, and includes "motion picture theaters, except drive-in (SIC 7832)" and "drive-in motion picture theaters (SIC 7833)". Overall reported receipts for SIC 783 in 1982 were $50.8 million, up 32.2% from the $38.5 million reported in 1977. Of these receipts, 92% were from indoor theaters in 1982; whereas, in 1977, indoor theaters garnered 87% of total receipts. Said in another way, state indoor theaters taxable receipts rose 42% over the five year period and outdoors declined almost 25%. See Table 5 for sales by SIC code.

Table 5: Taxable Receipts of Movie Theaters, State and Madison SMSA[1]

	Receipts 1977 ($1,000)	Receipts 1982 ($1,000)	% Change 1977 to 1982	Receipts 1984 ($1,000)	% Change 1982 to 1984	Est. Receipts 1985[2] ($1,000)	Est. Receipts 1986 ($1,000)
Wisconsin Motion Picture Theaters	38,433	50,813	32.2	60,200	18.5	64,400	68,908
Outdoor	5,514	4,145	-24.8	n/a	n/a	2,576	2,756
Indoor	32,919	46,668	41.8	n/a	n/a	61,824	66,152
Madison SMSA Motion Picture Theaters - (both indoor & outdoor)	n/a	6,274	n/a	7,465[3]	18.5	7,988[3]	8,544[3]

Madison SMSA's motion picture theaters (both indoor and outdoor) recorded taxable receipts of $6.3 million in 1982[4]. Assuming the county's outdoors performed proportionately to aggregate state outdoors, then 8.2%, or $516,000 of $6.3 million, was produced by Madison SMSA's five outdoor screens, $5.81 million divided by

1. Ibid, Census of Service Industries and Mr. Bruce J. Biermeier.

2. Estimated 1985 and 1986 receipts are based on 1984 levels increasing at 7% per year.

3. Assumes that the Madison SMSA share of state movie receipts equals share in 1982.

4. Ibid, Census of Service Industries, table 4a, p. 27.

21 screens then existing in 1982 yields a sales per screen ratio of more than $270,000--in 1982 dollars. Such a ratio is considered strong by industry executives. If Madison SMSA maintained the same percent relative to the state in 1984 as was the case in 1982, the SMSA (coterminous with Dane County) would achieve sales of $7,465,000. If 5% of total is allocated to drive-ins (continuing the downward trend in outdoor theater sales and factoring in relative lack of outdoor

Table 6: 1985 Trade Area Sales per Screen Ratio, Present and Forecasted

	1977	1982	1984	1985	1986
Taxable Receipts Wisconsin, Movie Theaters SIC 783 ($1,000)	38,433	50,813	60,200	64,400[1]	68,910
Percent allocated to Madison SMSA (12.4%)[2]	4,766	6,300	7,465	7,986	8,545
Percent of receipts allocated to outdoor theaters in Madison SMSA	14.4	8.2	5.0	4.0[3]	4.0
Indoor movie theater receipts Madison SMSA	4,098	5,809	7,092	7,666	8,203
Number of competitive screens in Madison SMSA	21[4]	21	24	27	27
Average Sales per Screen	195,000	277,000	295,000	284,000	304,000

screens in Madison--5/33), sales/screen would be $295,000. If this figure were increased by 7% for 1985 and three additional screens that came on line in 1985 are factored in, the ratio becomes $284,000. If no screens are added in 1986, the ratio should continue to improve to over 300,000.

1. Figures for 1985 and 1986 are 1984 levels grown at 7% per year.

2. Based on 1982 state/county sales allocation for SIC 732.

3. Allocation recommended by Mr. Robert Peltzman who was familiar with Madison and Milwaukee movie theater markets.

4. Number of screens existing in 1977 is only a guess.

Table 6 tabulates past, present and forecasted trade area sales per screen. All figures presented in Table 6 are nominal--that is, there has been no adjustment for inflation.

Continuing secondary data analysis, the Wisconsin Department of Revenue reports state taxable receipts of SIC 732 (indoor and outdoor) increased from $50.8 million in 1982 to more than $60.2 million in 1984--a two-year increase of 18.5%[1]. However, this overall state figure must be disaggregated to SMSA or to four digit SIC level. This is done by assuming Dane County theater taxable receipts increased per the state rate.

Assuming county theater receipts behaved per state experience, then Madison SMSA figures for 1984 increased to 6,300,000 * 18.5%, or $7,465,000. This translates to $257,000 per indoor and outdoor screen. If we again allocate 5% of taxable receipts to outdoors, indoor theaters average $295,000/screen. (1982 had 22 indoor and 5 outdoor screens; by 1984, county had 24 indoor and 5 outdoors. In 1984, the four-screen Eastgate opened mid-year. It was thus counted as 2 screens for the entire year). Table 6 shows estimated 1985 and 1986 nominal sales per screen assuming no addition of screens. Clearly, though these figures are nominal, they are very strong relative to industry benchmark of $200,000. If six additional screens were added to supply beginning 1986, the sales per screen ratio would retreat to close to $250,000--still a strong ratio.

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1. Ibid, Mr. Bruce Biermeier, Wisconsin State Department of Revenue, March, 1985.

This derivation of sales/screen from aggregate data is known as the "share of space/share of sales"--a rough rule-of-thumb measure used by retail market analysts. A crude method, it presumes that new development will achieve a level of market penetration and/or share of trade similar to existing theaters. Somewhat to the contrary, we expect per screen sales at multi-screen complexes to be higher because of better drawing power, location, and parking that describes county multiplexes relative to the "old barns."

OTHER SECONDARY DATA

A further screen of projected sales levels may be based on figures from Dollars and Cents of Shopping Centers: 1984[1]. This Urban Land Institute (ULI) publication is a study of receipts and expenses in variously scaled shopping center operations. Published every three years, this volume has data only as recent as 1983--so sales figures reported understate 1985 sales and rent levels.

We have assumed the Big Sky development would best approximate a blend between neighborhood and community center: retail will probably not exceed 150,000 square feet and will not market convenience goods and personal services. We presume the development will not have a full-line department store, though it may have a strong specialty store.

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1. ULI-the Urban Land Institute, Dollars and Cents of Shopping Centers: 1984, ULI-the Urban Land Institute, 1984, pp. 104, 148, 194.

Envisioning an intermediate type of center, it is difficult to estimate for size and pulling power. Therefore, actual sales figures for national movie house chain, the prospective tenant, will be pulled judgmentally from either shopping center category.

National chain cinemas are reported by ULI's sample to have median GLA of 12,456 square feet. The upper decile was reported at 22,316. In fact, even the super regional centers did not have upper decile GLA exceeding 21,000 square feet. A six-screen theater on the Big Sky site would be near or exceed 24,000; hence, ULI data is (for our purposes) biased towards the smaller theaters (under 4 screens). Note further that all theaters in the ULI sample are contained within a shopping center--not freestanding as are West Towne Cinemas or the multiplex planned for the Big Sky site.

Median square foot sales at community centers, per ULI sample, is $40.25/square foot; a complex with 24,000 square feet and six screens would represent $161,000 per screen and thus probally not breakeven nor match current Madison levels. Upper decile sales of $75.12 a square foot in the same building would net close to $180,000 per screen--still below Madison sales levels. Finally, the top 2% of the community sample reported $90.26 per square foot sales or $217,000 per screen, which better describes Madison's presumed present levels, though such a figure will nonetheless underrepresent per square foot figures for Madison in 1985 and 1986. In part this can be due to changing nominal and real sales levels from ULI's 1983 data and present 1985 levels.

Sales per square foot for neighborhood centers in ULI's sample featured a mean of $45.47 and an upper decile of $92.36, $128.08 described the top 2% of the sample. At $92.36, sales per screen for the hypothetical six-screen would be $370,000. The ULI figure for the top 2% translates to a $512,000/screen sales level. We conclude that the latter, ULI upper-decile figure for community shopping centers, $128.80 per square foot, is the ceiling sales value on the Big Sky site (if theater is 24,000 square feet then gross annual theater sales would be close to $3.07 million).

Data from one Dane County four-screen movieplex records sales per screen of $255,000 for a total of $1,020,000 in year 1984[1]. With a gross leasable area of approximately 12,000, the theater grossed $85 a square foot[2]. Per screen sales levels at this theater were below the derived SMSA average in 1984 of $295,000 per screen. While representing 17% of county's indoor screen supply, this multiplex captured only 14% of derived indoor ticket sales. This may be due to a heavy reliance on pedestrian patron and the weak concession sales experienced at this theater[3].

Both the ULI data and the four screen multiplex data provide a range of per screen and, similarly, per square foot levels for the new multiplex on the Big Sky site.

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1. Source: from accounting books and is confidential.

2. This assumes the reported taxable receipts approach actual gross receipts.

3. Interview with theater manager, April 28, 1985.

RECONCILIATION OF TRADE AREA SALES PER SCREEN

To arrive at a final estimate of sales per screen for the new six-plex, 1984 county sales levels are increased by 7% (the previously mentioned seven-year average) to approximate 1985 levels (see Table 5, infra). This figure, $7,465,000 * 1.07, or $7,986,000, is then reduced by 4% allocation for outdoor theaters to net $7,666,000. Without the addition of the new movieplex, average per screen sales in 1985 will approach $284,000 ($7,666,000/27 screens in 1985). With the addition of the new movieplex, average sales per screen will be reduced to $232,000 (7,666,000/33). For 1986, assuming same trade area sales growth rates and allocations, sales per screen without additions to supply will approach $304,000; with a six-screen addition, the ratio will hover near $250,000.

We are comfortable with this derivation of average sales per screen. First, the allocation to outdoor screens (4%) is more than generous. Since the Big Sky outdoor would cease if the new movieplex is constructed, the 4% allocation covers the sales at the Badger four-plex. An executive knowledgable of the Madison theater market stated that such an allocation to outdoors in Madison is too strong. Second, the forecasted increase in sales from 1984 to 1985 similates past annual increases and preliminary conclusions of 1985's industry performance indicates a very good year.

Reconciling the foregoing sales per screen data, and somewhat equivalently, sales per square foot, we conclude sales per screen for a

six-screen theater introduced on the market beginning 1986 with 1,500 or so seats and approximately 24,000 square feet (research by authors indicates that six-screen multiplex should require 24,000 square feet) ranges from $250,000 (roughly the predicted county average sales/screen data) to $375,000 per screen, or $70 to $95 a foot. Equivalently, gross theater receipts should range between $1,500,000 and $2,250,000 in 1986.

We base this estimate first on very high population to screen ratios stemming from a four-county primary trade area. Linkages present to the site and those planned should magnify trade area beyond that of the West Towne cinema complex. Secondly, the estimate is based on level of county movie theater taxable receipts as we perceive them. The six-plex will achieve sales per screen ratio higher than most competitors.

TRADE AREA PROFILE

Age profile of a market area may strengthen or weaken the defined trade area population per screen ratio. Since roughly 67% of the moviegoers nationally are under the age of 30, and 85% are under the age of 40, age profiles favoring the young are desired[1]. Table 2 and Appendix I numerically show the favorableness of trade area profile. Exhibits 1 and 2 graphically illustrate the strongly favorable total and primary trade areas (see Appendix H for a more detailed graphic breakdown of trade area population distribution by percent). Nationally, 38% of the population is under 30 years of age and the entire group accounted for 2/3rd$_s$ of total attendance in 1984. This same cohort makes up 51% of the trade area population. In Dane County alone, 53% of the population is under 30 years old[2]. Recall that 85% of total movie attendance is under age 40. Nationally, 56% of the population is younger than age 40; within the trade area, 65% of the population is under the age of 40.

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1. Ibid, Opinion Research Corporation.

2. Cohort percentages subject to bias of aging through time since data is circa 1980.

AGE DISTRIBUTION BY PERCENTAGE

U.S. vs. Primary Trade Area

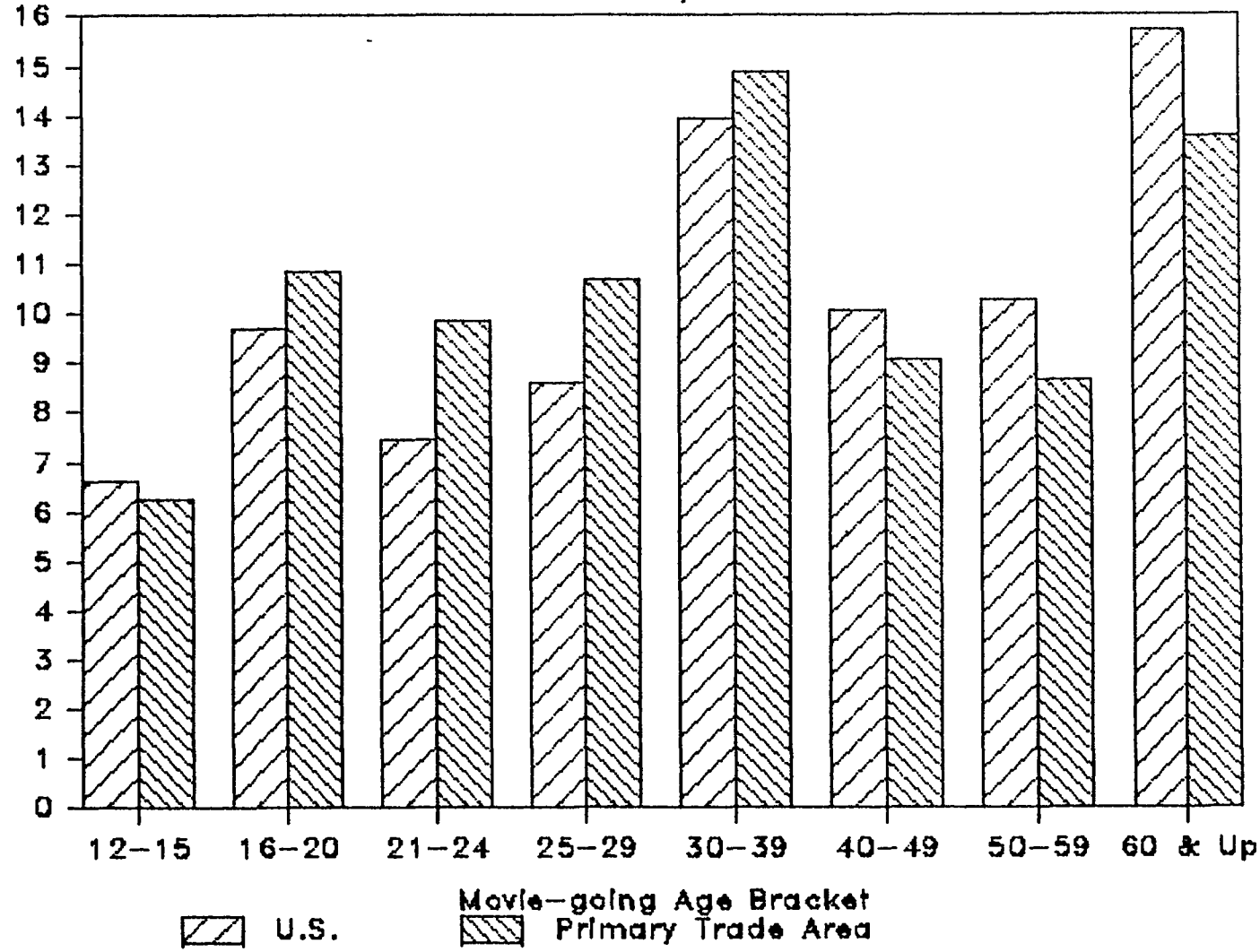


EXHIBIT 1
Primary Trade Area Age Distribution
by Percent

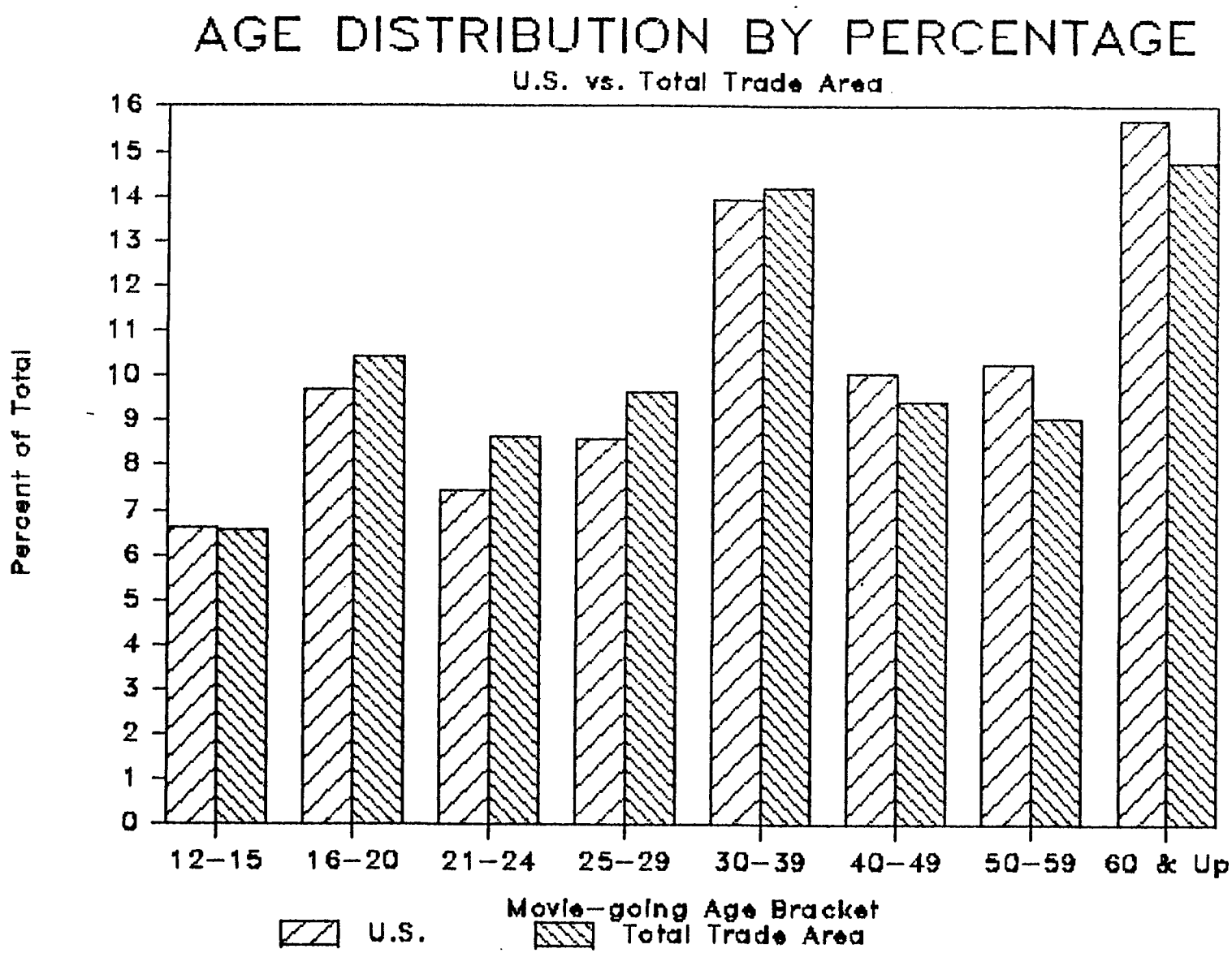


EXHIBIT 2
Total Trade Area Age Distribution
by Percent

POCKET THEORY

A third criteria, "pocket theory", states that successful theater locations are often near a pocket of heavy retail and entertainment activity. If such a pocket currently supports a multiplex and the multiplex is doing well, the pocket is potentially prime for addition of several other screens. In the present case, the retail pocket is the area roughly extending from Westgate Mall at Odana Road and Whitney Way to beyond West Towne Mall, as illustrated in Exhibit 3. Any new retail development, including a cinema, could be considered an addition to this West Towne "pocket" of activity, albeit on the western fringe. There are currently two theaters in this pocket: West Towne and Westgate, totaling six screens. However, the market for west side theaters is skewed to the northwest of Madison, placing the Big Sky site in an intercept position as patrons enter the pocket via the Beltline. In addition, the West Towne area is perhaps the county's deepest pocket of retail activity and as such would pass the muster of pocket theory practitioners.

CASH FLOW ANALYSIS

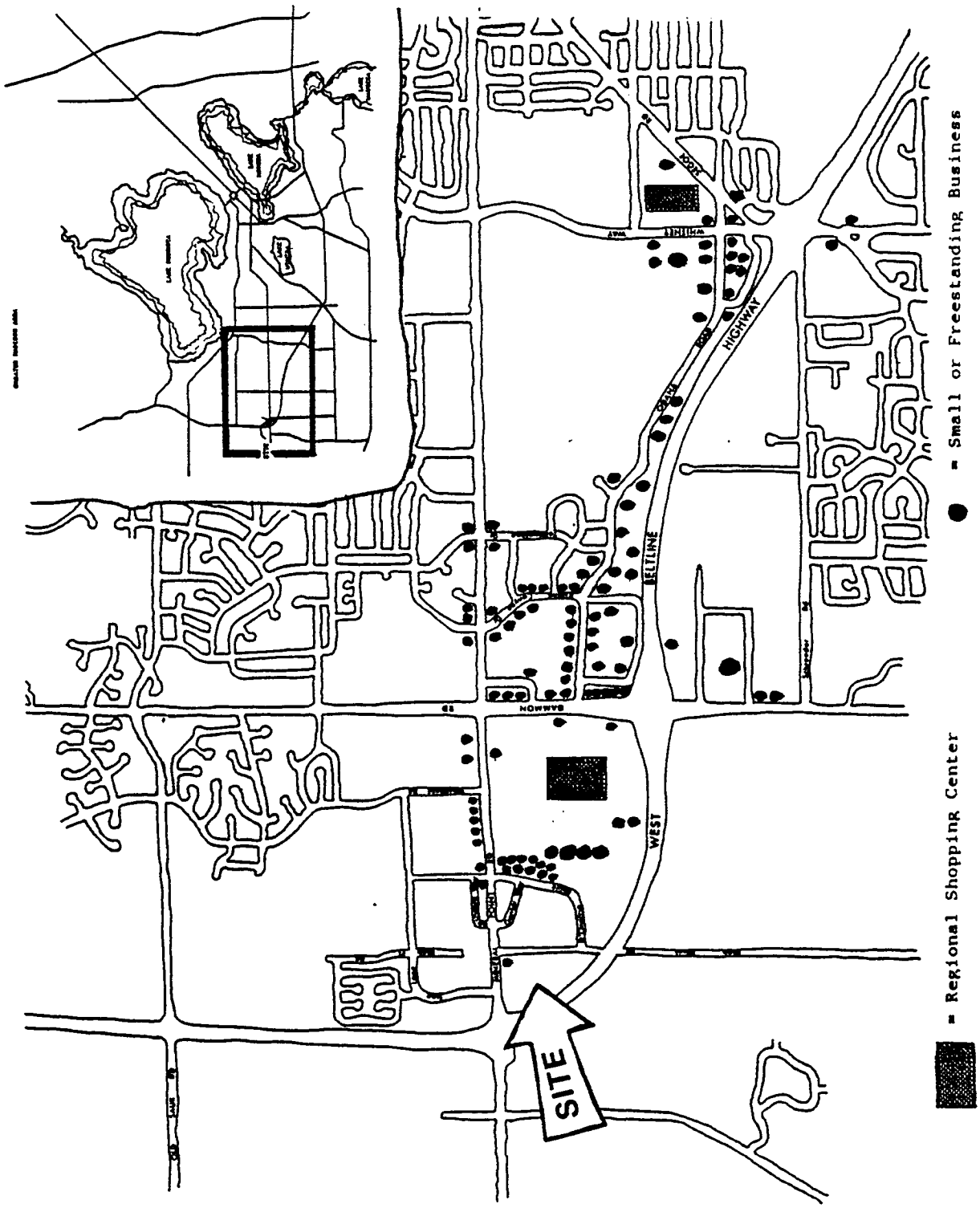
INFERENCE FROM PAST DEALS

Through interviews, we know how deals have been structured in the past and at approximately what rent levels and terms transpired. National exhibitors prefer build-to-suit deals where rent is tied to a constant of the construction budget. Knowing at about what level the constant is and the construction costs per square foot, we are able to work back to rent levels and cash flow for both lessee and lessor to see if the deal as structured makes sense.

National movie-houses, in the past, have looked for 15 to 20 year net leases with 2 to 3 year renewal options. Minimum rent is often a 18% to 20% constant of construction budget (construction budget includes land and all development costs). Exhibitors usually do not own but rather favor build-to-suit leaseback arrangements. Contruction costs range from

EXHIBIT 3

WEST TOWNE-WESTGATE "POCKET" OF RETAIL AND ENTERTAINMENT ACTIVITY



$55 to $60 a square foot (movie theaters require far more steel and costly construction materials that add about $15 to per square foot cost of ordinary retail structures; costs based on interviews only). Twenty percent of $60 cost/square foot yields a $12-14/square foot base rent. On a 20,000 square foot movie house costing $1,440,000, annual base rent could be as high as $288,000. One executive stated that some recent deals have hit the $14/square foot range. The foregoing market analysis supports the hypothesis that Madison is underscreened. Current market ratios of sales/screen and population/screen are very strong--strong enough to support these rent levels.

Past leases show lessors' participating in 6 to 8% of gross receipts. Eight percent participation is considered successfull bargaining. However, operators bargain for recapture of real estate taxes, insurance, and common area maintenance charges. Base for participation should be as low as possible--bases below $2 million in gross receipts have been negotiated. Movie-houses have been known to redefine "gross receipts" after lease has been signed. National operators that do not achieve $1.5 to 2.0 million in gross receipts within first 12 to 18 months do not renew. Inclusion of clauses that lock in the movie-house for 5 to 10 years is prudent.

Indeed, both American MultiCinema and General Cinema suspect several screens could be profitably added to Madison's far west side; both companies understand the additional supply-side economies of greater distribution in the area. Power of position and distribution patterns influences a movie-house's ability to acquire good film from distributors.

TESTS OF INVESTOR AND EXHIBITOR YIELD

Preliminary tests of cash flow analysis includes pro-formas for both the theater owner and the exhibitor/tenant to see if a lease with terms reflecting the strength of the market makes sense for both the lessee and lessor. In doing so, we first pro-forma the exhibitor's

EXHIBIT 4

EXHIBITOR PRO-FORMA CASHFLOW PROJECTION: NORMALIZED ASSUMPTIONS

EXHIBITOR	Per Sq. Ft.	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenues											
ticket sales	$76.00	1,824,000	1,896,960	1,972,838	2,051,752	2,133,822	2,219,175	2,307,942	2,400,260	2,496,270	2,596,121
concessions	$15.96	383,040	398,362	414,296	430,868	448,103	466,027	484,668	504,055	524,217	545,185
arcades	$2.28	54,720	56,909	59,185	61,553	64,015	66,575	69,238	72,008	74,888	77,884
Gross Receipts	$94.24	2,261,760	2,352,230	2,446,320	2,544,172	2,645,939	2,751,777	2,861,848	2,976,322	3,095,375	3,219,190
Operating Expenses:											
base rent	$12.55	301,200	313,248	325,778	338,809	352,361	366,456	381,114	396,359	412,213	428,702
film rental	$41.67	1,000,000	1,040,000	1,081,600	1,124,864	1,169,859	1,216,653	1,265,319	1,315,932	1,368,569	1,423,312
overage rent-lease	$2.54	60,941	68,178	75,706	83,534	91,675	100,142	108,948	118,106	127,630	137,535
overage rent-film	$2.22	53,323	59,656	66,242	73,092	80,216	87,624	95,329	103,343	111,676	120,343
salaries and wages	$15.20	364,800	379,392	394,568	410,350	426,764	443,835	461,588	480,052	499,254	519,224
administrative	$3.80	91,200	94,848	98,642	102,588	106,691	110,959	115,397	120,013	124,813	129,806
real estate taxes	$2.28	54,720	56,909	59,185	61,553	64,015	66,575	69,238	72,008	74,888	77,884
insurance	$1.52	36,480	37,939	39,457	41,035	42,676	44,383	46,159	48,005	49,925	51,922
maintenance	$3.04	72,960	75,878	78,914	82,070	85,353	88,767	92,318	96,010	99,851	103,845
Total Operating Expenses	$84.82	2,035,624	2,126,049	2,220,091	2,317,895	2,419,610	2,525,395	2,635,411	2,749,827	2,868,820	2,992,573
= Net Operating Income	$9.42	226,136	226,181	226,229	226,278	226,329	226,382	226,437	226,495	226,555	226,617

operations through the net operating income line. Exhibit 4 contains the pro-forma cashflow statement for the exhibitor; the inputs and assumptions which drive the test are found in Appendix J.

As a starting point, we began with sales at 100% of anticipated sales per screen: $304,000 for 1986. We initially tested a base rent of $10.00 per square foot, but discovered that the lessor's breakpoint quickly becomes unacceptable at such low contract rent levels. Using an industry-accepted rent constant of approximately 20% of construction costs, the rent indicated is $12.55 per square foot, a rent level which results in an exhibitor breakpoint of 90% in the first year, with a NOI of $226,000. Initial test of investor yield also indicates acceptable operating performance. Utilizing the numbers that assured solvency for the tenant as inputs for the owner's pro-forma, the first-year breakpoint is just 62%, and the projected after-tax yield over the holding period is approximately 18% (see Exhibit 5). Debt coverage constraints limit the use of adequate amounts of debt to shelter income, although this is an area that could be explored further, since the breakpoint is somewhat low.

PERFORMANCE OF MULTIPLE SENSITIVITY

Having identified initial operating parameters that offer a reasonable assurance of maintaining solvency, we begin to test the deal for upset in the assumptions. The two areas of greatest concern for the exhibitor are his contract rent payment and the gross sales levels, thus we subject his operating pro-forma to variations in each. Results of the sensitivity analysis are contained in Appendix J. One method of cash flowing the deal is to assume that the sales per screen performance of a new theater is some multiple of county average. For example, we may hypothesize that the new movieplex will do 110% or 120% of the county average and then cash flow it to see if it makes sense for both the lessor and lessee, and what levels of rent the exhibitor can pay without putting his breakpoint through the roof. We tested the gross sales at levels ranging from 80% of county average to 160% of county average, looking to the resultant breakpoint as the most important result. As expected, the

EXHIBIT 5

PRO-FORMA CASHFLOW PROJECTION: NORMALIZED ASSUMPTIONS

INVESTOR PRO-FORMA	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Theatre Gross:	$1,824,000	$1,951,680	$2,088,298	$2,234,478	$2,390,892	$2,558,254	$2,737,332	$2,928,945	$3,133,972	$3,353,350
Revenues:										
Base Rent	$301,200	$316,260	$332,073	$348,677	$366,110	$384,416	$403,637	$423,819	$445,010	$467,260
Participation	$25,920	$36,134	$47,064	$58,758	$71,271	$84,660	$98,987	$114,316	$130,718	$148,268
Common Area Maintenance	$1,500	$1,575	$1,654	$1,736	$1,823	$1,914	$2,010	$2,111	$2,216	$2,327
Utilities	$8,000	$8,400	$8,820	$9,261	$9,724	$10,210	$10,721	$11,257	$11,820	$12,411
Merchant Association	$2,000	$2,100	$2,205	$2,315	$2,431	$2,553	$2,680	$2,814	$2,955	$3,103
= Gross Receipts	$338,620	$364,469	$391,816	$420,748	$451,360	$483,754	$518,034	$554,316	$592,718	$633,368
Operating Expenses:										
Insurance	$10,000	$10,400	$10,816	$11,249	$11,699	$12,167	$12,653	$13,159	$13,686	$14,233
Real Estate Taxes	$30,000	$31,200	$32,448	$33,746	$35,096	$36,500	$37,960	$39,478	$41,057	$42,699
Mall Maintenance	$2,000	$2,080	$2,163	$2,250	$2,340	$2,433	$2,531	$2,632	$2,737	$2,847
Utilities	$1,000	$1,040	$1,082	$1,125	$1,170	$1,217	$1,265	$1,316	$1,369	$1,423
Common Area Maintenance	$1,000	$1,040	$1,082	$1,125	$1,170	$1,217	$1,265	$1,316	$1,369	$1,423
= Total Expenses	$44,000	$45,760	$47,590	$49,494	$51,474	$53,533	$55,674	$57,901	$60,217	$62,626
Net Operating Income	$294,620	$318,709	$344,225	$371,254	$399,886	$430,221	$462,360	$496,415	$532,501	$570,743
less: Depreciation	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056
less: Interest--Construction Loan	$165,712	$0	$0	$0	$0	$0	$0	$0	$0	$0
less: Interest--Permanent Mortgage	$0	$259,711	$256,508	$252,804	$248,520	$243,565	$237,835	$231,208	$223,543	$214,678
Taxable Income	$40,853	($29,057)	($339)	$30,394	$63,311	$98,600	$136,470	$177,152	$220,902	$268,009
plus: Depreciation	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056	$88,056
less: Prin. Payments--Perm Mort	$0	$20,460	$23,663	$27,367	$31,651	$36,606	$42,336	$48,964	$56,628	$65,493
Cash Throw-Off	$128,908	$38,538	$64,054	$91,082	$119,715	$150,050	$182,189	$216,244	$252,330	$290,571
less: Taxes (Savings)	$20,426	($14,529)	($169)	$15,197	$31,655	$49,300	$68,235	$88,576	$110,451	$134,004
less: Reserves	$1,000	$1,000	$500	$0	$0	$0	$0	$0	$0	$0
less: Prior Wkg Cap. Ln	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Cash from Operations	$107,482	$52,067	$63,723	$75,885	$88,060	$100,750	$113,954	$127,668	$141,878	$156,567
Distributable Cash After Tax	$107,482	$52,067	$63,723	$75,885	$88,060	$100,750	$113,954	$127,668	$141,878	$156,567

test showed that the exhibitor's yield is very sensitive to sales levels, with breakpoints approaching 100% at sales levels of 85%-90% of county average ($258,000-$274,000 per screen). However, the exhibitor's breakpoint is not highly sensitive to variations in contract rent (assuming that sales remain at $300,000/screen); first-year breakpoints range from 85% at a 12% rent constant to 94% for a 26% constant.

Sensitivity analysis for the investor focuses on after-tax yield, although the breakpoint must be maintained at below a maximum of 85%. Four inputs tested were tested for the investor: 1) variations in base rent, 2) variations in the NOI multiplier (NIM) at year 10, 3) variations in gross sales for the theater, and 4) variations in the overage base above which percentage rents apply. The results of this analysis are also contained in Appendix K. When base rents were varied from $11.00 to $18.00, the after-tax yields fluctuated between 15% and 26%, with an 18% yield projected at $12.55. Variations in the year 10 NIM also produced a wide range of after-tax yields, ranging from 11% at 6X to 21% at 13X. Variations in sales levels do not affect the investor as much as the exhibitor, with most of the variation in after-tax yield (16%-24%) resulting from variations in the NOI in year 10, and manifesting itself in the reversion. Finally, there is almost no significant sensitivity to variations in the overage base; a base of $1,100,000 produces a 20% return, while a $1,800,000 results in a 17% after-tax yield. Thus, when negotiating a lease with an exhibitor, the overage base is a low-value bargaining chip for the investor; a low base may be conceded in exchange for some other concession from the tenant.

Summarizing, the areas of greatest sensitivity are the gross sales levels and the anticipated NOI multiplier. Variations in contract rent are more important to the investor than to the exhibitor, while the reverse is true for the overage base. Based on the pro-formas and the sensitivity analysis, the investor will want to make his deal going in, given the sensitivity of his return to variation in contract rent levels and NIM assumptions. Giving away some concessions on the percentage

rents, which are more important to the exhibitor, should help produce a lease which gives the investor the majority of his return prior to the sale of the theater.

PARKING ANALYSIS

INTRODUCTION

Although the results of the market study are applicable to almost any site in the West Towne area with reasonably good linkages, the theater is proposed for inclusion in the Big Sky mixed-use development. Among the reasons for including a theater in a mixed-use development is the opportunity for the office workers to park in a lot during the day and movie patrons to park in those same stalls after the office employees have gone home--to "share the parking." Advantages of shared parking include more intensive use of limited land, and cost savings because less parking surface must be provided.

The Urban Land Institute (ULI) has formalized the concept of shared parking into a methodology backed by observation of parking demand at mixed-use developments around the U.S.. ULI's methodology will be applied to initial development concept planned for the Big Sky site, to study the effect of the theater on parking requirements, and to discover the controlling land use based on the initial development proposal. The results of the shared parking analysis will be compared to the City of Madison parking requirements to determine if shared parking actually saves in the number of stalls required.

SHARED PARKING ANALYSIS

Recent studies on parking reflect re-thinking of the amount of parking required for mixed-use developments, and most conclude that the parking required if each use were freestanding. The Urban Land Institute (ULI) defines the concept of shared parking as "parking space that can be used to serve two or more individual land uses without conflict or encroachment." The concept of shared parking is premised on:

1) variations in peak accumulation of parked vehicles as the result of different activity patterns of adjacent or nearby land uses (by hour, by day, and by season), and,

2) relationships among land use activities that result in peoples' attraction to two or more land uses on a single auto trip to a given area or development.

The majority of parking reduction to be gained in suburban land uses is found in the first category, variation in time of demand.

When distinct land uses are incorporated into one development concept, the development assumes a "mixed-use" character. Witherspoon, et al., have identified three characteristics of a mixed-use development: 1) three or more significant revenue-producing land uses, 2) significant functional and physical integration of project components, and 3) a coherent development plan specifying project phasing, scheduling, land use densities, and other characteristics. Clearly, EMI's development concept for the Big Sky site is mixed-use, so shared parking analysis may be a useful tool in the design process. This should hold true whether the entire parcel is developed under one ownership or parcels are sold separately.

Studies of existing multiuse projects have shown shared parking has reduced parking space requirements. Three important points resulted:

1. Actual peak parking occupancy in multiuse projects was consistently lower than a gross parking demand estimate using single land use peak parking demands added together.
2. Estimates of shared parking demand using time differentials, if properly constructed, are more reliable than are estimates of gross parking demand.
3. Captive market effects (e.g., on-site markets such as office employees who also shop within the same development) often significantly reduced requirements for shared parking.

Therefore, some degree of parking synergy can be harnessed by combining offices, retail and cinemas within a mixed-use development. But the extent of parking space reduction is more fully understood after considering the demand relative to time of day for each land use. Parking demand is defined in terms of peak unit demand, hourly accumulation, and seasonal variation, or in other words, quantity and time of occurrence.

The parking factors indicated by ULI were derived as described below. They are summarized in Appendix L.

OFFICE PARKING DEMAND

Studies show a continuing downward trend in parking demand ratios for offices. Newer office buildings are averaging 4.25 employees per 1,000 square feet of building area; older buildings had average density ratios of 4.4 (Institute of Transportation Engineers). Another study, on office demand for freestanding offices, concluded peak parking demand is 2.66 spaces per 1,000 square feet GLA, with a range of 2.07 to 3.08.

RETAIL PARKING DEMAND

Peak unit demand for retail parking occurs on Saturday where approximately 5.0 spaces per 1,000 square feet GLA at the 90th percentile ratio with a range of 3.5 to 6.0 Weekday surveys indicated a range of demand ratios between 2.9 and 3.9, with a 90th percentile ratio of approximately 3.8. A 1981 survey by Wilbur Smith and Associates concluded parking demand ratios vary with size of the center. For our purposes, centers of between 25,000 and 400,000 square feet have a recommended peak ratio of 3.8 spaces per 1,000 GLA.

RESTAURANT PARKING DEMAND

Studies on restaurant parking demand ratios have concluded that peak parking accumulation did not occur consistently on either a weekday or on Saturday. The peak parking demand ratios varied between 7.2 and 25.8 spaces per 1,000 square feet, with a 90th percentile value of approximately 20.0 spaces per 1,000 square feet. The wide differences in demand ratios was not related to differences in the size of the restaurants or the regions where they were located but appeared to be influenced by local market factors and, most important, the turnover characteristics of the particular restaurant type. Noon lunch hour and the evening dinner hours were peak activity times.

CINEMA PARKING DEMAND

The ULI survey results indicated peak values of approximately 0.25 parking space per seat on a Thursday and 0.30 parking space per seat on a

Friday and Saturday. Assuming the proposed cinema contains 1,500 seats in 30,000 GLA, the factors convert to 12.5-15.0 spaces per 1,000 GLA. These results have two significant qualifications. First, the cinemas surveyed had either two or three screens, which decreases the probability of achieving full seating full seating capacity at all screens. Second, each turnover of patrons at each screen creates congestion and conflicting demand for spaces (as arriving customers wait for patrons of the earlier show to depart).

Hourly parking accumulations relative to the daily peak hour are stable and are very stable to the relative popularity of certain show times. Cinemas that operate during the weekday afternoons show parking demand to reach approximately 70% of peak parking accumulations by 1:00 P.M.. However, cinemas that operate during evening hours only on weekdays would generate afternoon parking demand only on weekends.

Cinema parking demand also has substantial seasonal variation. Variations are large, but cinemas featuring the most recently released or heavily promoted films follow a more or less predictable pattern. Three seasonal peaks tend to occur, corresponding to the seasons of new film releases and students' vacation periods. The largest peak occurs in June and July, followed by a slightly lower post-Christmas peak and an early fall peak. Because of the size of the proposed theatre and the parking intensity associated with theatres, the cinema is expected to be the controlling land use on the sire. However, the critical factor at this point appears to be the expected afternoon theatre schedule and the expected patronage level for afternoon shows. ULI data have indicated an expected attendance level at 70% of peak for weekdays, a figure which we have questioned from an empirical standpoint. Because the theatre may occasionally place a heavy demand on the parking facilities on weekday afternoons, it would be desirable to negotiate a lease restricting afternoon showings.

RESIDENTIAL DEMAND

Because the residential units are not considered to be associated with the balance of the development, and residents will therefore have

their own parking spaces, the residential parking demand will not be considered in the shared parking study and calculations.

CITY OF MADISON REQUIREMENTS

The City of Madison Zoning Ordinance stipulates that the minimum parking requirements are as follows:

Offices (professional)	One space per 300 sq. ft. of Gross Leasable Area (GLA).
Retail	One space per 300 sq. ft. of GLA
Restaurant	Parking equal to 10% of seating capacity.
Cinema	One space per four seats for less than 450 seats, one space per six seats for 450 seats or more.

Although the requirements for retail and restaurant uses are less than industry standards, they are adequate when combined with other uses. In fact the City appears to be cognizant of the effects of shared parking and its benefits in reducing land consumption for parking.

PARKING CALCULATIONS

To facilitate the calculation of anticipated parking requirements, the ULI data and attendant methodology was incorporated in a spreadsheet. (A demonstration shared parking calculation is in Appendix M.) The preliminary inputs provided by the client for analysis are:

Office:	100,000 square feet
Retail	37,000 square feet
Restaurant	5,000 square feet
Cinema	1,500 seats (six screens)

Based in the above development plans, and calculating parking demand for every hour of both weekdays and Saturdays, as well as each month, the maximum parking demand of 711 stalls was found to occur on a weekday in June, at 2:00 P.M., as shown in Exhibit 6. Obviously, intensive theater attendance is required to realize this level of demand. The peak demand

EXHIBIT 6
PROJECTED PARKING DEMAND: SHARED PARKING

Month	Weekday	Saturday
January	659	548
February	604	453
March	567	382
April	619	472
May	622	477
June	711	621
July	711	621
August	623	471
September	646	511
October	620	466
November	574	380
December	606	406

MAXIMUMS:	
Month	Weekday
June	711
July	711
Month	Saturday
June	621
July	621

for Saturday, 621 cars at 8:00 P.M., also occurs in June, reflecting the popularity of movies in June and July. Exhibit 7 illustrates actual hourly projections for weekdays and Saturdays in June. Exhibit 8 contains graphs of the total hourly parking demand for June and July.

CITY OF MADISON MINIMUMS

The City of Madison minimum parking methodology mandates the following levels of parking:

Office:	100,000 GLA/300 GLA per stall	=	333 stalls
Retail:	37,000 GLA/300 GLA per stall	=	123 stalls
Restaurant:	200 seats x 10% of capacity	=	20 stalls
Cinema:	1,500 seats/6 seats per stall	=	250 stalls
			726 stalls
ULI Shared Parking Requirements:			711 stalls
Difference:			15 stalls

The excess of City parking requirements over ULI indicated parking requirements is just 15 spaces: about 2%. Thus, although the dynamic model of shared parking identified a need for just 711 parking spaces, the static City of Madison requirements arrive at virtually the same numbers by adoption of below-industry standard requirements.

EXHIBIT 7
PROJECTED PARKING DEMAND FOR PEAK MONTHS OF JUNE AND JULY

Hourly Demand by Type of Use

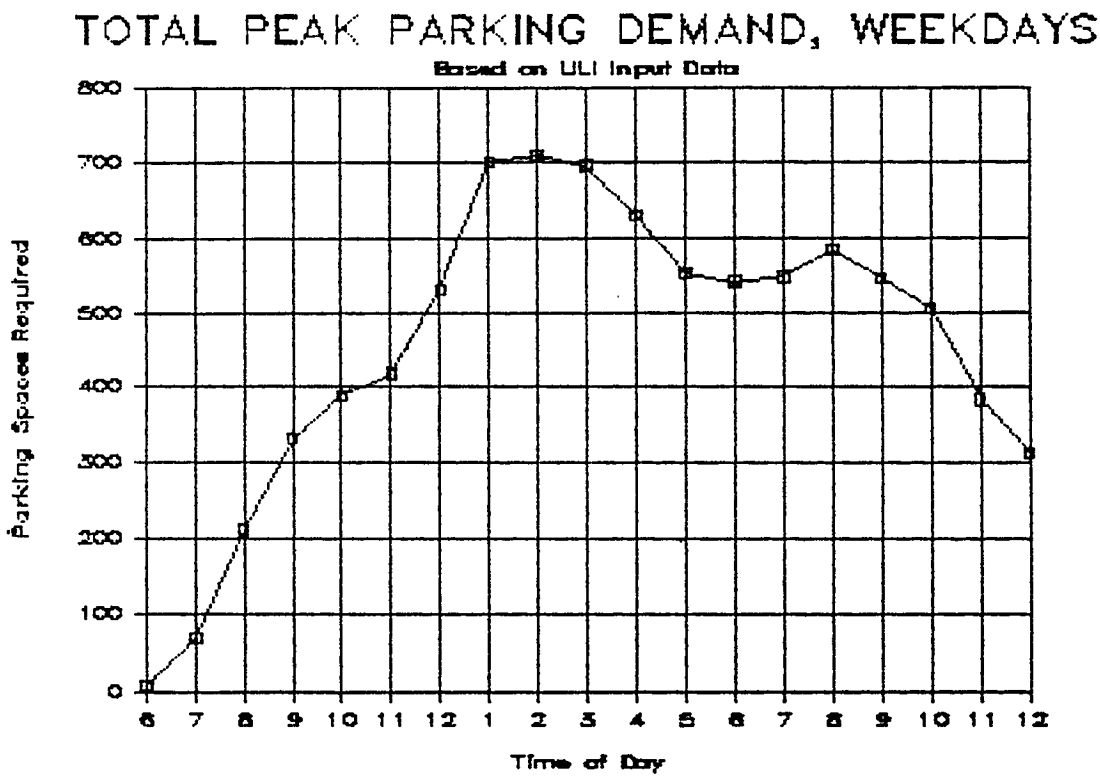
Weekdays

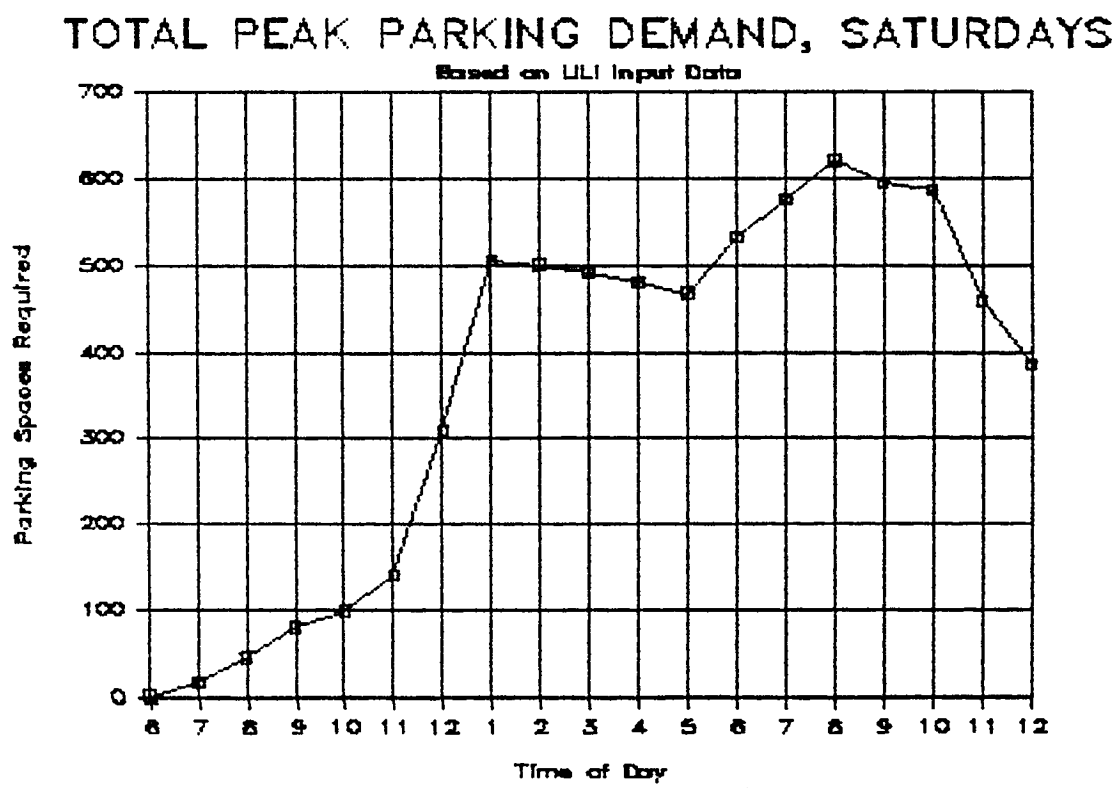
Time	Office	Retail	Rest.	Cinema	Resid.	TOTAL
6:00 a.m.	9	0	0	0	0	9
7:00 a.m.	60	8	2	0	0	70
8:00 a.m.	189	18	5	0	0	212
9:00 a.m.	279	42	10	0	0	331
10:00 a.m.	300	68	20	0	0	388
11:00 a.m.	300	87	30	0	0	417
12:00 Noon	270	97	50	113	0	530
1:00 p.m.	270	100	70	263	0	703
2:00 p.m.	291	97	60	263	0	711
3:00 p.m.	279	95	60	263	0	697
4:00 p.m.	231	87	50	263	0	631
5:00 p.m.	141	79	70	263	0	553
6:00 p.m.	69	82	90	300	0	541
7:00 p.m.	21	89	100	338	0	548
8:00 p.m.	21	87	100	375	0	583
9:00 p.m.	9	61	100	375	0	545
10:00 p.m.	9	32	90	375	0	506
11:00 p.m.	0	13	70	300	0	383
12:00 Mid.	0	0	50	263	0	313

Saturdays

Time	Office	Retail	Rest.	Cinema	Resid.	TOTAL
6:00 a.m.	0	0	0	0	0	0
7:00 a.m.	10	3	2	0	0	15
8:00 a.m.	30	11	3	0	0	44
9:00 a.m.	40	33	6	0	0	79
10:00 a.m.	40	50	8	0	0	98
11:00 a.m.	50	81	10	0	0	141
12:00 Noon	50	94	30	135	0	309
1:00 p.m.	40	105	45	315	0	505
2:00 p.m.	30	111	45	315	0	501
3:00 p.m.	20	111	45	315	0	491
4:00 p.m.	20	100	45	315	0	480
5:00 p.m.	10	83	60	315	0	468
6:00 p.m.	10	72	90	360	0	532
7:00 p.m.	10	67	95	405	0	577
8:00 p.m.	10	61	100	450	0	621
9:00 p.m.	0	44	100	450	0	594
10:00 p.m.	0	42	95	450	0	587
11:00 p.m.	0	14	85	360	0	459
12:00 Mid.	0	0	70	315	0	385

EXHIBIT 8
GRAPHS OF TOTAL HOURLY PARKING DEMAND FOR PEAK MONTHS OF JUNE AND JULY





CONCLUSIONS

Combining office with retail space results in competition for parking between retail and office users on weekdays (which means both must be provided for), but opportunity for shared parking occurs when the increase in weekend retail parking demand is accommodated by the decrease in weekend office parking demand. Combining retail with cinemas results in the midday peak in retail parking demand complementing the evening peak in cinema demand on Saturdays. Most interesting, combining office and cinema uses results in reusing the daytime office parking by the evening and weekend moviegoers, but this synergy assumes cinemas do not operate daytime on weekdays (shows begin at 4:30 P.M. or so).

Of course, certain mixed-use land uses produce greater reductions in parking demand, exceeding those accounted for by different peak periods (i.e., "effects of captive market"). Such market synergy is possible in mixed-use developments because of on-site market support (office employees who also shop within the development) and improved market image and penetration (associated with the unique or prestigious environment of the development). Market synergy creates market demand greater than that occurring in developments with a single land use. However, this increased demand does not mean an increase in parking requirements, in fact, it may result in a reduction because of the reduced demand for parking spaces per unit of land use as the result of land uses within walking distance of each other, which allows individuals to patronize more than one establishment on a single trip.

Characteristics of multipurpose shopping, shared spaces, and rate of parking space turnover distinguish the parking requirements of shopping centers from those of freestanding commercial enterprises. The generally accepted parking index for small shopping centers is 4.0 spaces per 1,000 square feet of GLA. Based on 400 feet per car, (taking both parking space and access driveways into account), the index is roughly equivalent to an area ratio of about 1.6 square feet of parking area per square foot of building area. The methodology is based on standards that serve patron and employee needs at the 20th busiest hour of the year, and allow a surplus during all but 19 hours of the remainder of more than 3,000 hours

during which a typical center is open annually. During 19 hours of the year, which are distributed over 10 peak shopping days, some patrons will not find parking when they first enter the lot (the standard includes parking spaces for employees and incorporates a reserve for traffic movement within the parking area).

FINAL RECOMMENDATIONS

Most U.S. cities today have outdated parking requirements on their books; Madison appears to be an exception. Parking minimums contained in the Madison Zoning Ordinance (revised 1/22/81) are less than commonly accepted industry parking ratios, thus shared parking analysis offers no significant savings at the proposed levels of development. However, as office space is increased on the site, analysis will begin to show an increasing gap between shared parking figures and City requirements. Because the City mandates 3.33 stalls per 1,000 GLA, while ULI accepts 3.0 stalls per 1,000 GLA, an increase in office employees would result in a greater increase in parking requirements under the City methodology. At the planned levels of development, however, it does not appear that saving 15 stalls of parking is justified in light of the delay, aggravation and expense that would be incurred in gaining the variance.

It appears that the theater is the dominant land use in terms of parking demand, requiring more stalls for 24,000 square feet of GLA than does 100,000 GLA of office space. Therefore, inclusion of a theater on the Big Sky site will need to be weighed against the opportunity cost of using the land, both the building pad and the parking area, for a different use.

APPENDICES

APPENDIX A

Film Industry Economics

Wholesale distribution of film to exhibitors is considered an oligopoly; retail screening of film in Madison is competitive, though oligopoly tendencies are becoming more pronounced. Four regional and national movie houses (Marcus, General Cinema, American MultiCinema, and 20th Century Corporation) control more than 95% of area screens. It is not surprising then that of 27 main attractions for the week March 15-22, only six films were featured at more than one screen; on March 23-24, eight films were so featured.

Small operators typically run the older, economically obsolete theaters such as the Strand, the Orpheum, or the Majestic (the latter two seat more than 1,200 people, the Strand seats more than 500). These larger, older theaters are marginally competitive--having one screen, excess unusable space, inadequate parking, and minimal bidding leverage. Operators with more screens outbid one-location operators; for the higher price paid, the multi-screen bidder gets extra film prints at nominal cost. The trend for movie houses is towards multi-screen theaters containing smaller seating capacity and giving consumers greater selection tastes at one easily-accessible location. We expect older theatres to add screens or convert to other uses (cease theater operation).

The tendency towards oligopoly is symbolized by the rise of the "multiplex." A multiplex is defined as a multi-screened theater complex featuring anywhere from 3 to 10 movies at one time[1]. Multiplexes sharply reduce costs to the theater owner. All screens share ticket booth, highly-automated projection booth, manager, and concession stand.

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1. Alex Ben Block, "Now Playing: Exhibitor Power"; Forbes, (April 8, 1985), pp. 54-59.

Further, the multiplex enjoys benefits of spill-over from sell-outs and latecomers: patrons, finding the feature they originally came to see sold out, will often go to the next feature playing at the multiplex; similarly, latecomers, who do not wish to see a film after it has started, will instead go to another film at the same multiplex. Both phenomena do not accrue to the benefit of a single screen theater.

Rise of the multiplex has transformed the exhibitor's economics on both the revenue and cost side. Margin is widened by lower unit costs created by the aforementioned scale and sharing; margin is further widened by the theater's increased odds of booking a hit. Reacting to these economies, the major theater chains are expanding. Two of America's largest exhibitors, American MultiCinema and General Cinemas, are adding 10% to 15% new screens a year to existing stock[1].

The growing strength of the national exhibitors also changes the bargaining position of exhibitors relative to the film distributors--whose prior oligopoly may be weakening. Multiplexes, backed by national exhibitors, are able to leverage their film bidding. For a certain rental fee, a multi-screen operator (in different geographical markets) is able to receive extra prints from the distributor at a nominal cost.

Together, widening margins brought about by lower operating costs, and volume-leveraged bidding make the multiplex far more profitable than the older, one-screen barns. The older theaters face higher operating costs due the diseconomies of an older structure and absence of leveraged bidding. These older theaters will diminish in numbers as margins grow thinner.

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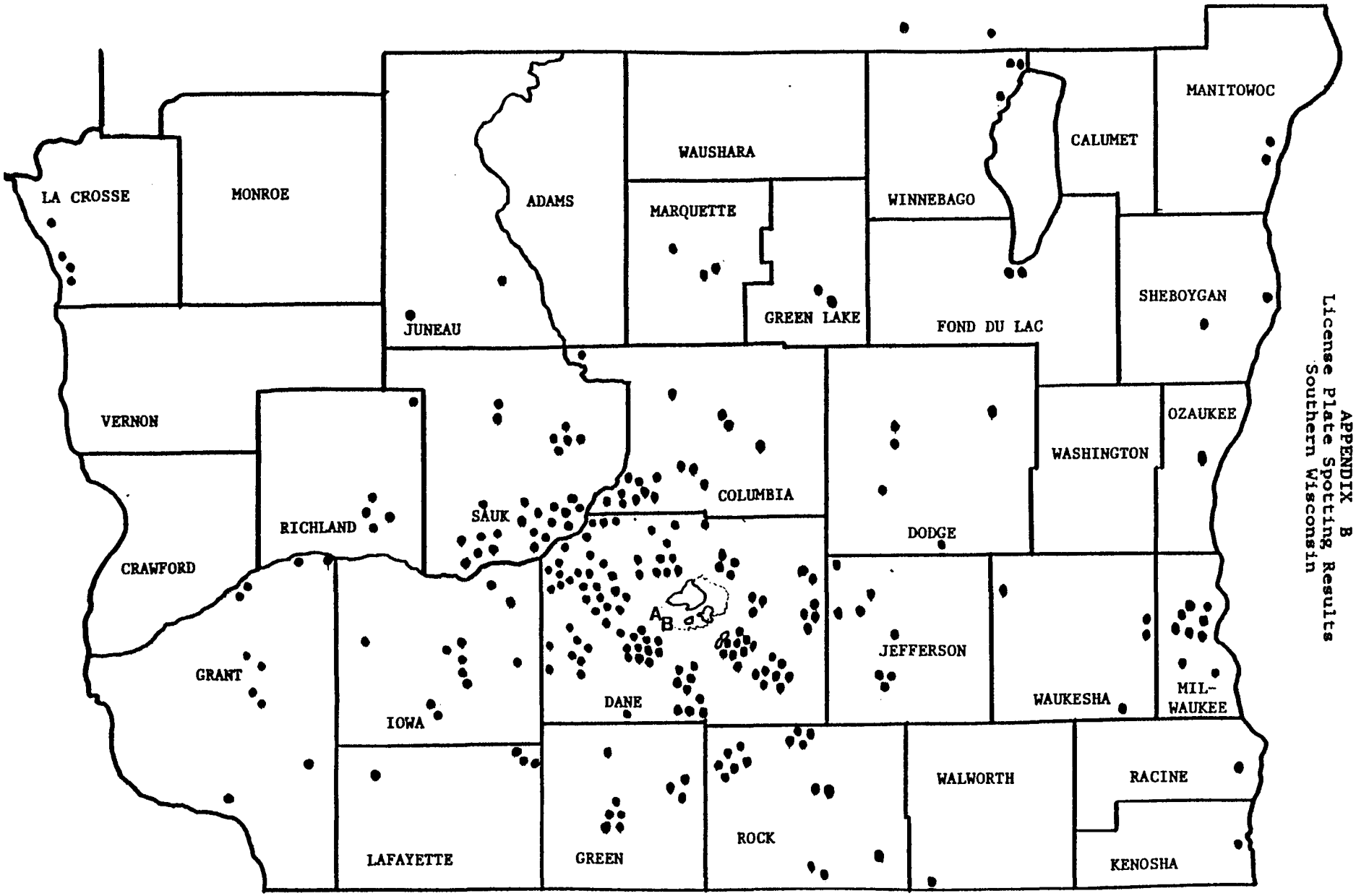
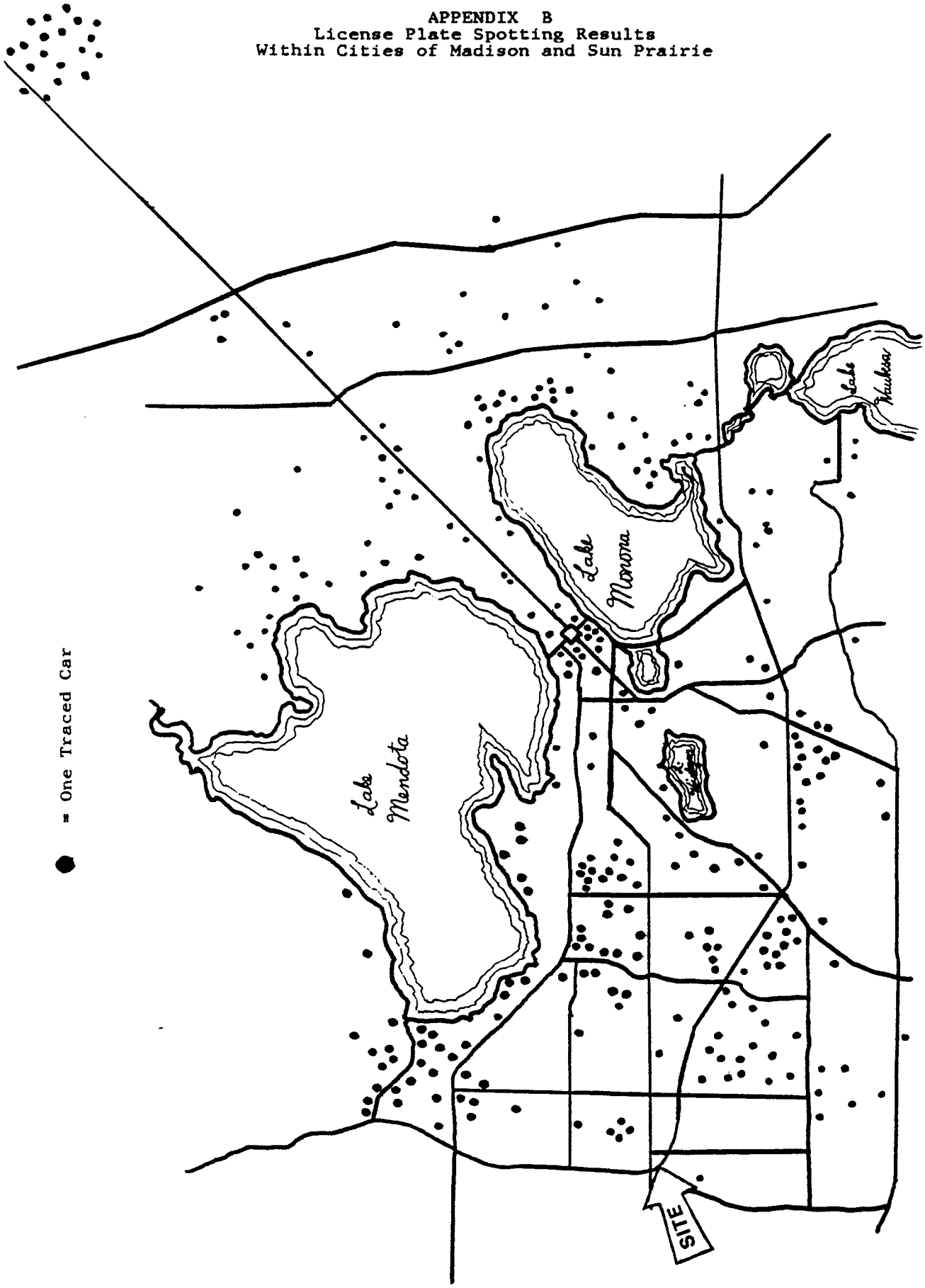
1. Ibid, Alex Ben Block.

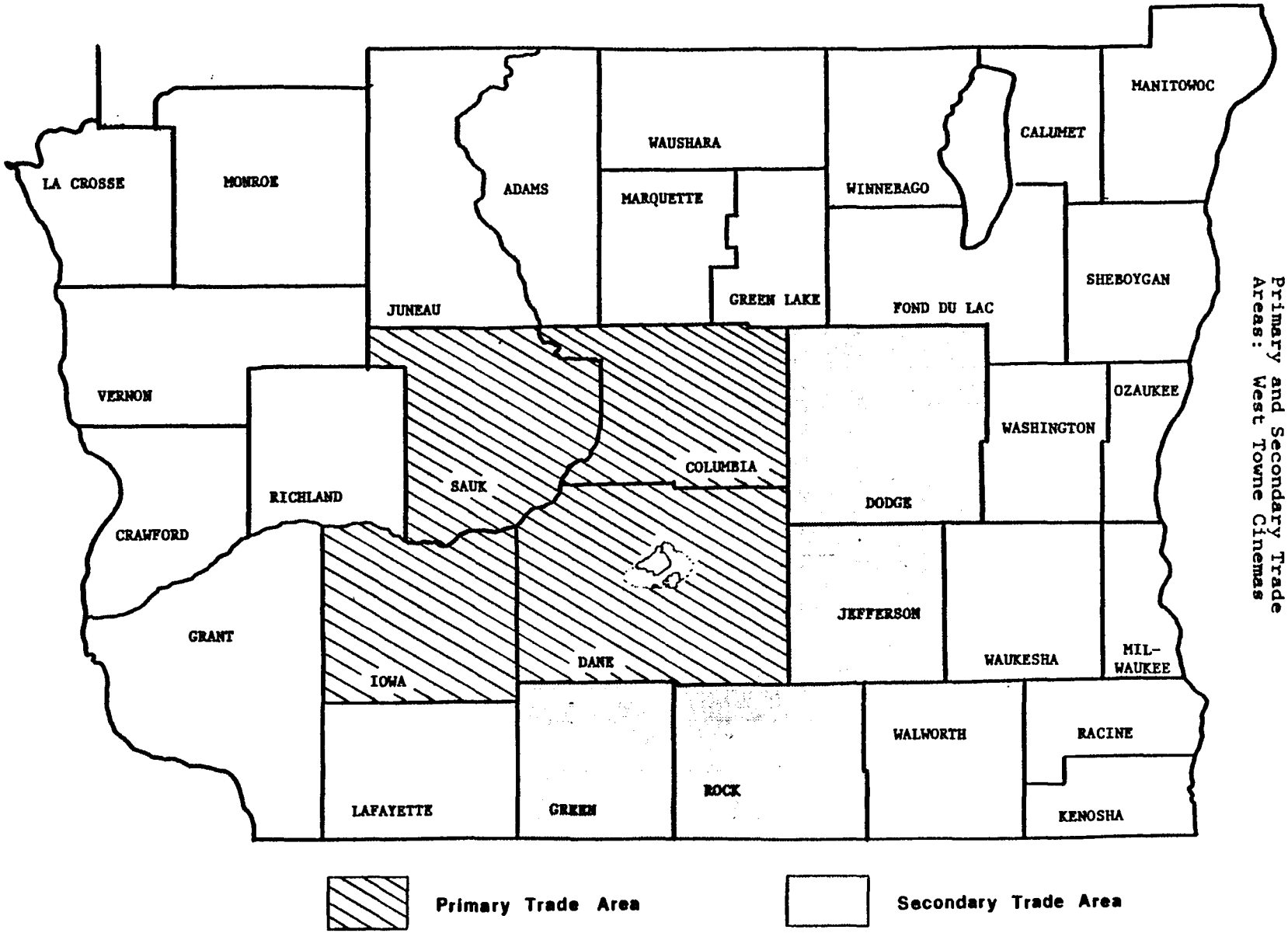


A: Subject B: West Towne = One Traced Car

APPENDIX B
License Plate Spotting Results
Southern Wisconsin

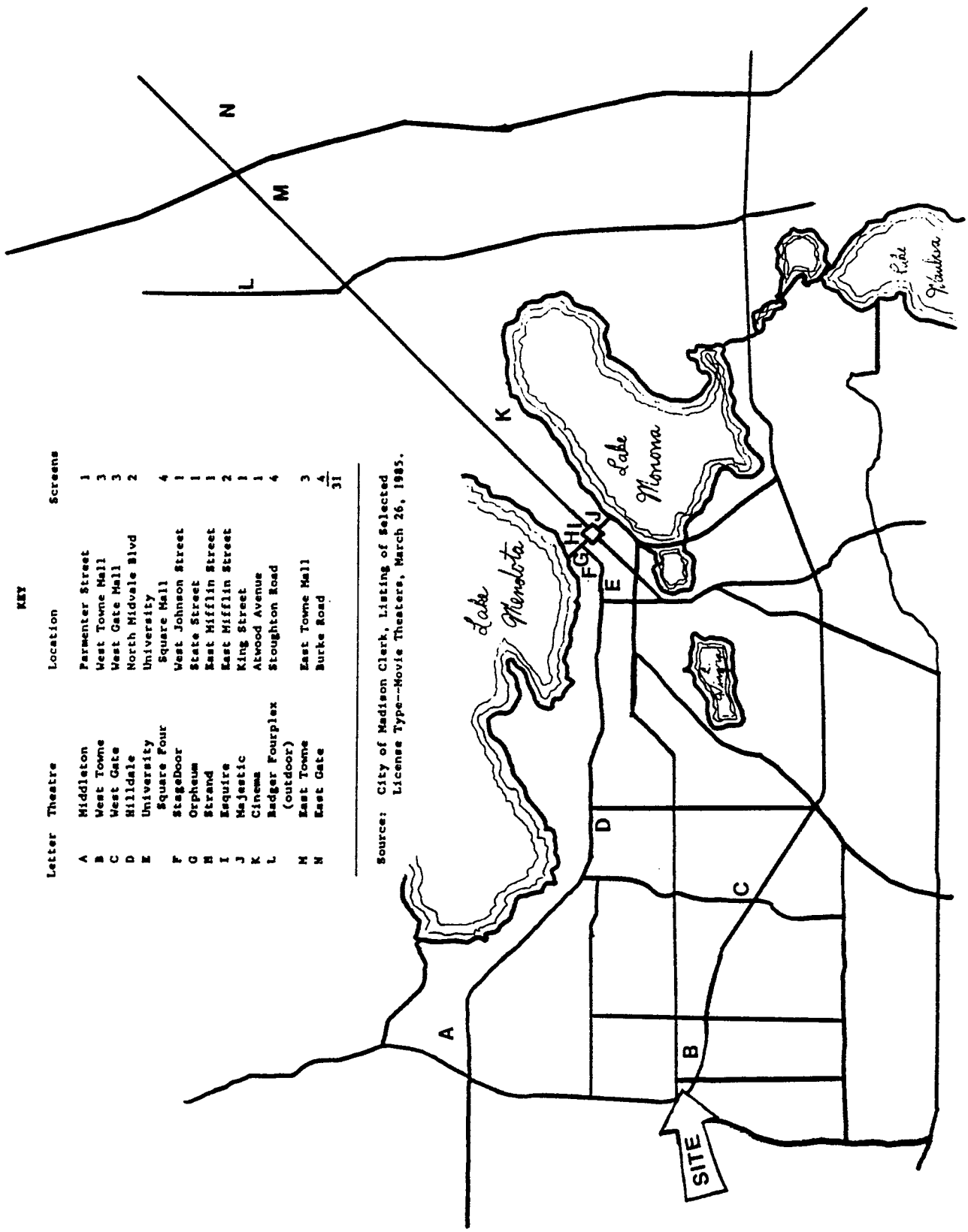
APPENDIX B
License Plate Spotting Results
Within Cities of Madison and Sun Prairie



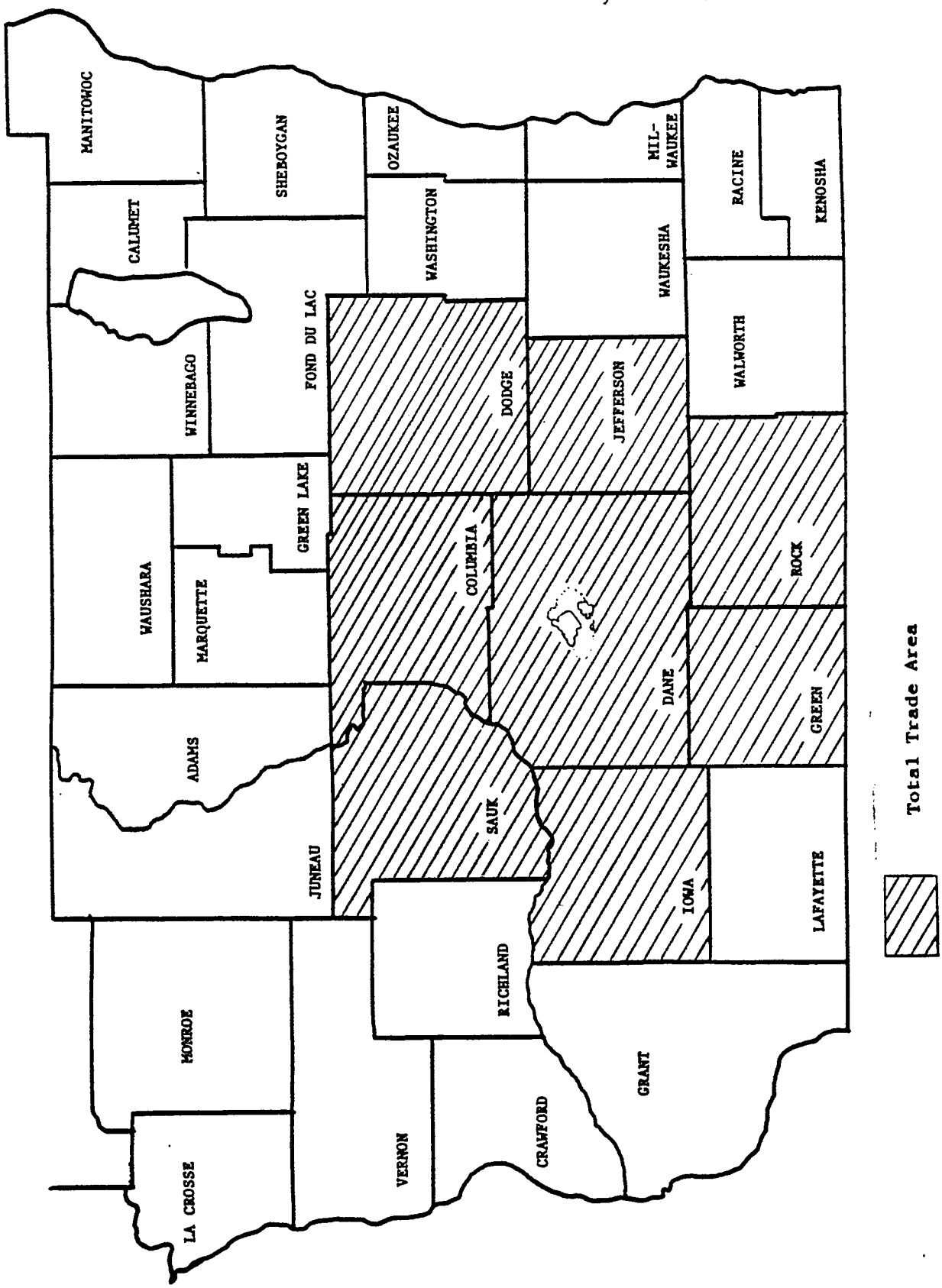


APPENDIX C
Primary and Secondary Trade Areas: West Towne Cinemas

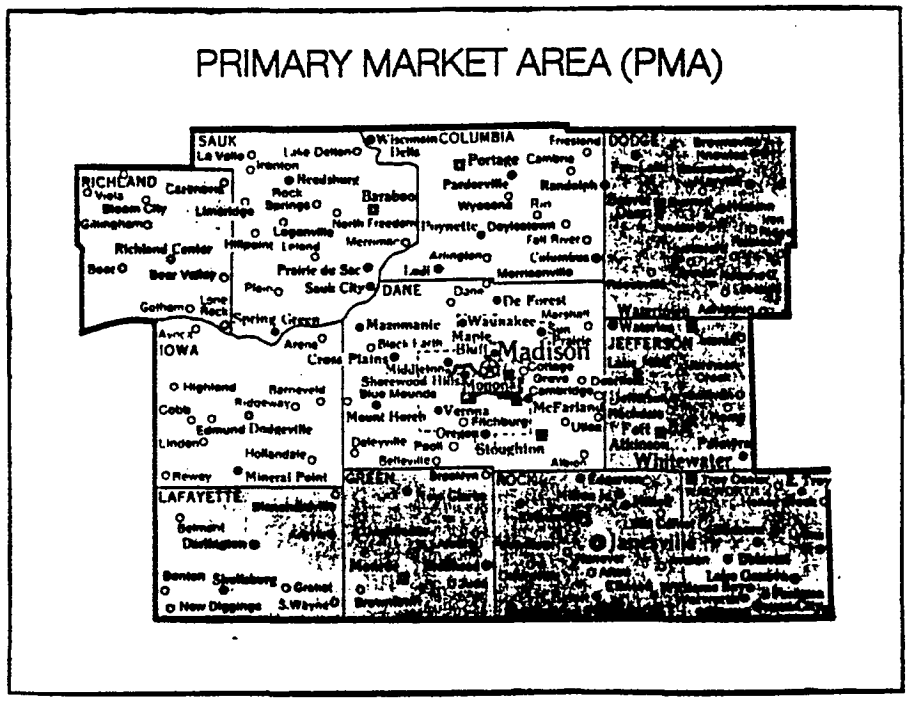
APPENDIX D
Location of Competitive Supply



APPENDIX E
Cumulative Trade Area--All County Screens

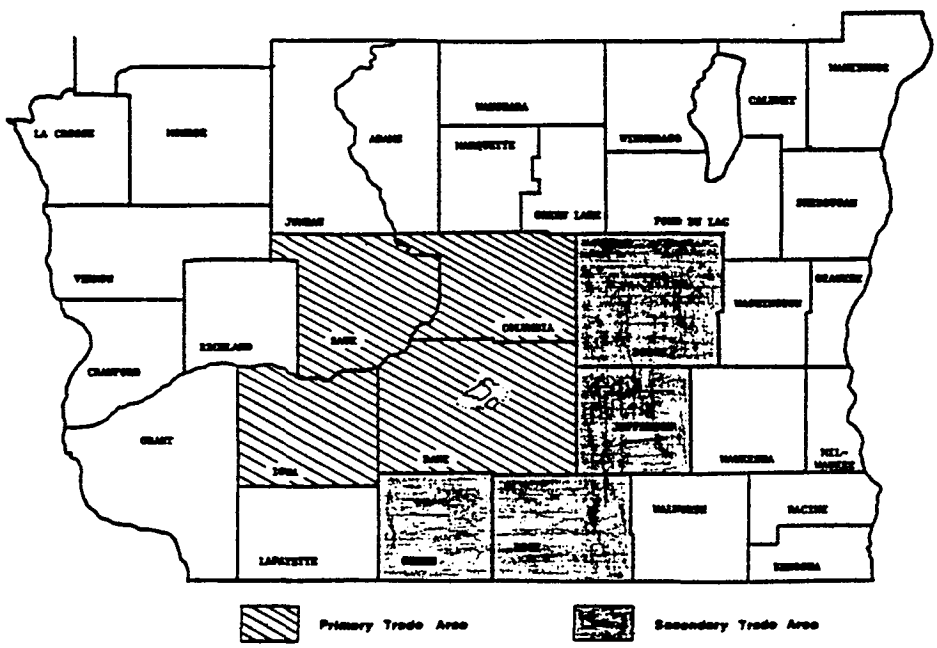


APPENDIX F
Primary Market Area
Madison Newspapers Incorporated vs. West Towne Cinemas



Primary Market Area for Madison Newspapers

Source: Madison Newspapers, Inc.



Primary and Secondary Trade Areas for West Towne Theater

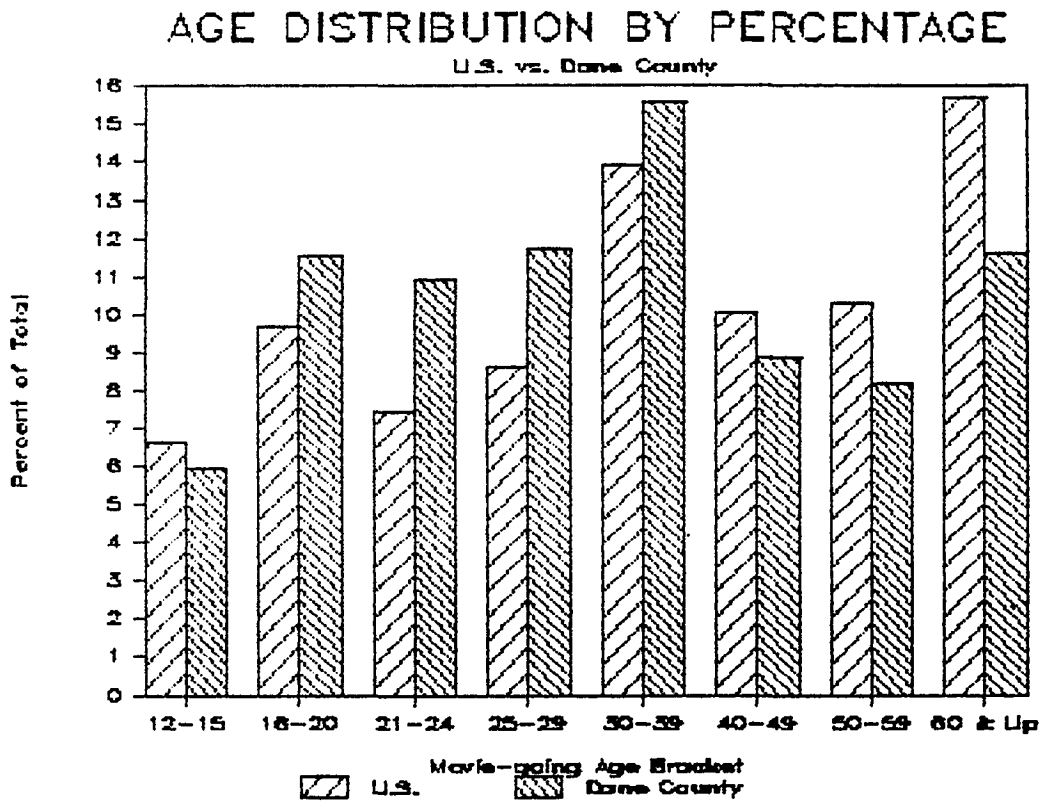
Source: Research by authors

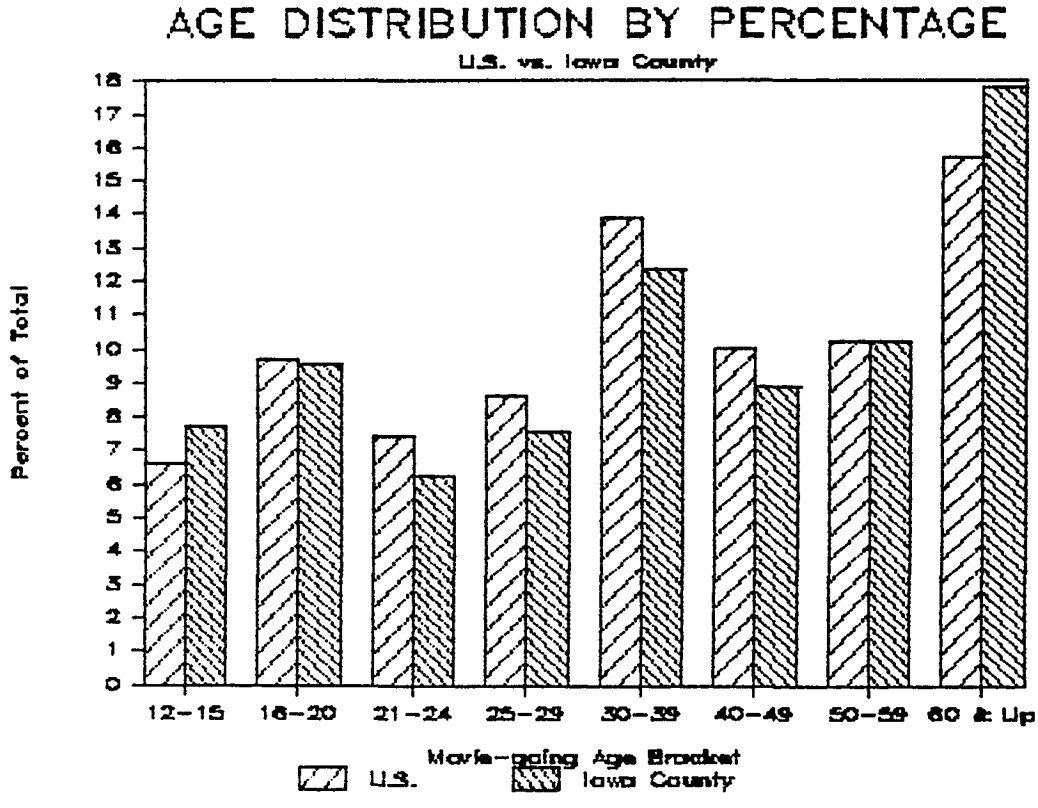
APPENDIX G
Roster of Competitive Theaters

Theatre	Location	Estimated Seating	Screens	Operator
Cinema	Atwood Avenue	700	1	Unknown
East Towne	East Towne Mall	1,200	3	General Cinemas
East Gate	Burke Road	1,000	3	Marcus
Esquire	East Mifflin Street	700	2	Marcus
Hilldale	North Midvale Blvd	1,150	2	20th Century
Majestic	King Street	700	1	C. T. Corporation
Middleton	Parmenter Street	350	1	20th Century
Orpheum	State Street	1,300	1	20th Century
Stage Door	West Johnson Street	400	1	20th Century
Strand	East Mifflin Street	700	1	20th Century
University Square Four MultiCinema	University Square Mall	1,000	4	American
West Towne	West Towne Mall	750	3	General Cinema
West Gate	West Gate Mall	550	2	Marcus
Badger Fourplex	Stoughton Road	1,500	4	20th Century
Big Sky	Mineral Point Road	700	1	20th Century

Source: City of Madison Clerk, Listing of Selected License Type--Movie Theaters, March 26, 1985.

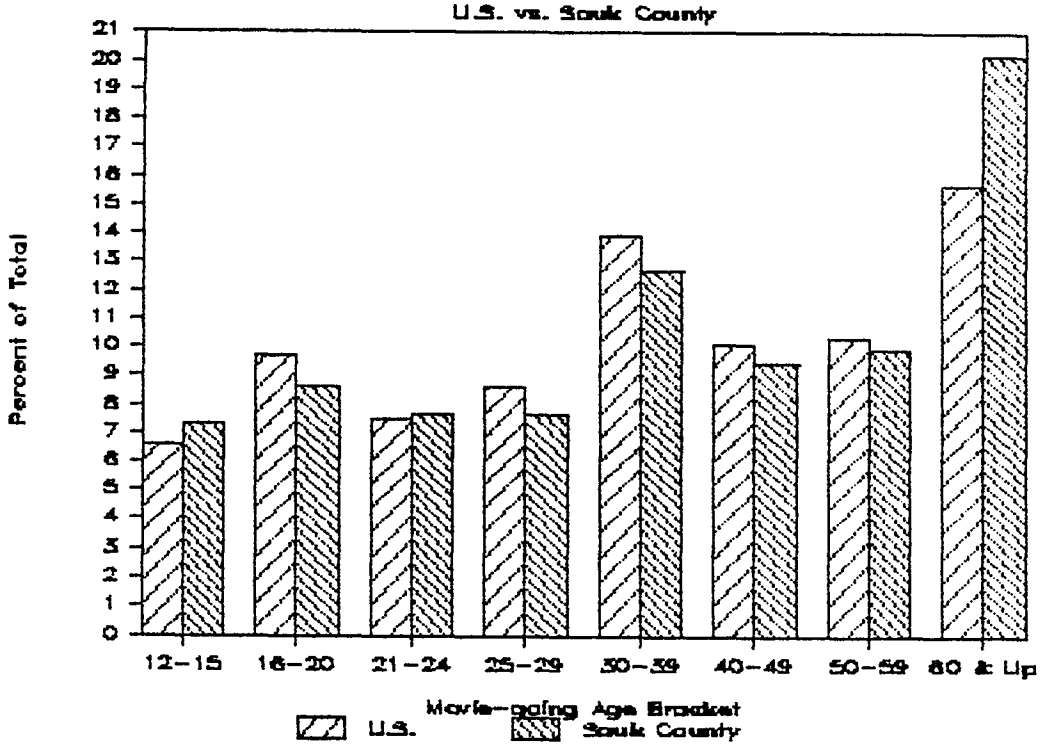
APPENDIX H
Age Cohort Graphs





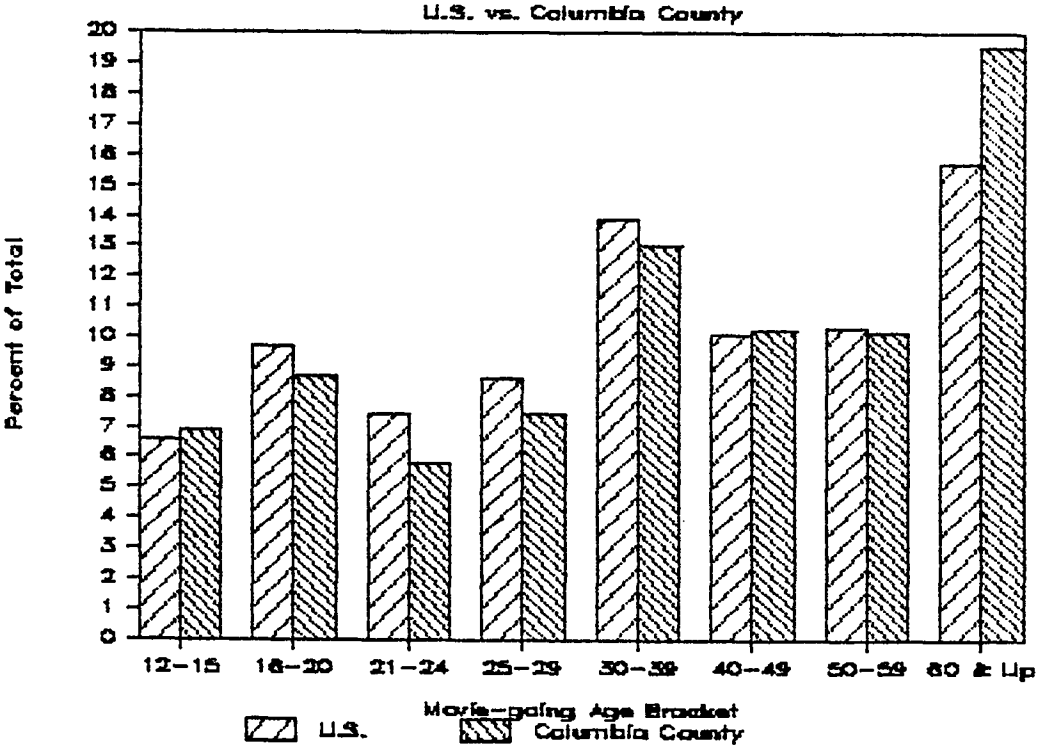
AGE DISTRIBUTION BY PERCENTAGE

U.S. vs. Sauk County



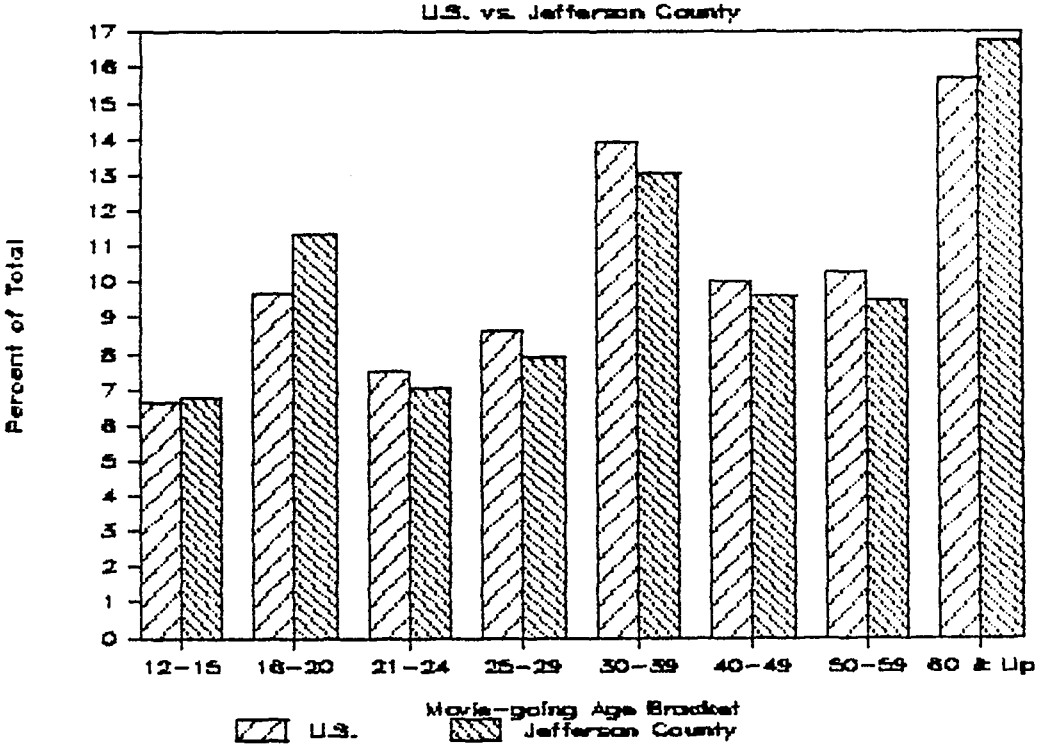
AGE DISTRIBUTION BY PERCENTAGE

U.S. vs. Columbia County



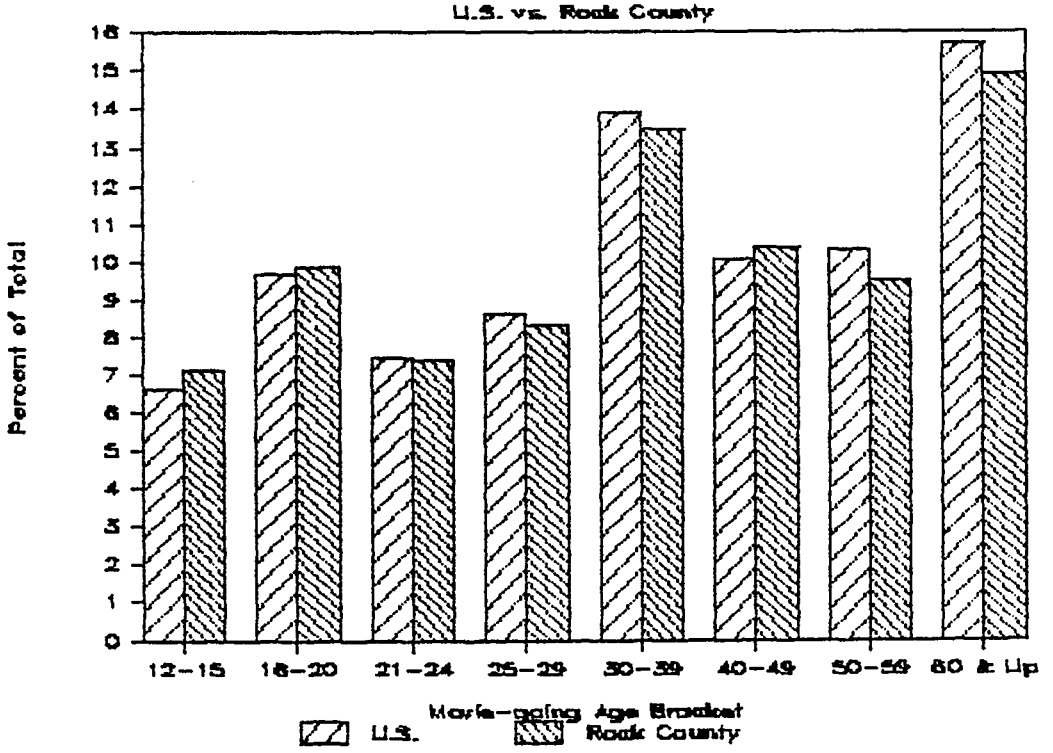
AGE DISTRIBUTION BY PERCENTAGE

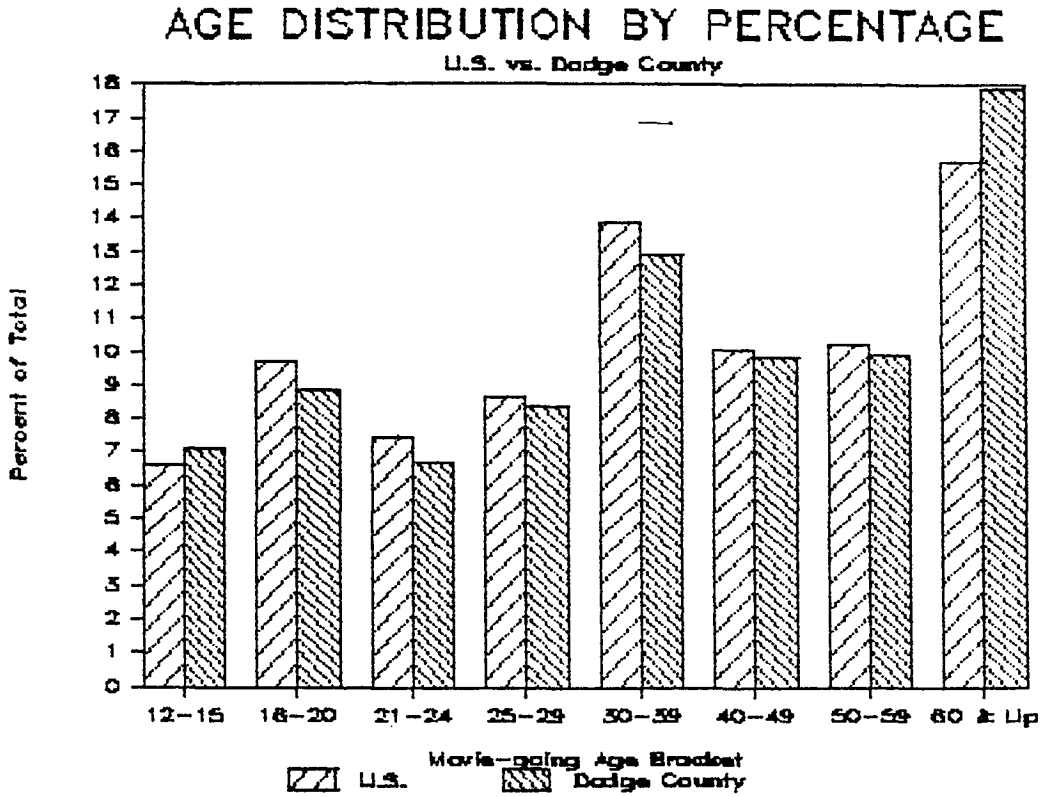
U.S. vs. Jefferson County

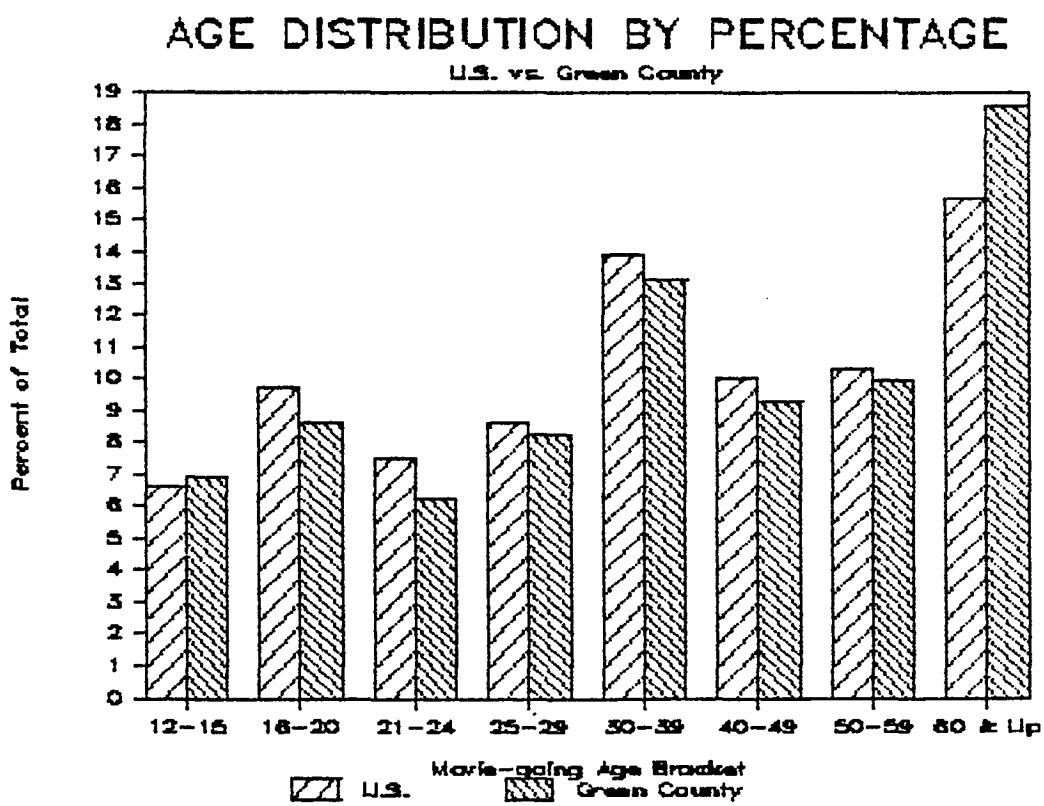


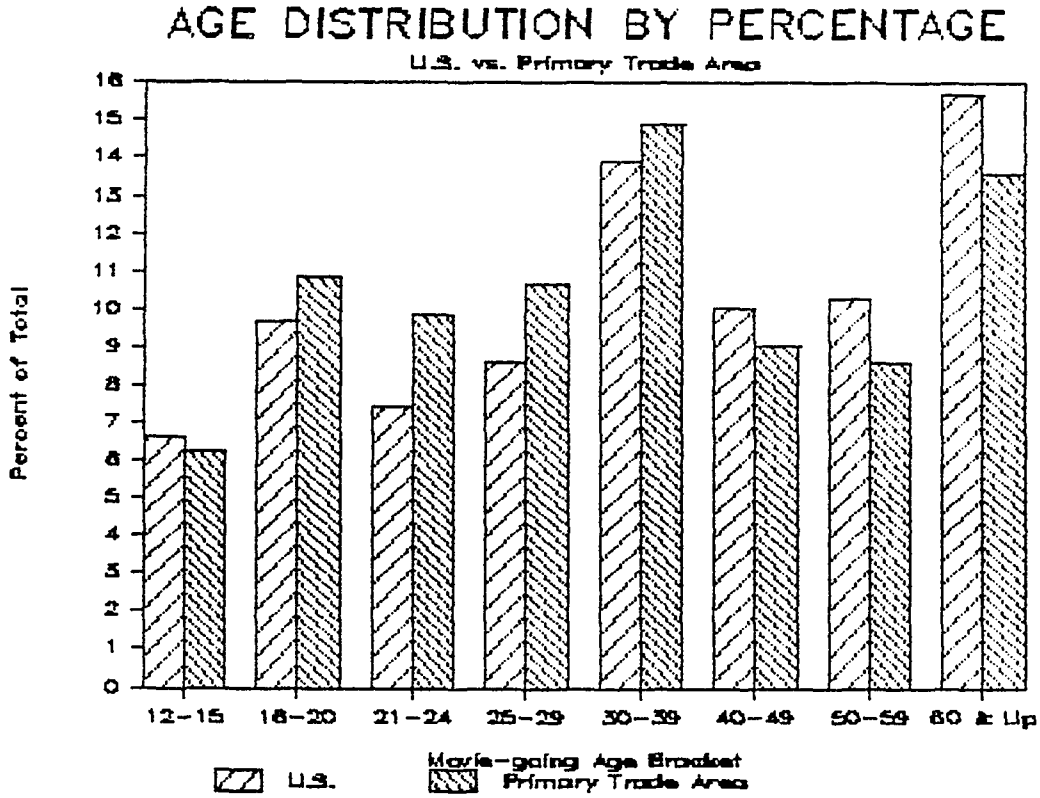
AGE DISTRIBUTION BY PERCENTAGE

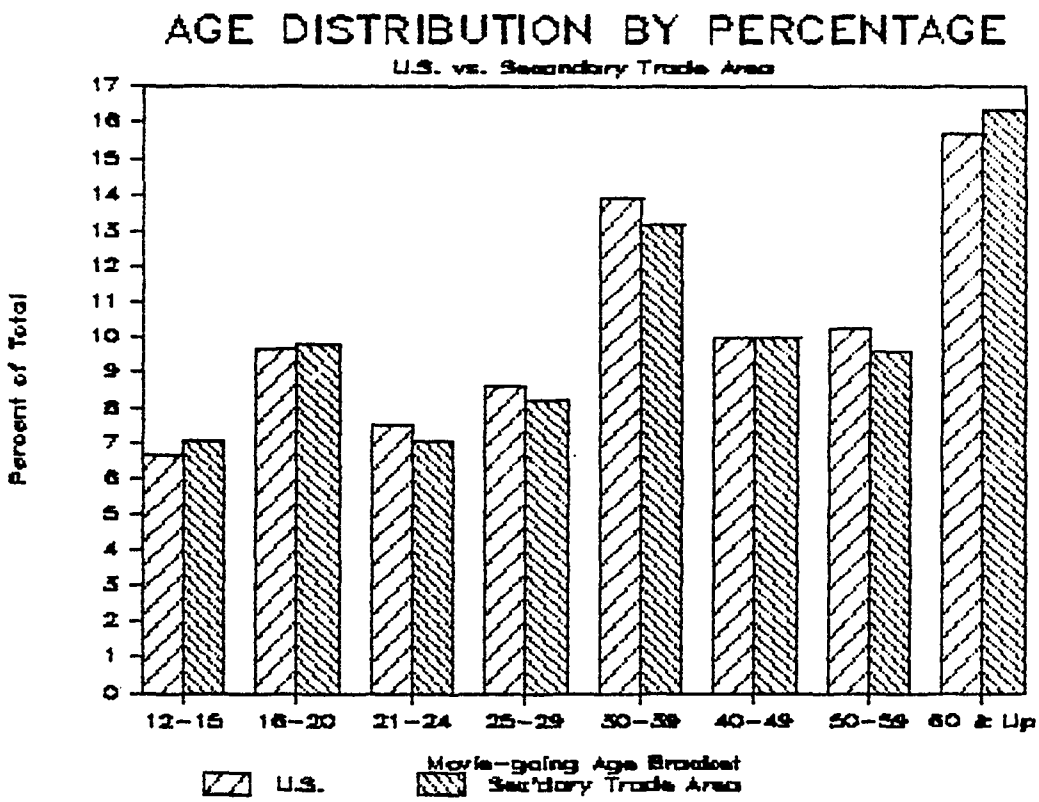
U.S. vs. Rock County

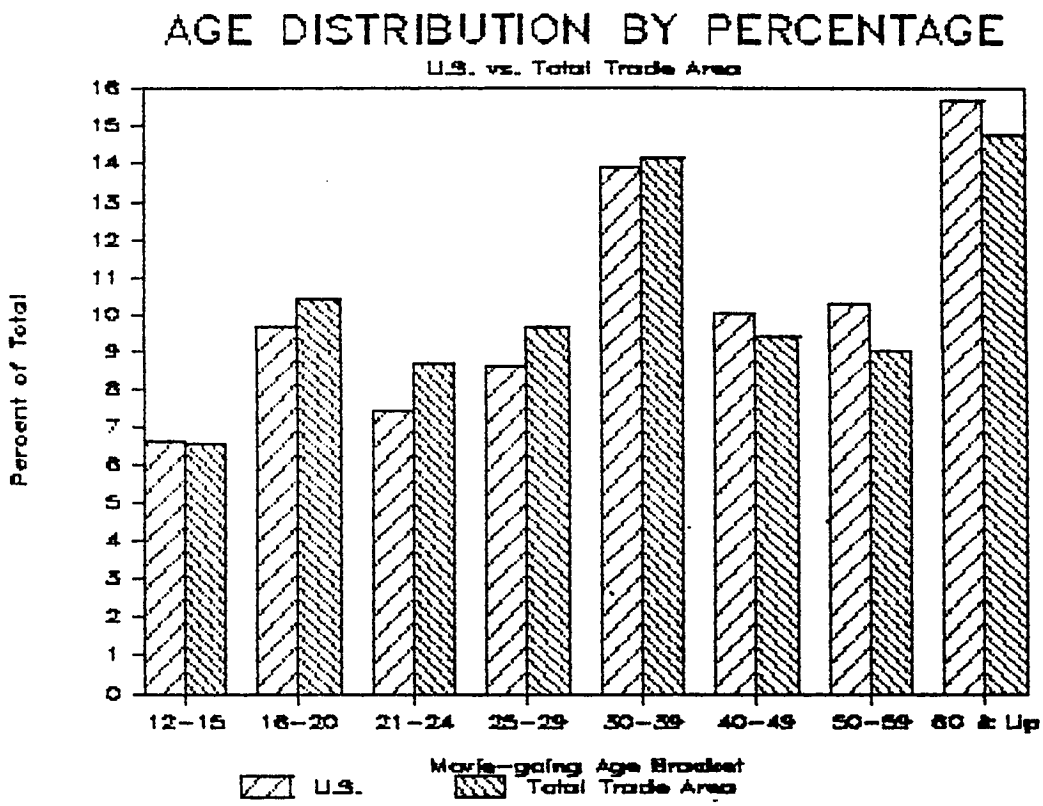



AGE DISTRIBUTION BY PERCENTAGE
U.S. vs. Dodge County
Percent of Total
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
12-15 16-20 21-24 25-29 30-39 40-49 50-59 60 & Up
Movie-going Age Bracket
U.S.
Dodge County


AGE DISTRIBUTION BY PERCENTAGE
U.S. vs. Green County
Percent of Total
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
12-15 16-20 21-24 25-29 30-39 40-49 50-59 60 & Up
Movie-going Age Bracket
U.S.
Green County


AGE DISTRIBUTION BY PERCENTAGE
U.S. vs. Primary Trade Area
Percent of Total
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
12-15 16-20 21-24 25-29 30-39 40-49 50-59 60 & Up
Movie-going Age Bracket
U.S.
Primary Trade Area


AGE DISTRIBUTION BY PERCENTAGE
U.S. vs. Secondary Trade Area
Percent of Total
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
12-15 16-20 21-24 25-29 30-39 40-49 50-59 60 & Up
Movie-going Age Bracket
U.S.
Sec'dary Trade Area


AGE DISTRIBUTION BY PERCENTAGE
U.S. vs. Total Trade Area
Percent of Total
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
12-15
16-20
21-24
25-29
30-39
40-49
50-59
60 & Up
Market-going Age Bracket
U.S.
Total Trade Area

AGE CHARACTERSITICS OF TRADE AREA

Secondary Trade Area

By U.S. Census Age Category:

		SECONDARY MARKET AREA						
	United States	Jefferson	Rock	Dodge	Green	PRIMARY	SECONDARY	TOTAL
	226,545,805	66,152	139,420	75,064	30,012	430,038	310,648	740,686
Under 10	33,048,210	9,772	21,793	11,272	4,691	56,951	47,528	104,479
10 - 19	39,410,253	12,662	26,000	13,274	5,186	75,796	57,122	132,918
20 - 29	40,839,623	11,313	24,393	12,555	4,852	98,794	53,113	151,907
30 - 39	31,526,222	8,652	18,782	9,682	3,933	64,010	41,049	105,059
40 - 49	22,759,163	6,386	14,484	7,391	2,791	38,908	31,052	69,960
50 - 59	23,325,286	6,260	13,229	7,463	2,979	37,177	29,931	67,108
60 - 69	18,870,102	5,597	10,326	6,585	2,628	29,300	25,136	54,436
70 & Up	16,766,946	5,510	10,413	6,842	2,952	29,102	25,717	54,819
Under 10	15%	15%	16%	15%	16%	13%	15%	14%
10 - 19	17%	19%	19%	18%	17%	18%	18%	18%
20 - 29	18%	17%	17%	17%	16%	23%	17%	21%
30 - 39	14%	13%	13%	13%	13%	15%	13%	14%
40 - 49	10%	10%	10%	10%	9%	9%	10%	9%
50 - 59	10%	9%	9%	10%	10%	9%	10%	9%
60 - 69	8%	8%	7%	9%	9%	7%	8%	7%
70 & Up	7%	8%	7%	9%	10%	7%	8%	7%
Total: 100%	100%	100%	100%	100%	100%	100%	100%	100%

By <u>Variety</u> Age Category:

	United States	Jefferson	Rock	Dodge	Green	PRIMARY	SECONDARY	TOTAL
	226,545,805	66,152	139,420	75,064	30,012	430,038	310,648	740,686
12 - 15	15,004,855	4,486	9,974	5,338	2,078	26,877	21,876	48,753
16 - 20	21,945,326	7,513	13,725	6,661	2,584	46,697	30,483	77,180
21 - 24	16,931,604	4,644	10,260	5,004	1,888	42,362	21,796	64,158
25 - 29	19,520,919	5,221	11,594	6,309	2,465	45,923	25,589	71,512
30 - 39	31,526,222	8,652	18,782	9,682	3,933	64,010	41,049	105,059
40 - 49	22,759,163	6,386	14,484	7,391	2,791	38,908	31,052	69,960
50 - 59	23,325,286	6,260	13,229	7,463	2,979	37,177	29,931	67,108
60 & Up	35,637,048	11,107	20,739	13,427	5,580	58,402	50,853	109,255
12 - 15	7%	7%	7%	7%	7%	6%	7%	7%
16 - 20	10%	11%	10%	9%	9%	11%	10%	10%
21 - 24	7%	7%	7%	7%	6%	10%	7%	9%
25 - 29	9%	8%	8%	8%	8%	11%	8%	10%
30 - 39	14%	13%	13%	13%	13%	15%	13%	14%
40 - 49	10%	10%	10%	10%	9%	9%	10%	9%
50 - 59	10%	9%	9%	10%	10%	9%	10%	9%
60 & Up	16%	17%	15%	18%	19%	14%	16%	15%
Total: 100%	100%	100%	100%	100%	100%	100%	100%	100%

AGE CHARACTERSITICS OF TRADE AREA

Primary Trade Area

By U.S. Census Age Category:

	United States	Dane	Iowa	Sauk	Columbia	PRIMARY	SECONDARY	TOTAL
	226,545,805	323,545	19,802	43,469	43,222	430,038	310,648	740,686
Under 10	33,048,210	41,066	3,113	6,413	6,359	56,951	47,528	104,479
10 - 19	39,410,253	56,663	3,848	7,718	7,567	75,796	57,122	132,918
20 - 29	40,839,623	82,730	3,070	6,620	6,374	98,794	53,113	151,907
30 - 39	31,526,222	50,395	2,447	5,538	5,630	64,010	41,049	105,059
40 - 49	22,759,163	28,621	1,772	4,094	4,421	38,908	31,052	69,960
50 - 59	23,325,286	26,440	2,029	4,302	4,406	37,177	29,931	67,108
60 - 69	18,870,102	19,231	1,743	4,224	4,102	29,300	25,136	54,436
70 & Up	16,766,946	18,399	1,780	4,560	4,363	29,102	25,717	54,819
Under 10	15%	13%	16%	15%	15%	13%	15%	14%
10 - 19	17%	18%	19%	18%	18%	18%	18%	18%
20 - 29	18%	26%	16%	15%	15%	23%	17%	21%
30 - 39	14%	16%	12%	13%	13%	15%	13%	14%
40 - 49	10%	9%	9%	9%	10%	9%	10%	9%
50 - 59	10%	8%	10%	10%	10%	9%	10%	9%
60 - 69	8%	6%	9%	10%	9%	7%	8%	7%
70 & Up	7%	6%	9%	10%	10%	7%	8%	7%
Total:	100%	100%	100%	100%	100%	100%	100%	100%

By Variety Age Category:

	United States	Jefferson	Rock	Dodge	Green	PRIMARY	SECONDARY	TOTAL
	226,545,805	323,545	19,802	43,469	43,222	430,038	310,648	740,686
12 - 15	15,004,855	19,184	1,537	3,172	2,984	26,877	21,876	48,753
16 - 20	21,945,326	37,294	1,898	3,749	3,756	46,697	30,483	77,180
21 - 24	16,931,604	35,293	1,248	3,306	2,515	42,362	21,796	64,158
25 - 29	19,520,919	37,887	1,508	3,314	3,214	45,923	25,589	71,512
30 - 39	31,526,222	50,395	2,447	5,538	5,630	64,010	41,049	105,059
40 - 49	22,759,163	28,621	1,772	4,094	4,421	38,908	31,052	69,960
50 - 59	23,325,286	26,440	2,029	4,302	4,406	37,177	29,931	67,108
60 & Up	35,637,048	37,630	3,523	8,784	8,465	58,402	50,853	109,255
12 - 15	7%	6%	8%	7%	7%	6%	7%	7%
16 - 20	10%	12%	10%	9%	9%	11%	10%	10%
21 - 24	7%	11%	6%	8%	6%	10%	7%	9%
25 - 29	9%	12%	8%	8%	7%	11%	8%	10%
30 - 39	14%	16%	12%	13%	13%	15%	13%	14%
40 - 49	10%	9%	9%	9%	10%	9%	10%	9%
50 - 59	10%	8%	10%	10%	10%	9%	10%	9%
60 & Up	16%	12%	18%	20%	20%	14%	16%	15%
Total:	100%	100%	100%	100%	100%	100%	100%	100%

APPENDIX J

INPUTS AND ASSUMPTIONS FOR INVESTOR CASHFLOW ANALYSIS

Land	$200,000
Construction Cost/Square Foot	$50.00
Square Foot--Theater	24,000
Construction Cost--Theater	$1,200,000
plus: site preparation and grading	$75,000
plus: sewer and water	$30,000
plus: parking lot improvement	$200,000
Total Hard Costs	$1,505,000
Soft Costs:	
architect	$20,000
engineer	$10,000
legal	$50,000
Total Construction Budget	$1,585,000
Land	$200,000
Capital Budget	$1,785,000
less: Construction Loan	$1,200,000
Implied Equity	$585,000
Total capital cost/sq. ft. NRA	$74.38

Construction Mortgage

Loan Amount	$1,200,000
Term	1
Interest Rate	12%
Payment periods	1
Compdng periods	12
Payment/period	0

Permanent Take-out

Loan Amount	$1,785,000
Term	20
Interest Rate	13.5%
Payment Periods	12
Payment/period	$21,552

Gross Theater Receipts	$1,824,000
Growth Rate of Receipts	7.0%
Base Rent/Square Foot	$12.55
Base Rent Escalator	5.0%
Other Income Escalator	5.0%
Overage Rent (% of Gross Receipts over base)	8.0%
Overage Base	$1,500,000
Other Income:	
Common Area Maintenance	$1,500
Utilities	$8,000
Merchant Association Dues	$2,000
Expenses:	
Insurance	$10,000
Utilities	$1,000
Real Estate Taxes	$30,000
Maintenance	$2,000
Common area charges	$1,000
Rate of Inflation:	4.0%

Resale Proceeds (sale year 10):

Net Income Year 10	$570,743
NOI Multiplier	x 10
Resale Proceeds	$5,707,426
less: commissions @ 5%	- $285,371
less: loan balances	-$1,415,317
Net Sale Proceeds	$4,006,738
less: Basis	-$880,556
Capital Gain	$3,126,182
less: Capital Gains Taxes	-$312,618
Net Reversion	$3,694,119

APPENDIX J

ASSUMPTIONS AND INPUTS FOR EXHIBITOR/TENANT

Sales per Screen	$304,000
Construction cost per square foot	$63
	x
Square ft. building	24,000
= Total Cost	$1,506,000
Rent Constant	20%
Sales Percentage	100%
Ticket sales/square ft	$80.00
Concessions	$0.21
Arcades	$0.03
Film rental-annual	$1,000,000
Lease overage after:	$1,500,000
Film overage after :	$1,500,000
Overage rates	
lease	8.00%
film	7.00%
Insurance	3.00%
Real estate taxes	2.00%
Salary and wages	20.00%
Administrative	5.00%
Maintenance	4.00%

Note: all percents relative to ticket sales

Inflation rate assumed 4.00%

APPENDIX K

SENSITIVITY ANALYSIS OF PROJECT PERFORMANCE AND EXHIBITOR YIELD

Tests for Various Percentage Sales Levels

PERCENT OF SALES	Year 1 Net Op. Income	Year 1 Default Ratio	Year 3 Net Op. Income	Year 3 Default Ratio	Year 5 Net Op. Income	Year 5 Default Ratio	Year 7 Net Op. Income	Year 7 Default Ratio	Year 10 Net Oper. Income	Year 10 Default Ratio
80%	($34,331)	102%	($55,493)	103%	($78,381)	104%	($103,137)	105%	($144,109)	106%
85%	$30,786	98%	$14,938	99%	($2,203)	100%	($20,743)	101%	($51,428)	102%
90%	$95,902	95%	$85,368	96%	$73,974	97%	$61,650	98%	$41,254	99%
95%	$161,019	93%	$155,798	93%	$150,152	94%	$144,044	95%	$133,935	96%
100%	$226,136	90%	$226,229	91%	$226,329	91%	$226,437	92%	$226,617	93%
105%	$291,253	88%	$296,659	88%	$302,506	89%	$308,831	90%	$319,298	91%
110%	$356,370	86%	$367,089	86%	$378,684	87%	$391,224	88%	$411,980	88%
115%	$421,486	84%	$437,520	84%	$454,861	85%	$473,618	86%	$504,661	86%
120%	$486,603	82%	$507,950	83%	$531,039	83%	$556,012	84%	$597,343	85%
125%	$551,720	80%	$578,380	81%	$607,216	82%	$638,405	82%	$690,024	83%
130%	$616,837	79%	$648,811	80%	$683,394	80%	$720,799	81%	$782,706	81%
135%	$681,954	78%	$719,241	78%	$759,571	79%	$803,192	79%	$875,387	80%
140%	$747,070	76%	$789,671	77%	$835,749	77%	$885,586	78%	$968,069	79%
145%	$812,187	75%	$860,102	76%	$911,926	76%	$967,979	77%	$1,060,750	77%
150%	$877,304	74%	$930,532	75%	$988,103	75%	$1,050,373	76%	$1,153,432	76%

APPENDIX K

SENSITIVITY ANALYSIS OF PROJECT PERFORMANCE AND EXHIBITOR YIELD

Tests for Various Rent Constants

RENT CONSTANT	Year 1 Net Op. Income	Year 1 Default Ratio	Year 3 Net Op. Income	Year 3 Default Ratio	Year 5 Net Op. Income	Year 5 Default Ratio	Year 7 Net Op. Income	Year 7 Default Ratio	Year 10 Net Op. Income	Year 10 Default Ratio
26%	$135,776	94%	$128,495	95%	$120,621	95%	$112,103	96%	$98,006	97%
25%	$150,836	93%	$144,784	94%	$138,239	95%	$131,159	95%	$119,442	96%
24%	$165,896	93%	$161,073	93%	$155,857	94%	$150,215	95%	$140,877	96%
23%	$180,956	92%	$177,362	93%	$173,475	93%	$169,270	94%	$162,312	95%
22%	$196,016	91%	$193,651	92%	$191,093	93%	$188,326	93%	$183,747	94%
21%	$211,076	91%	$209,940	91%	$208,711	92%	$207,382	93%	$205,182	94%
20%	$226,136	90%	$226,229	91%	$226,329	91%	$226,437	92%	$226,617	93%
19%	$241,196	89%	$242,518	90%	$243,947	91%	$245,493	91%	$248,052	92%
18%	$256,256	89%	$258,806	89%	$261,565	90%	$264,549	91%	$269,487	92%
17%	$271,316	88%	$275,095	89%	$279,183	89%	$283,605	90%	$290,922	91%
16%	$286,376	87%	$291,384	88%	$296,801	89%	$302,660	89%	$312,357	90%
15%	$301,436	87%	$307,673	87%	$314,419	88%	$321,716	89%	$333,792	90%
14%	$316,496	86%	$323,962	87%	$332,037	87%	$340,772	88%	$355,227	89%
13%	$331,556	85%	$340,251	86%	$349,655	87%	$359,827	87%	$376,662	88%
12%	$346,616	85%	$356,540	85%	$367,274	86%	$378,883	87%	$398,097	88%

APPENDIX K

SENSITIVITY ANALYSIS OF PROJECT PERFORMANCE AND INVESTOR YIELD

Tests for Various Levels of Contract Base Rent

BASE RENT	Effective Gross Inc.	Net Oper. Income	Taxable Income	Cash Throw-off	Cash from Operations	Distrib. A/T Cash	Default Ratio	IRR B/4 Sale	IRR w/ Sale
$11.00 :	$301,420	$257,420	$3,653	$91,708	$88,882	$88,882	0.70	9.20%	15.38%
$11.50 :	$313,420	$269,420	$15,653	$103,708	$94,882	$94,882	0.67	9.96%	16.31%
$12.00 :	$325,420	$281,420	$27,653	$115,708	$100,882	$100,882	0.64	10.70%	17.20%
$12.50 :	$337,420	$293,420	$39,653	$127,708	$106,882	$106,882	0.62	11.41%	18.07%
$13.00 :	$349,420	$305,420	$51,653	$139,708	$112,882	$112,882	0.60	12.10%	18.92%
$13.50 :	$361,420	$317,420	$63,653	$151,708	$118,882	$118,882	0.58	12.77%	19.75%
$14.00 :	$373,420	$329,420	$75,653	$163,708	$124,882	$124,882	0.56	13.42%	20.56%
$14.50 :	$385,420	$341,420	$87,653	$175,708	$130,882	$130,882	0.54	14.05%	21.35%
$15.00 :	$397,420	$353,420	$99,653	$187,708	$136,882	$136,882	0.53	14.66%	22.13%
$15.50 :	$409,420	$365,420	$111,653	$199,708	$142,882	$142,882	0.51	15.26%	22.89%
$16.00 :	$421,420	$377,420	$123,653	$211,708	$148,882	$148,882	0.50	15.84%	23.64%
$16.50 :	$433,420	$389,420	$135,653	$223,708	$154,882	$154,882	0.48	16.41%	24.37%
$17.00 :	$445,420	$401,420	$147,653	$235,708	$160,882	$160,882	0.47	16.97%	25.10%
$17.50 :	$457,420	$413,420	$159,653	$247,708	$166,882	$166,882	0.46	17.52%	25.81%
$18.00 :	$469,420	$425,420	$171,653	$259,708	$172,882	$172,882	0.45	18.06%	26.51%

APPENDIX K

SENSITIVITY ANALYSIS OF PROJECT PERFORMANCE AND INVESTOR YIELD

Tests for Various Year-of-Sale Net Income Multipliers

NOI MULTIPLIER	Net Oper. Inc Yr 1	Net Oper. Inc Yr 10	Txbl Inc Year 1	Txbl Inc Year 10	DR Yr. 1	IRR B/4 Sale	IRR w/ Sale
6.0	$338,620	$633,368	$40,853	$268,009	0.84	5.22%	11.48%
6.5	$338,620	$633,368	$40,853	$268,009	0.84	6.22%	12.57%
7.0	$338,620	$633,368	$40,853	$268,009	0.84	7.14%	13.56%
7.5	$338,620	$633,368	$40,853	$268,009	0.84	7.99%	14.46%
8.0	$338,620	$633,368	$40,853	$268,009	0.84	8.78%	15.30%
8.5	$338,620	$633,368	$40,853	$268,009	0.84	9.52%	16.09%
9.0	$338,620	$633,368	$40,853	$268,009	0.84	10.21%	16.82%
9.5	$338,620	$633,368	$40,853	$268,009	0.84	10.86%	17.51%
10.0	$338,620	$633,368	$40,853	$268,009	0.84	11.48%	18.16%
10.5	$338,620	$633,368	$40,853	$268,009	0.84	12.07%	18.77%
11.0	$338,620	$633,368	$40,853	$268,009	0.84	12.63%	19.36%
11.5	$338,620	$633,368	$40,853	$268,009	0.84	13.16%	19.92%
12.0	$338,620	$633,368	$40,853	$268,009	0.84	13.67%	20.45%
12.5	$338,620	$633,368	$40,853	$268,009	0.84	14.16%	20.96%
13.0	$338,620	$633,368	$40,853	$268,009	0.84	14.63%	21.45%

APPENDIX K

SENSITIVITY ANALYSIS OF PROJECT PERFORMANCE AND INVESTOR YIELD

Tests for Various Percentage of County Sales Levels

PERCENT OF SALES	Effective Gross Inc.	Net Oper. Income	Taxable Income	Cash Throw-off	Cash from Operations	Distrib. A/T Cash	Default Ratio	IRR B/4 Sale	IRR w/ Sale
90%	$324,028	$280,028	$26,261	$114,316	$100,186	$100,186	0.65	10.49%	16.96%
95%	$331,324	$287,324	$33,557	$121,612	$103,834	$103,834	0.63	10.99%	17.57%
100%	$338,620	$294,620	$40,853	$128,908	$107,482	$107,482	0.62	11.48%	18.16%
105%	$345,916	$301,916	$48,149	$136,204	$111,130	$111,130	0.61	11.96%	18.74%
110%	$353,212	$309,212	$55,445	$143,500	$114,778	$114,778	0.59	12.42%	19.31%
115%	$360,508	$316,508	$62,741	$150,796	$118,426	$118,426	0.58	12.88%	19.86%
120%	$367,804	$323,804	$70,037	$158,092	$122,074	$122,074	0.57	13.33%	20.41%
125%	$375,100	$331,100	$77,333	$165,388	$125,722	$125,722	0.56	13.77%	20.95%
130%	$382,396	$338,396	$84,629	$172,684	$129,370	$129,370	0.55	14.19%	21.48%
135%	$389,692	$345,692	$91,925	$179,980	$133,018	$133,018	0.54	14.61%	22.00%
140%	$396,988	$352,988	$99,221	$187,276	$136,666	$136,666	0.53	15.03%	22.52%
145%	$404,284	$360,284	$106,517	$194,572	$140,314	$140,314	0.52	15.43%	23.03%
150%	$411,580	$367,580	$113,813	$201,868	$143,962	$143,962	0.51	15.83%	23.53%
155%	$418,876	$374,876	$121,109	$209,164	$147,610	$147,610	0.50	16.22%	24.02%
160%	$426,172	$382,172	$128,405	$216,460	$151,258	$151,258	0.49	16.61%	24.51%

APPENDIX K

SENSITIVITY ANALYSIS OF PROJECT PERFORMANCE AND INVESTOR YIELD

Tests for Various Overage Base Levels

OVERAGE BASE	Effective Gross Inc.	Net Oper. Income	Taxable Income	Cash Throw-off	Cash from Operations	Distrib. A/T Cash	Default Ratio	IRR B/4 Sale	IRR w/ Sale
$1,800,000 :	$314,620	$270,620	$16,853	$104,908	$95,482	$95,482	0.67	10.45%	16.84%
$1,750,000 :	$318,620	$274,620	$20,853	$108,908	$97,482	$97,482	0.66	10.62%	17.07%
$1,700,000 :	$322,620	$278,620	$24,853	$112,908	$99,482	$99,482	0.65	10.80%	17.29%
$1,650,000 :	$326,620	$282,620	$28,853	$116,908	$101,482	$101,482	0.64	10.97%	17.51%
$1,600,000 :	$330,620	$286,620	$32,853	$120,908	$103,482	$103,482	0.63	11.14%	17.72%
$1,550,000 :	$334,620	$290,620	$36,853	$124,908	$105,482	$105,482	0.63	11.31%	17.94%
$1,500,000 :	$338,620	$294,620	$40,853	$128,908	$107,482	$107,482	0.62	11.48%	18.16%
$1,450,000 :	$342,620	$298,620	$44,853	$132,908	$109,482	$109,482	0.61	11.65%	18.37%
$1,400,000 :	$346,620	$302,620	$48,853	$136,908	$111,482	$111,482	0.61	11.82%	18.59%
$1,350,000 :	$350,620	$306,620	$52,853	$140,908	$113,482	$113,482	0.60	11.98%	18.80%
$1,300,000 :	$354,620	$310,620	$56,853	$144,908	$115,482	$115,482	0.59	12.15%	19.02%
$1,250,000 :	$358,620	$314,620	$60,853	$148,908	$117,482	$117,482	0.58	12.31%	19.23%
$1,200,000 :	$362,620	$318,620	$64,853	$152,908	$119,482	$119,482	0.58	12.47%	19.44%
$1,150,000 :	$366,620	$322,620	$68,853	$156,908	$121,482	$121,482	0.57	12.64%	19.65%
$1,100,000 :	$370,620	$326,620	$72,853	$160,908	$123,482	$123,482	0.57	12.80%	19.86%

APPENDIX L
Shared Parking Spreadsheets

Actual Copy of Final Run

INPUT SCREEN

SHARED PARKING ANALYSIS

Mode Split (% auto use)			
		Captive Market	5%
		Square feet per parking stall	350
Office	100%	GLA of Office Space	100,000
Retail	100%	GLA of Retail Space	37,000
Restaurant	100%	GLA of Restaurant	5,000
Theatre	100%	Number of Theatre Seats	1,500
Residential	100%	Number of Residential Units	0

Projected Peak Parking Demand:

Month	Weekday
June	711
July	711

Acreage required: 5.71

Wkdys	Time	Office	Retail	Rest.	Cinema	Resid.	TOTAL
	2:00 p.m.	291	97	60	263	0	711

MAIN OUTPUT SCREEN

PROJECTED PARKING DEMAND: SHARED PARKING

Month	Weekday	Saturday
January	659	548
February	604	453
March	567	382
April	619	472
May	622	477
June	711	621
July	711	621
August	623	471
September	646	511
October	620	466
November	574	380
December	606	406

MAXIMUMS:

Month	Weekday
June	711
July	711

Month	Saturday
June	621
July	621

PEAK PARKING DEMAND FACTORS BY HOUR OF DAY

WEEKDAYS	Office	Retail	Rest.	Cinema	Resid.
6:00 a.m.	3%	--	--	--	100%
7:00 a.m.	20%	8%	2%	--	87%
8:00 a.m.	63%	18%	5%	--	79%
9:00 a.m.	93%	42%	10%	--	73%
10:00 a.m.	100%	68%	20%	--	68%
11:00 a.m.	100%	87%	30%	--	59%
12:00 Noon	90%	97%	50%	30%	60%
1:00 p.m.	90%	100%	70%	70%	59%
2:00 p.m.	97%	97%	60%	70%	60%
3:00 p.m.	93%	95%	60%	70%	61%
4:00 p.m.	77%	87%	50%	70%	66%
5:00 p.m.	47%	79%	70%	70%	77%
6:00 p.m.	23%	82%	90%	80%	85%
7:00 p.m.	7%	89%	100%	90%	94%
8:00 p.m.	7%	87%	100%	100%	96%
9:00 p.m.	3%	61%	100%	100%	98%
10:00 p.m.	3%	32%	90%	100%	99%
11:00 p.m.	--	13%	70%	80%	100%
12:00 Mid.	--	--	50%	70%	100%

SATURDAYS	Office	Retail	Rest.	Cinema	Resid.
6:00 a.m.	--	--	--	--	100%
7:00 a.m.	20%	3%	2%	--	95%
8:00 a.m.	60%	10%	3%	--	88%
9:00 a.m.	80%	30%	6%	--	81%
10:00 a.m.	80%	45%	8%	--	74%
11:00 a.m.	100%	73%	10%	--	71%
12:00 Noon	100%	85%	30%	30%	71%
1:00 p.m.	80%	95%	45%	70%	70%
2:00 p.m.	60%	100%	45%	70%	71%
3:00 p.m.	40%	100%	45%	70%	73%
4:00 p.m.	40%	90%	45%	70%	75%
5:00 p.m.	20%	75%	60%	70%	81%
6:00 p.m.	20%	65%	90%	80%	85%
7:00 p.m.	20%	60%	95%	90%	87%
8:00 p.m.	20%	55%	100%	100%	92%
9:00 p.m.	--	40%	100%	100%	95%
10:00 p.m.	--	38%	95%	100%	96%
11:00 p.m.	--	13%	85%	80%	98%
12:00 Mid.	--	--	70%	70%	100%

REPRESENTATIVE MONTHLY VARIATIONS AS A PERCENTAGE OF PEAK MONTH

Month	Office	Retail	Rest.	Cinema	Resid.
January	100%	65%	80%	90%	100%
February	100%	65%	75%	70%	100%
March	100%	70%	90%	50%	100%
April	100%	70%	90%	70%	100%
May	100%	70%	95%	70%	100%
June	100%	75%	100%	100%	100%
July	100%	75%	100%	100%	100%
August	100%	75%	85%	70%	100%
September	100%	75%	80%	80%	100%
October	100%	75%	80%	70%	100%
November	100%	80%	80%	50%	100%
December	100%	100%	90%	50%	100%

Source:
Shared Parking, ULI, 1983, p. 46

REPRESENTATIVE PEAK PARKING DEMAND FACTORS

Land Use	Unit	Weekdays	Saturday
Office	Spaces/1000	3.00	0.50
Retail < 400,000	Spaces/1000	3.80	4.00
Retail < 600,000	Spaces/1000	3.80	5.00
Restaurant	Spaces/1000	20.00	20.00
Cinema	Spaces/seat	0.25	0.30
Residential	Spaces/Unit	1.00	1.00

Source:
Shared Parking, ULI, 1983, p. 45

PROJECTED PARKING DEMAND FOR PEAK MONTHS OF JUNE AND JULY

Hourly Demand by Type of Use

Weekdays

Time	Office	Retail	Rest.	Cinema	Resid.	TOTAL
6:00 a.m.	9	0	0	0	0	9
7:00 a.m.	60	8	2	0	0	70
8:00 a.m.	189	18	5	0	0	212
9:00 a.m.	279	42	10	0	0	331
10:00 a.m.	300	68	20	0	0	388
11:00 a.m.	300	87	30	0	0	417
12:00 Noon	270	97	50	113	0	530
1:00 p.m.	270	100	70	263	0	703
2:00 p.m.	291	97	60	263	0	711
3:00 p.m.	279	95	60	263	0	697
4:00 p.m.	231	87	50	263	0	631
5:00 p.m.	141	79	70	263	0	553
6:00 p.m.	69	82	90	300	0	541
7:00 p.m.	21	89	100	338	0	548
8:00 p.m.	21	87	100	375	0	583
9:00 p.m.	9	61	100	375	0	545
10:00 p.m.	9	32	90	375	0	506
11:00 p.m.	0	13	70	300	0	383
12:00 Mid.	0	0	50	263	0	313

Saturdays

Time	Office	Retail	Rest.	Cinema	Resid.	TOTAL
6:00 a.m.	0	0	0	0	0	0
7:00 a.m.	10	3	2	0	0	15
8:00 a.m.	30	11	3	0	0	44
9:00 a.m.	40	33	6	0	0	79
10:00 a.m.	40	50	8	0	0	98
11:00 a.m.	50	81	10	0	0	141
12:00 Noon	50	94	30	135	0	309
1:00 p.m.	40	105	45	315	0	505
2:00 p.m.	30	111	45	315	0	501
3:00 p.m.	20	111	45	315	0	491
4:00 p.m.	20	100	45	315	0	480
5:00 p.m.	10	83	60	315	0	468
6:00 p.m.	10	72	90	360	0	532
7:00 p.m.	10	67	95	405	0	577
8:00 p.m.	10	61	100	450	0	621
9:00 p.m.	0	44	100	450	0	594
10:00 p.m.	0	42	95	450	0	587
11:00 p.m.	0	14	85	360	0	459
12:00 Mid.	0	0	70	315	0	385

APPENDIX M
Demonstration Shared Parking Calculation

Objective: To estimate the peak parking requirements for a proposed mixed-use development.

Plan: The proposed development has the following components:

Office:	70,000 square feet
Retail:	42,000 square feet
Restaurant:	5,000 square feet
Cinema:	1,800 seats
Residential:	36 units

Location: Suburban, regional population of 340,000.

Mode Split: None; 100% auto use anticipated.

Captive Market: Assumed 5% of retail patrons will be office employees.

Weekday:

Office:	3.0 per 1000 GLA
Retail:	3.8 per 1000 GLA x (1.0 - .05) = 3.61 per 1000 GLA
Restaurant:	20.0 per 1000 GLA
Cinema:	0.25 per seat
Residential:	1.0 per unit

Saturday:

Office:	0.5 per 1000 GLA
Retail:	4.0 per 1000 GLA
Restaurant:	20.0 per 1000 GLA
Cinema:	0.30 per seat
Residential:	1.0 per unit

Assuming that December is the peak month for parking, given the proposed uses:

December: Adjusted Parking Ratios:

Office:	3.0 x 100% = 3.0
Retail:	3.61 x 100%= 3.61
Restaurant:	20.0 x 90% = 18.0
Cinema:	0.25 x 50% = .125
Residential:	1.0 x 100% = 1.0

Parking Analysis: Weekday

		11:00	12:00	1:00	2:00
Office:	3.0 x 70 x (hrly. factor) =	210	189	189	204
Retail:	3.61 x 42 x(hrly. factor) =	132	147	151	147
Restaurant:	18.0 x 5 x(hrly. factor) =	27	45	63	54
Cinema:	Assumed to be closed				
Residential:	1.0 x 36 x(hrly. factor) =	36	36	36	36
		405	417	439	441

There are approximately 440-450 spaces required, assuming no theatre overlap with office demand. At 350 feet per parking stall, this would require about 3.6 acres, exclusive of service roads, etc.

857 #2

Ogden Acquisition Group • 1550 North Prospect Avenue • Milwaukee, Wisconsin 53202 • (414) 276-5285

December 11, 1987

Dr. James A. Graaskamp
202A Breese Terrace
Madison, Wisconsin 53705

Dear Chief:

It was nice talking with you recently. Actually, I was surprised to reach you given your schedule. As I mentioned, Ogden & Company has signed a Development Plan with the Village of West Milwaukee to improve a portion of the West Milwaukee Freeway Corridor. The site is approximately one-half mile south of Milwaukee County Stadium, beginning at National Avenue.

I have enclosed documentation that briefly describes our development. As you will notice from the site plan, the new 43rd Street Boulevard diagonally bisects the site; residential for-sale and rental housing will fill in the west side, and a combination of retail, office and hotel developments will improve the east. We have established that the residences will be developed over three phases, beginning early next spring. The entire development is estimated to take approximately five years.

Ogden & Company believes the West Village development program is an excellent exercise in the real estate process. From the start, the Company will interface with a dynamic Village administration, construction contractors, debt and equity financiers and product users. It will require the collective forces of the Company, and we feel positive toward its success.

However, we also recognize that West Milwaukee has tradionally been perceived as an industrial area. We need to change that perception. With the right combination of product and appeal, the development program can be a success. This is the sensitive point that we feel should be explored through a feasibility case study. Yes, we have laid the development groundwork. But we need to better understand how to make the West Village appealing to a critical mass of people. Therefore, the feasibility study should explore how to properly market the project to the ultimate user.

I hope this information is sufficient for you to determine if our project warrants the attention of an 857 feasibility study group. The Company would be willing to cover all expenses incurred in producing the study (i.e., travel, copy and documentation expenses). John Ogden, Jr., Peter Ogden and I would enjoy meeting with you in the near future to discuss the project in greater length. I will call you in the next several weeks to arrange for a convenient time to meet with you in Madison. Best regards,

OGDEN & COMPANY, INC.

Peter Moegenburg

cc: John Ogden, Jr.
Peter Ogden

Enclosures

#1

Northland

The Pyare Square Building • 4610 University Avenue • Madison, Wisconsin 53705 • (608) 238-9977

October 28, 1987

Jim Graaskamp
School of Business
Room 118
1155 Observatory Drive
Madison, WI 53706

Dear Jim,

I wanted to thank you and your staff for a very rewarding day at the alumni reunion. These sessions remain a stimulating experience for an old graduate's mind.

I would also like to propose a case study for one of your courses. I am currently working with a retired truck farmer, Akira Toki, to develop and sell his land on the South Beltline in Madison. Enclosed is a topo map of the site. Among some of the property's features and contraints are the following:

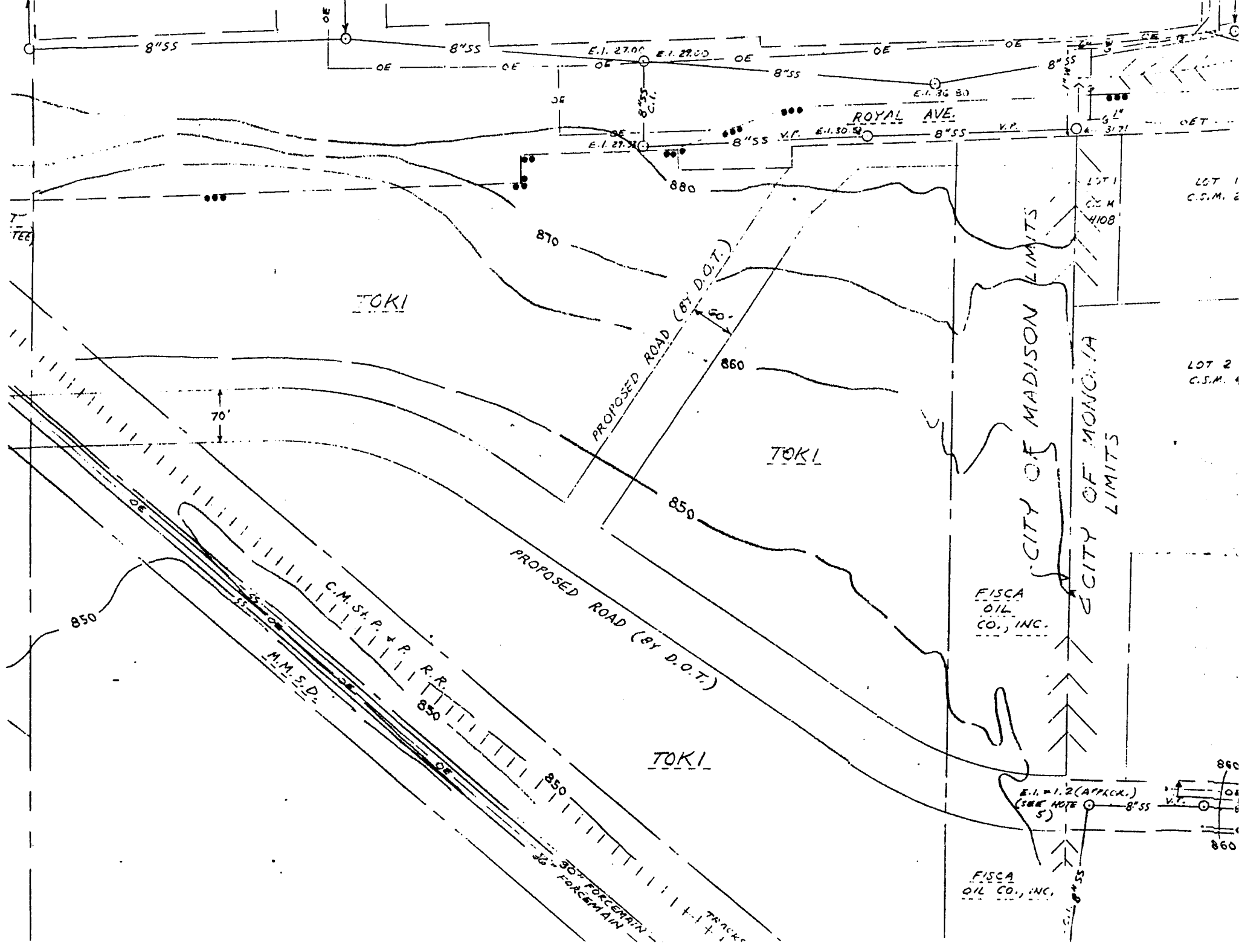
1. A mixture of soil types. Some with severe problems.
2. A potentially landlocked parcel south of the railroad tracks.
3. Access through an industrial park to the east and past Nob Hill to the west.
4. A proposed Urban Design District ordinance now being debated.
5. Undefined highest and best use. Zoning has been held over as agriculture.
6. Adjacent to heavy traffic movement on the Beltline. However, the land plunges by 30 feet from the roadway.

Historically we have worked out some more difficult problems i.e. the lack of safe access and the lack of sewer and water. The negotiations to cure these problems were a story in themselves. Since Mr. Toki could not afford these improvements, we worked a land swap for a road and set up a deferred special assessment program for sewer and water.

Our challenge at the moment is to sell portions of the site and keep ahead of the tax assessor while working through the maze regulators will wish to impose. If you feel this land might hold an educational experience, let me know. I would be happy to supply you with any materials I might have.

Sincerely,

John T. Pinger


8"SS
OE
E.I. 27.00
E.I. 29.00
E.I. 36.80
ROYAL AVE.
8"SS V.P.
E.I. 30.52
E.I. 27.32
880
870
860
850
TOKI
PROPOSED ROAD (BY D.O.T.)
50'
70'
CITY OF MADISON LIMITS
CITY OF MONONA LIMITS
LOT 1 C.S.M. 4108
LOT 2 C.S.M.
FISCA OIL CO., INC.
C.M.St.P.&P. R.R.
M.M.S.D.
30" FORCEMAIN
TRACKS
E.I. = 1.2 (APPROX.) (SEE NOTE 5)
8"SS V.P.
860

A FEASIBILITY STUDY FOR AN INDOOR RACQUETBALL FACILITY AT 17-21 EAST MAIN STREET MADISON, WISCONSIN

May, 1978

Prepared For:

Professor James A. Graaskamp
Business 857
Advanced Feasibility Analysis

Prepared By:

Steve Rosenberg
Thomas W. Smith

TABLE OF CONTENTS

APPENDICES

I OBJECTIVES OF THE STUDY

Proposed reuse of the Dartmouth Clothing Building at 17 E. Main St., Madison, Wisconsin has included a recommendation to incorporate racquetball courts in the existing structure.[1] This feasibility study will examine the potential for development of racquetball courts as recommended in that appraisal. To determine racquetball feasibility the following elements were evaluated:

1. Objectives and characteristics of racquetball court operations,
2. Market trends and opportunity analysis in Madison,
3. Merchandising evaluation of existing and proposed facilities,
4. Financial feasibility.

Other elements, including legal-political feasibility, compatibility with existing plans and programs, and engineering/architectural studies were either conducted as part of the previously cited appraisal or are beyond the scope of the present feasibility study.

The results of this study should indicate whether or not the proposed racquetball facilities are feasible at the given site. Specifically, the objectives of the study are:

1. To estimate the overall market potential for racquetball courts in the Madison Area,
2. To provide an estimate of potential racquetball demand at the E. Main Street site,
3. To estimate the probable impact of existing and potential competition on demand for the E. Main Street racquetball facility, and
4. To determine whether the estimated demand can financially support a racquetball facility at the subject site.

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1. Thomas W. Smith, Appraisal of 17-21 East Main Street, November, 1977.

II HISTORY, GROWTH, AND CHARACTERISTICS OF RACQUETBALL FACILITIES

The sport of racquetball has experienced phenomenal growth in the past few years. According to the Milwaukee Journal, the number of racquetball players in the U.S. has increased from 500,000 in 1972 to 5,000,000 in 1977.[2] Three factors have played a role in this growth, and are critical to an assessment of market need in the Madison area:

1. The game is extraordinarily easy to learn in a short period of time, and therefore readily attracts a clientele.
2. "It combines exercise, recreation, competition, excitement, social relations, and the satisfaction of continually increasing one's physical talent."[3]
3. It is relatively inexpensive for both family and individuals to play, with membership fees ranging from $50 to $100 annually, plus hourly fees of $6 to $8 per court, the total amount dependent upon the frequency of play.[4]

Anticipated growth, according to Leve, is likely to range up to 45,000,000 racquetball players by 1982, nationwide.[5]

As in the past that growth will be dependent upon the number of racquetball courts available for use. Because the racquetball boom is just beginning, according to Darrow, "there is very little in the way of actual cost and operating and market data available."[6] In general, the strategy in providing racquetball facilities has been to create a coed and family club atmosphere (the only exception being the downtown Plaza Health and Racquetball Club which has limited space and which is constrained to offer its facilities to men only).

Facilities generally consist of 8 to 12 courts with similar design utilizing a central corridor layout.[7] Most do not offer substantial competing recreational facilities (one exception, the Cherokee Club, offers golf and tennis). Rarely do racquetball clubs offer restaurant or bar service (with the exception of the Plaza Club) although vending machines, refrigerators, wet-bars and well appointed lounges are provided. Common areas, lounges, pro-shops and observation decks are usually on upper levels. Locker rooms, showers, saunas, whirlpools, and facilities are provided in most clubs and normally are found on the ground floor level.

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2. Milwaukee Journal, Sunday, December 4, 1977.
3. Lawrence Darrow and Patrick Daly, "Handball/Racquetball Clubs: The Recreation Boom Continues," The Appraisal Journal, Vol XLIV, No. 2, April, 1976, p. 202.
4. Survey of Court fees in Madison Area. See Appendix A for details.
5. Conversation with Morton Leve, May 1, 1978. (Mr. Leve is a consultant with Court Club Enterprises, Chicago)
6. Op. cit., p. 202.
7. See Appendix B for a typical facility design.

III MARKET POTENTIAL FOR RACQUETBALL CLUBS IN MADISON

The steps used to derive market potential are summarized in Figure 1 below. Detail on the units of data used in estimating demand for racquetball courts are shown and explained in Figure 2 on the following page.

Figure 1

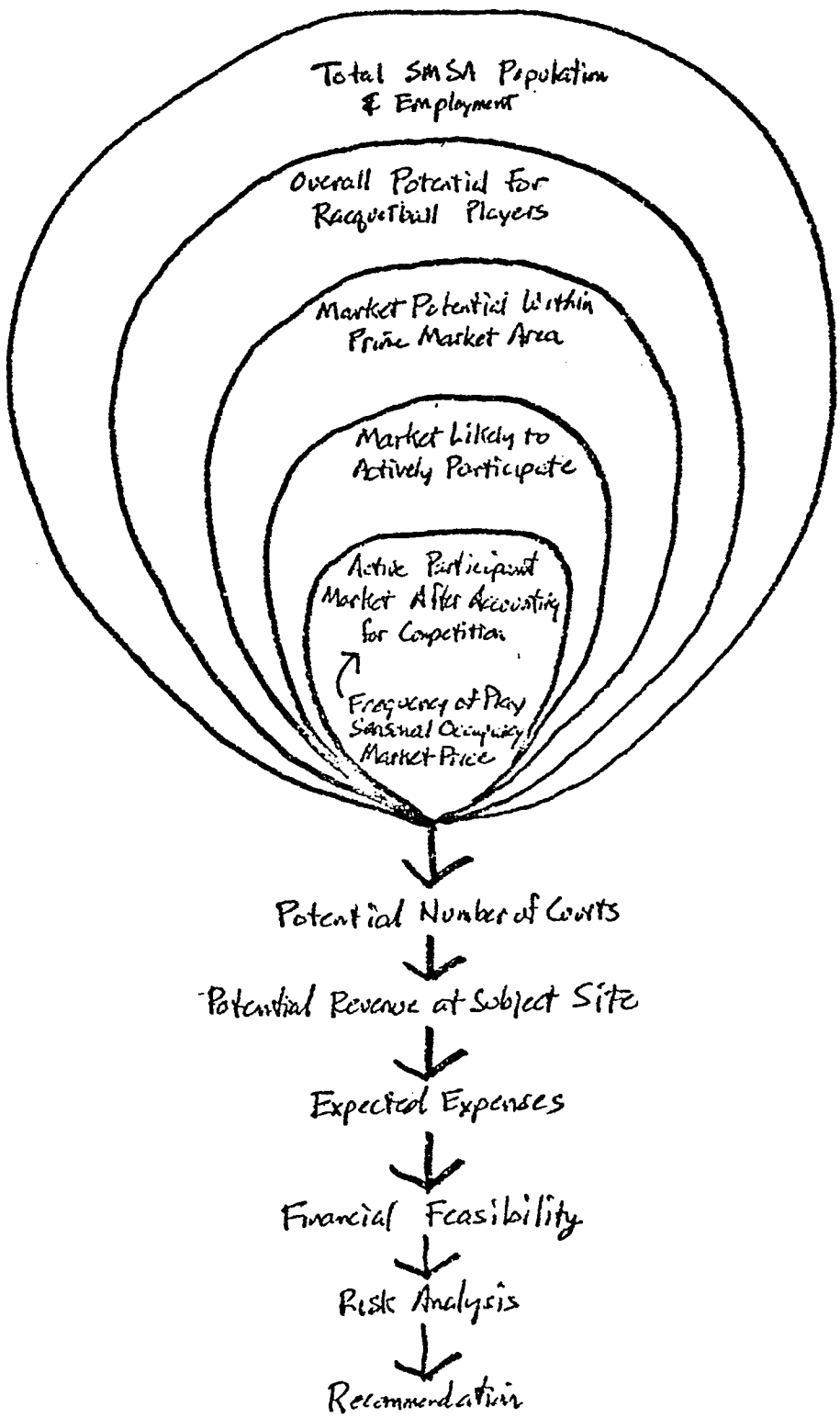
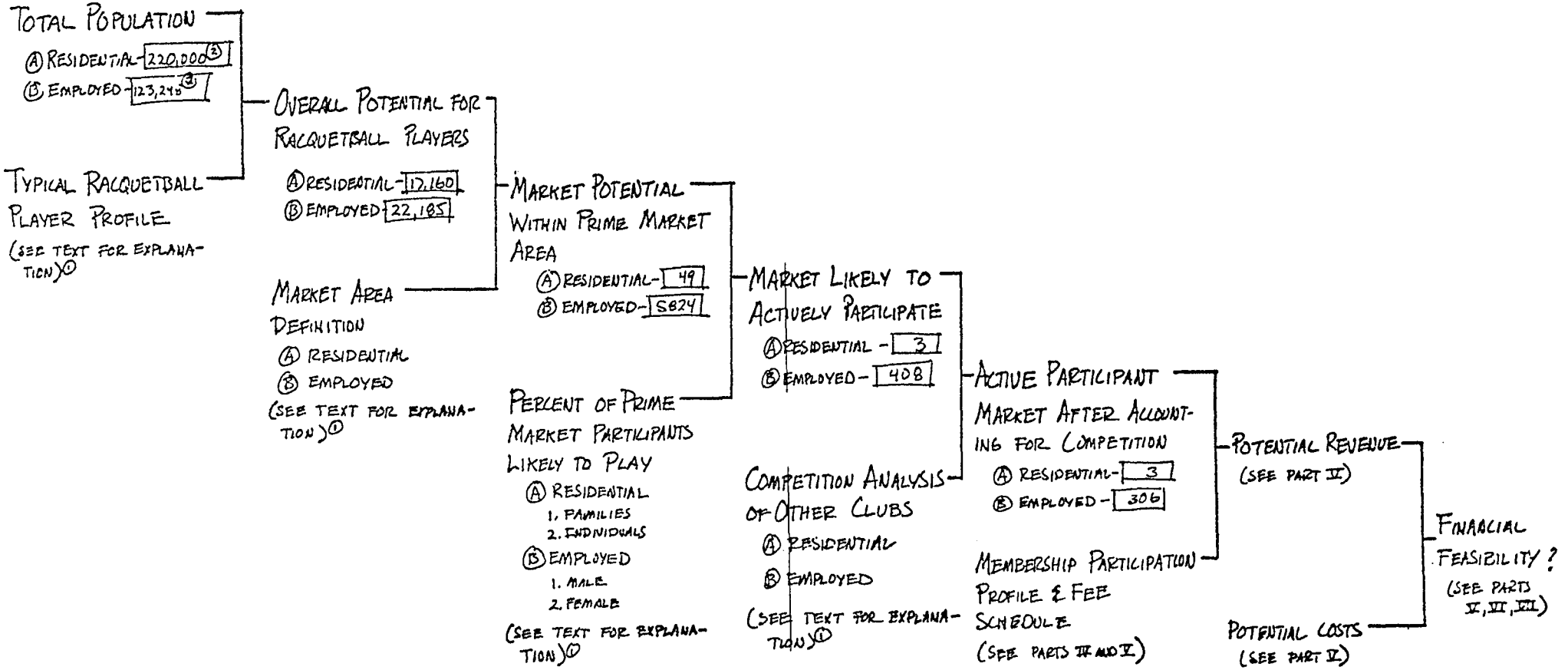


FIGURE 2

SCALING TECHNIQUE FOR ESTIMATING RACQUETBALL PLAYER MARKET



(1) SEE APPENDIX C for DETAILED CALCULATIONS FOR EACH STEP. SEE PAGE 5 OF TEXT FOR DISCUSSION OF CRITICAL ASSUMPTIONS.

(2) URBANIZED AREA POPULATION - U.S. CENSUS BUREAU, 1970 CENSUS OF POPULATION, "CHARACTERISTICS OF THE POPULATION", VOL. 1, PART 56, WISCONSIN, TABLES 174 and 203

(3) IBID.

Major issues addressed and assumptions made in each of the successive steps outlined in Figure 2 are discussed below.

No. People fitting Socio-Economic Player Profile -
A variety of racquetball player profiles emerge from consultants and those that have undertaken studies. Due to the dearth of current research on club members -- apparently due to the rapid growth of the sport and the lack of a real need to do research before successfully locating a club -- general consistency is lacking. The conservative profile used for this study assumed the players to be between 25 and 44, and in the over $15,000 income bracket (estimated from 1970 Census). Many estimating methods apparently use those ratios, but none apparently use them concurrently.[8] The result is a realistically conservative estimate of the number of potential racquetball players in the Madison area. Assuming no inequitable geographic distributional problems, the Madison urbanized area could support about 25 courts (exclusive of University related courts whose client group is younger) based on a ratio of 1 court per 7,500 people, as suggested by Leve.

Market Area Definition -
Standards used to formulate market area boundaries also vary among the experts. Mort Leve recommends a radius of 3-4 miles while local club managers in Madison suggest using a 10-15 minute driving range. Both of these estimates assume the target market is defined according to place of residence. However, in the unique case of a downtown club, without parking, neither of these market area definitions is applicable since the bulk of the market is the downtown employed labor force. The only resident market likely to patronize the club would be that which would be able to easily walk to the facility. Therefore, the downtown census tract (17.00) within which 4800 people live and 20,000 people are employed, and which encompasses the area within a 5-10 minute walking distance of the subject site, is assumed to be the prime market area.

Percent of Primary Market Area Participants Likely to Play[9] -
Various "rules of thumb" have been used to define the capture rate in any given primary market area for racquetball clubs, i.e. to estimate the percent of market area residents fitting the socio-economic profile who are likely to become members of a facility. A common assumption is that clubs can attract 10%

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8. See Appendix D for profile of the demographic and economic features of the Madison market.
9. A user profile as such was not compiled, but a qualitative description of the club members was provided by club managers interviewed and taken from a survey of Racquetball Magazine readership and is summarized in Appendix E.

of the population in the over the-median-income category.[10] Another assumption is that 5% of the market aged 20-44 could be captured as members.[11] Normally, neither of these methods is applied concurrently. To be cautiously realistic in our own estimate of participants likely to join, however, the employed male population between 25 and 44 and having estimated 1970 income in excess of $15,000 was assumed to have a 10% participation rate while females in similar circumstanced were assumed to have a 2.5% participation rate -- primarily for the reason that most of the suburban and downtown individual memberships were for males. The resident market, which has an income level notably below the median income level of the city, was assumed to have a 5% probability of joining.

Competition Analysis of Other Clubs -
The major competition factor for the site's proposed use as a racquetball club stems from the club's location in the midst of an employed labor force, rather than in a residential neighborhood. The residential target market, an extremely small percentage of the market potential, is assumed to be captured intact. The residential market is located over 10 minutes from the suburban courts and, although membership in the YMCA is possible, the small size of the residential target market allowed us to conclude that competition could be discounted.

The employed labor force, however, has significant competative opportunities due to two factors: 1) the existance of the Plaza Health and Racquetball Club and the downtown YMCA in close proximity to the site, and 2) the fact that the location of competing suburban facilities with a market orientation toward the family, in residential areas in a town the size of Madison, means that the working member(s) of the family can easily and quickly commute home to play racquetball with family and friends. No rules of thumb exist to resolve the question of what percent of the working market is likely to do just that, however. Moreover, it is uncertain just how many downtown racquetball club members have dual memberships in clubs near their home. Only very vague guesses were ventured by suburban managers of club facilities when asked what percent of their members worked downtown -- about 5%. This is in contrast to the 16% of the total Dane County labor force 16 years and older working in the downtown census tract.

---

10. Unpublished research on Madison Racquetball market by Carley Capital Group, courtesy of Charles Trainor.
11. Ibid.

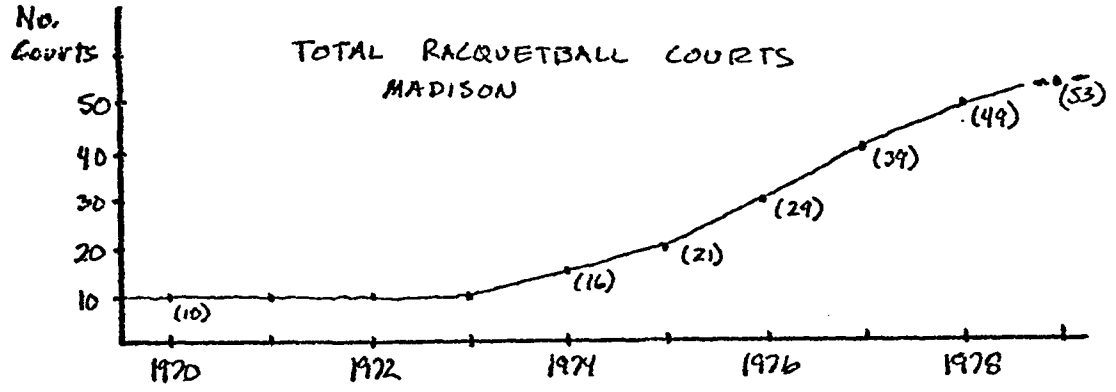
Obviously the orientation of a downtown club -- is it a family or individual oriented facility -- will play a large part in determining the extent of competative loss to suburban clubs. It follows then that the competative market edge for a downtown club has to include an emphasis on individual memberships due to the small number of families in the immediate area and the likely membership pattern of central city commuters. A realistic pattern of competitive loss, given that suburban clubs are over 10 minutes driving time away (See map, Appendix F), was assumed to be 25%, or double the Plaza Club's estimated percentage, i.e.: 25% of the potential members downtown won't join because they will, or already have, joined suburban clubs.

One issue remains -- what loss in potential membership can be attributed to competition from other downtown clubs (Plaza Health and Racquetball Club and the YMCA)? The Plaza Club was discounted due to its heavy orientation to health and physical fitness facilities, its small size, poor public visibility due to its location at the top of the 1st Wisconsin Building, and its undersized racquetball courts. The YMCA was also discounted as a competitor due to the quality of competition it offers; the wide range and quality of amenities representative of a contemporary racquetball club do not exist at the YMCA. Therefore, the 25% loss due to competition primarily from the suburban clubs was left as the likely loss percentage. Obviously other merchandising factors such as the attractiveness of associated amenities of the club and or building (e.g. existance of a bar/restaurant facility) will help to refine the competative edge for an employment oriented racquetball club and proportionately affect its capture rate.

CONCLUSION -- The preceeding analysis indicates a potential demand for approximately 300 members, or 225 court hours/week in the winter. This report will conservatively use 250 members and 190 hours/week as a basis for determining financial feasibility. The site will limit total court construction to a maximum of 4 courts.

IV MERCHANDISING EVALUATION

Growth in racquetball clubs in Madison has been rapid in the past 5 years. The chart below shows the growth rate. A list of competitive merchandising characteristics felt to be important by the managers of active for-profit clubs is also included below. It is these clubs that have contributed most to the rapid growth of the sport, as measured by the number of courts shown on the chart. (See Appendix A)



Competative Market Characteristics of Existing Clubs

Managerial and Maintenance Expertise
Nursery
Proximity to Residential Neighborhoods
Exercise Facilities
Non-profit cost advantage
Family participation
Parking

The proposed racquetball club on the Square would have to successfully compete with the merchandising features of the existing court clubs and offer some relatively unique features, reflecting the nature of its perceived market, if it is to succeed. Suggested features include:

Visibility on the Square - A walk in facility, easily observed by passers-by, could help to market itself.

Convenience to work - The capability of minimizing trip-time to play racquetball in the early morning, noon, or late afternoon would provide an edge over other suburban courts during the week.

Private club atmosphere - A strong feeling of membership with frequent recognition of other members, together with adequate facilities for a variety of recreational activities downtown will set it apart from other downtown courts (including bar and restaurant-buffet facilities).

Sporting Goods Store - As originally envisioned in the Appraisal cited earlier, a sporting goods store would operate on the first floor. Conversation with a major sporting goods store owner in Madison indicates the infeasibility of such a store due to lack of parking and square footage requirements. A well stocked pro-shop would be a possibility, however, for club members and walk-in customers.

V FINANCIAL ANALYSIS

Using the expected demand and marketing strategy suggested above, one can test for the financial feasibility under this given set of assumptions.

Financial Component Assumptions

A. Income:

Hours of Operation

Monday-Friday (16 hrs) 7:00 a.m. - 10:00 p.m.
Saturday-Sunday (8 hrs) 8:00 a.m. - 4:00 p.m.
Prime Time Hours (8 hrs) Weekdays 7-9, 11-1, 4-7.

Fees

Annual[12]		Court Fees[13]	
Individual	$200	Prime Time	$8.00/hr
Family	$250	Regular	$6.00/hr

Calculated Weekly Income

	Hours/Wk	x Courts	Court Hrs/Wk	Occupancy Rate[14]	Court Use/Wk
Prime Time	40	4	160 hrs	1.00	160 hrs
Regular-weekday	40	4	160	.15	24 hrs
Regular-weekend	16	4	64	.10	6 hrs
	96		384	.49	190 hrs

Rate	Projected Court Income			
$8	$1280/wk			
6	144			
6	36			
	$1460/wk	x 35 weeks =	$51,110	(winter)
	.5	x 17 weeks =	12,410	(summer)
			$63,520	annual court income

Yearly Membership Income

	225 regular members	x $200	$45,000
	25 family members	x $250	6,250
Total	250 members		$51,250

---

12. Projected annual fees are twice as high as other court clubs in Madison. However, the fees are less than similar private court clubs located in other large city CBD's. Location, quality, and market appeal justify this rate, while preserving the exclusivity of the private club atmosphere.
13. See Appendix A (Competition).
14. Occupancy based on estimated courts/week. 250 members ÷ 2 members/court x 1.5 playing hrs/week/member = 187 hrs/week.

Miscellaneous Income[15]

Bar and Buffet - operated at breakeven	-0-
Pro shop ($10 net profit/member/year)	$2,500
Vending Machine	500
Private parties	500
Locker/laundry ($32.00/yr x 100 members)	3,200
Total miscellaneous	$6,700

TOTAL EFFECTIVE INCOME $121,250

B. Expenses:

Total Operating Expenses (see Appendix G) $ 75,100

C. Construction Costs:

Massive renovation will be required to convert the existing facility. Rough "rule of thumb" estimates have been used to estimate construction costs. The potential developer should obtain detailed cost estimates from a general contractor or architect before final decisions are made.

Total Construction Costs (see Appendix G) $550,000

D. Financing:

Local institutions have shown a more favorable attitude toward lending on racquetball facilities in recent years. Limited partnerships and joint ventures are the predominant forms of equity financing.

Mortgage:	Term:	25 years; 10 year balloon
	Interest:	9.75%
	Loan to Value:	75% ($412,500)
Equity Required:		$137,500

E. Depreciation:

All depreciation is calculated on a straight line basis. The taxable life of the building is 33 years. Development costs are amortized over 10 years. Although not included in cash flow calculations, certain tangible equipment in the project (e.g. rental and weight equipment) is eligible for 20% bonus depreciation under Section 1152 of the Federal Tax Code.

---

15. Conversation with Steve Hearn, Manager, Avenue Club, 444 Michigan Avenue, Chicago.

F. Other Assumptions:

Project Growth Rate	2%/year
Average vacancy rate year # 1	10%
Income tax rate	50%
Income growth rate	5%
Expense growth rate	6%
Discount rate	15%

RESULTS

A. Cash Flow Analysis

As shown in Appendix H, cash throw off from the project does not justify the equity expenditure. The cash on cash before tax return in the first five years does not exceed 5% and is negative in the first year. However, if income and therefore demand continue at accelerated rates, as predicted, then the project will probably show favorable returns in later years. Discounted after tax analysis demonstrates similar poor returns (I.R.R.). Payback of equity is not achieved by the 10th year.

B. Default Ratio

The default ratio in year 3 exceeds 1.00. This indicates an unsatisfactory cushion for profit, surprises, or vacancy. Although vacancy has already been accounted for in the gross income calculations, the default point should not exceed .90 in this type of risky project.

C. Front Door Analysis

Appendix H reveals the gross rents required to produce a satisfactory 12% cash on cash return in year 3 at various replacement costs. If the construction assumption of $550,000 is accurate, the project will need to generate $163,000 in gross rents in year three, or approximately $142,000 in year one, assuming a 5% increase per year. If the purchase and renovation can be completed for around $500,000 then only $147,000 is required in year three or approximately $130,000 in year one. A new cash flow projection (Appendix H) has been made with these particularly optimistic assumptions of increased revenue and decreased construction costs. The I.R.R., default point, and payback all would suggest a "GO" situation with these new assumptions.

Conclusions

(1) The probability of achieving the needed increased revenues to justify the project appears slim. The overall occupancy rate would have to increase from 49% to 64% to meet the increased income needs. Other court clubs may operate profitably at below 60%, but this is only comparable when one considers that other clubs remain open for 20% more time than the subject club would. In the proposed club yearly fees are already at a premium. The market demand analysis indicates a demand for additional court hours as well as potential players, but court occupancy is already projected at 100% in the peak hours. The additional players would have to spill over

into the non-prime time hours. Downtown employees and business people, who live outside the CBD, (and comprise 95% of the primary market), will not find it practical or convenient to play at regular times on the week-ends or during normal working hours. The Madison CBD offers little to keep this market downtown. Potential players living within the primary market could play during these off-hours, but they comprise too small a percentage of the total demand to have a significant impact on increasing occupancy rates in the non-prime time periods.

(2) Decreasing the construction budget by $50,000 could significantly alter the quality and executive club atmosphere needed to attract the above average downtown business person. The high yearly rates projected may also become impractical. However, the acquisition price for the subject property may not be firm. Moreover, construction costs have been estimated without extensive research or local professional advice. The variance about the expected costs must be considered high in this type of renovation project.

(3) The high fixed development and operating costs indicate that a 4 court operation is not efficient. Trade professionals generally concur on this observation.[16] Most clubs built today even in downtown locations exceed 6-8 courts.

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16. Mort Leve, Op. Cit.

VI RISK ANALYSIS AND LIMITING ASSUMPTIONS

Negative Attributes:

(1) The rule of thumb capture rates used in the analysis are optimisticly based on racquetball's dramatic and haphazard growth in recent years. The limits of growth and demand have never been determined or tested in an Equilibrium Market Place. Racquetball, like bowling in the 1950's, is enjoying a particular faddishness. The continued accelerated growth and participation in the sport in Madison must be considered uncertain, especially in light of the overabundance of existing courts.

(2) Racquetball facilities are management intensive; good management is a necessity in any court club facility operating in today's market.

(3) The large capital and space commitment to a racquetball facility precludes use of that space for other activities. Conversion of the racquetball space to other types of uses would be limited if the court club fails.

(4) Any private recreation facility in Madison runs the risk of additional competition from public and not for profit facilities that tend to undercut the private market. For example, the addition and modernization of courts at the downtown YMCA could have a significant impact on a typical private club located nearby.

(5) The subject site lacks convenient parking, hence, drastically limiting the primary trade area. The downtown court club must rely almost entirely on local employees.

(6) The probability of attracting residential players outside the Madison CBD to bill the non-prime court hours must be considered limited, in light of the parking problem and the other inconveniences of travel to the Square.

(7) Gruen Gruen and Associates were busy this past week and therefore no customer survey analysis has been prepared. A survey of downtown office workers could have provided more revealing estimates of potential participation, leakage of that potential to outside facilities, and overall customer preferences.

Positive Attributes:

(1) The market demand in this study conservatively limited its scope to persons in the 25-44 age group with certain median incomes. Other court facilities indicate that from 10-30% of the membership come from individuals outside these categories.

(2) The non-prime court times could be partially filled by patrons of downtown hotels. None of the hotel operators have been contacted to determine the potential of this alternative source of demand.

(3) This analysis assumes no additional use of the subject property. Development of retail facilities on the first floor and/or offices on the second floor might improve the overall cash flow position of the property as well as decrease the burden of fixed acquisition costs of land and building currently shouldered only by the club. A full line sporting goods store appears to be an impractical tenant at this site.[17]

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17. Conversation with Wes Zulty, May 3, revealed that the lack of on-site parking would deter customers buying bulky sporting equipment, since carrying such purchases to cars parked in a public ramp some distance from the store is not practical.

VIII CONCLUSION

We find that a conservative estimate of court hour demand indicates a need for a minimum of four new racquetball courts on the Square. However, since the primary market consists of employees who work, but do not live downtown, filling the non-prime court hours, which is essential to the profitability of a racquetball club, will be difficult. The high building and land costs of the subject site present another drawback to project feasibility. Allocating these costs to other uses through greater utilizations of the building could make the racquetball venture appear profitable. Further study should be conducted in this direction. For example, preliminary "back door" analysis indicated that if the allocated acquisition costs could be reduced by $100,000, the racquetball facility could be considered financially feasible.

As the assumptions now stand, the concept of a racquetball club at 17-21 E. Main Street appears unfeasible.

APPENDIX A

SURVEY OF RACQUETBALL FACILITIES IN THE MADISON AREA

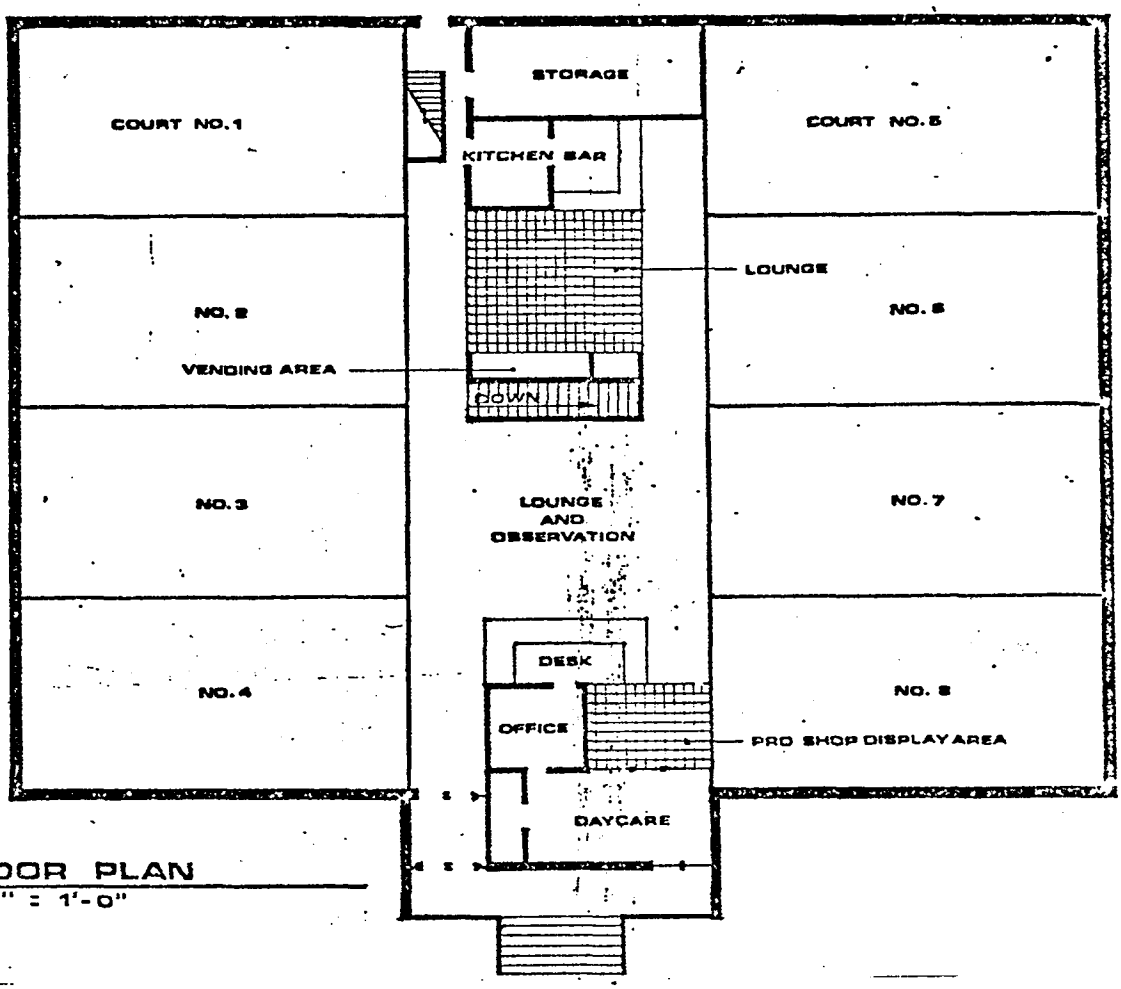
Court Clubs	# OF COURTS	YEARLY FEE	COURT RATES	# OF MEMBERS	COMMENTS
1. Century Harbor Middleton	10	I=$50 F=$85	P=$8 R=$6-7	1,000	98% of membership reside in Middleton. Completed Spring 1978. Nursery.
2. Court Club 6011 Odana Rd.	8	I=$45 F=$65	P=$8 R=$6	2,000	First Court Club in Madis
3. Supreme Court 5555 Odana Rd.	10	I=$45 F=$65	P=$8 R=$6-7	1,800	Nursery, Competition cour
TOTAL COURT CLUBS	28			4,800	
Fitness Centers & Multi-purpose facilities					
4. Cherokee Country Club-Cherokee Hills	4	I=$88.40 F=$124.80	P=$7.28 R=$5.20	700	Annual membership include indoor tennis. Part of Golf Club.
5. Fitness World Beltway Drive	3			50	Full Fitness Program-R-Ball not primary.
6. Plaza Club First WI Bldg.	2	$286	None	165	Courts not standard size. Emphasis on weights & fitness.
TOTAL FITNESS CNTRS.	9			915	
Not for Profit Courts					
7. YMCA West Odana Road	2	$270	None	6000	YMCA's offer swimming, basketball, weights, etc in addition to R-ball.
8. YMCA Central W. Washington	2 (2proposed)	$270	None	X	
9. YMCA East	2 (2proposed)	$270	None	X	
10. U of WI	6	None	None	X	Must be faculty, student or staff.
TOTAL NOT FOR PROFIT	12 (4 proposed)			N/A	

TOTAL COURTS MADISON SMSA 49 (+ 4 proposed)

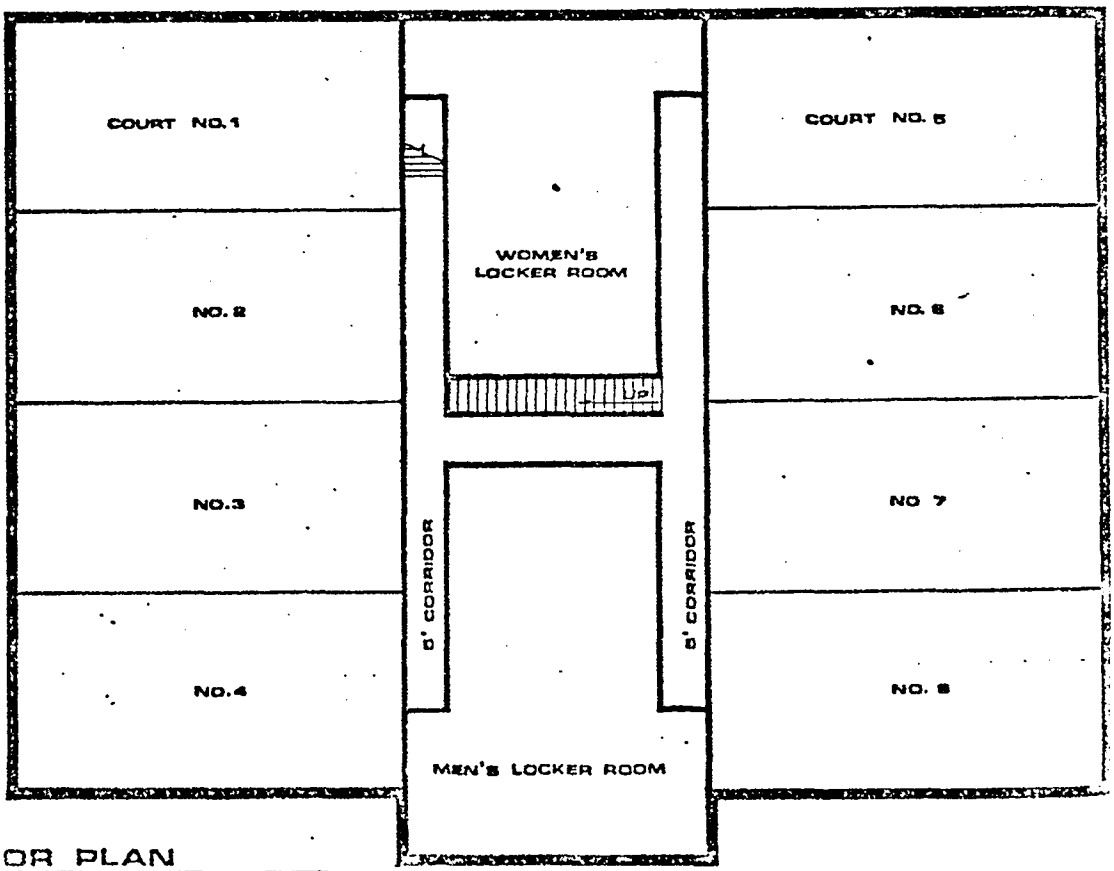
I = Individual
F = Family
P = Prime time
R = Regular time

APPENDIX B

TYPICAL RACQUETBALL FACILITY DESIGN



FIRST FLOOR PLAN
SCALE 1/16" = 1'-0"



GROUND FLOOR PLAN
SCALE 1/16" = 1'-0"

Appendix C

DETAILED ESTIMATES OF POTENTIAL RACQUETBALL PLAYER DEMAND AT SUBJECT SITE[1]

A. Total Population
   A. Residential - 220,000 (City and Urbanized Area)
   B. Employes - 123,248 (SMSAO

   Typical Racquetball Player Profile
   A. Residential: Age - 25-44 = 26% total population (City Planning Dept.)[2]
   Income - $15,000 and up, 1970 = 30% total population (U.S. Census)
   Combined proportion (age x income) = 8% total population

   = 17,160

   B. Employed: Age - 20-44 = 60% total population (U.S. Census)
   Income - $15,000 and up, 1970 = 30% total population (U.S. Census)
   Combined proportion (age x income) = 18% total population x 123,248
   = 22,185

   Note: Overlap or double counting exists at this stage of the analysis--but it is not critical to analysis at this stage.

B. Overall Potential for Racquetball Players
   A. Residential - 17,160
   B. Employed - 22,185

   Market Area Definition (delimited as basis of C.T. 17.00 - 5-10 minute walking distance)
   A. Residential: 4,813 people live in C.T. 17.00 (Source: U.S. Census, 4th Count)
   Age - 26% are 25-44
   Income - 13% families have $15,000 plus incomes = 45people
   3% individuals have $15,000 plus incomes = 4people
   49

   B. Employment: 19,413 people work in C.T. 17.00 (Source: Barton Aschman-State Street Mall Study)
   x 30% (citywide proportion of employed between 25-44 and
   5,824 $15,000 incomes)

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1. Refer to explanatory notes in text, Part III "Market Potential for Racquetball Clubs" for greater detail.
2. Assumes that most persons ages 18-24 have access to U.W. courts (30,000 students out of 42,000 in that age cohort).

C. Market Potential Within Prime Market Area
   A. Residential - 49
   B. Employed - 5824

Percent of Prime Market Participants Likely to Play
   A. Residential: 49 x .05 participation rate (Source: Darrow article
      = 3 people in Applied Journal)
   B. Employed: 5824 total people x Male/Female distribution - city wide
      = 60/40
      x .60 = 3494 males x .10 participation rate = 350 male
      (Source: Mort Leve)
      x .40 = 2330 females x .25 participation rate = 58 female
      (Source: Mort Leve)
      Total = 408 people

D. Market Likely to Actively Participate
   A. Residential - 3
   B. Employed - 408

Competition Analysis of Other Clubs
   A. Residential - none lost = 3 people/members active downtown
   B. Employed
      U.W. Courts - open to University students and staff. U.W. age students already discounted
      Plaza Health & Racquetball Club - primarily a health club
      YMCA - not competitive in quality
      Suburban Clubs - 25% loss conservatively estimated due to downtown employee with suburban club membership
      408 x .25 = 102 potential members lost
      = 306 members active downtown
      Total = 309, say 300 members

E. Active Participant Market After Accounting for Competition
   A. Residential - 3
   B. Employed - 306
      say 300

Membership Participation Profile and Fee (See Part V for detailed explanation of assumptions)
Participation rate ranges from 1.3 to 1.5 times per week (Source: Consultants & interviews)
x 300 members ÷ 2 = courts = 195 to 225 court hours per week
or 4 courts justified at 8 hours of prime time per week (8 x 4 courts x 6 days = 192 court hours)
(8 x 4 courts x 7 days = 224 court hours)

Appendix D

DEMOGRAPHIC AND ECONOMIC FEATURES OF THE MADISON MARKET

A. Family Income Distribution Across Total Occupations, Madison SMSA (1970 U.S. Census)

Income	Number	Percent	
0 - $1000	433	1%	
$1000 - 4999	3,937	7%	
5000 - 9999	15,238	27%	
10,000 -14,999	19,854	35%	
15,000 -24,999	13,150	23%	30%
25,000 - up	3,977	7%	
Total	56,589	100%	

B. Employed Persons by Sex, Madison SMSA (1970 U.S. Census)

	Number	Percent
Male	71,561	60%
Female	51,687	50%
Total	123,248	100%

C. Age Distribution of Male and Female Employed Labor Force, Madison SMSA (1970 U.S. Census)

	Male			Female			Combined		
Age	Number	Percent		Number	Percent		Number	Percent	
16-19	5,906	8%		5,854	11%		11,760	9%	
20-24	11,245	16		12,855	25		24,100	21	
25-29	10,495	14		5,839	12		16,334	13	
30-34	7,542	11	60%	3,735	7	60%	11,277	9	60%
35-44	13,901	19		7,920	16		21,821	17	
45-54	11,976	17		8,186	16		20,162	17	
55-59	4,528	6		3,320	6		7,848	6	
60-64	3,370	5		2,342	4		5,712	5	
65 +	2,598	4		1,636	3		4,234	3	
Total	71,561			51,687			123,248		

D. Age Distribution of Madison City Population (1974 Special Census)

Age	Number	Percent
0-4	10,520	6.3%
5-13	21,942	13.0%
14-17	11,171	6.6%
18-24	42,546	25.2%
25-44	43,915	26.0%
45-64	25,643	15.2%
65 +	12,934	7.7%
Total	168,671	100.0%

APPENDIX E

GENERAL PROFILE OF RACQUETBALL PLAYER[1]

Will racquetball be an on going sport for you.

Yes	98%
No	1%
Uncertain	1%

Where you play.

Membership club	53%
Y.M.C.A.	37%
School of University	18%
Public Courts	7%
Military Installations	5%
J.C.C.	3%
Park District	3%

Frequency of play.

Everyday	11%
Three times a week	67%
Once a week	18%
Irregularly	4%

Primary residence.

Homeowner	67%
Apartment rental	21%
Home rental	7%
Condominium	5%

Adult male income producing classification.

Professional	38%
Executive	26%
Self-employed	11%
Managerial	11%
Laborer	6%
Supervisory	4%
Clerical	1%
No Answer	4%

Adult female income producing classification.

Professional	25%
Clerical	11%
Executive	9%
Managerial	9%
Supervisory	4%
Sales	4%
None	31%

Combined family annual income.

$100,000 or more	4%
$75,000-$100,000	2%
$50,000-$75,000	5%
$30,000-$50,000	26%
$20,000-$30,000	28%
$15,000-$20,000	14%
$10,000-$15,000	13%
$10,000 or less	8%

Household make-up

Single male	9%
Single female	5%
Couple only	33%
Couple w/one child	17%
Couple w/two children	21%
Couple w/three children	7%
Couple w/four children	5%
Couple w/five children	2%
Couple w/six children	1%

Age of adult male head of household.

20 yrs old or less	none
21-25 years	8%
26-30 years	18%
31-40 years	34%
41-50 years	15%
51-60 years	21%
Over 60	4%

Age of adult female head of household.

20 or less	14%
21-25	24%
26-30	24%
31-40	6%
41-50	9%
No Response	23%

Male adult educational level reached.

College graduate	43%
Graduate school graduate	22%
Some college or jr. col.	20%
High school graduate	8%
More than graduate school	3%
No Response	4%

Female adult educational level reached.

College graduate	33%
Some graduate school	31%
Graduate school graduate	17%
Some college or jr. col.	17%
Only high school graduate	2%

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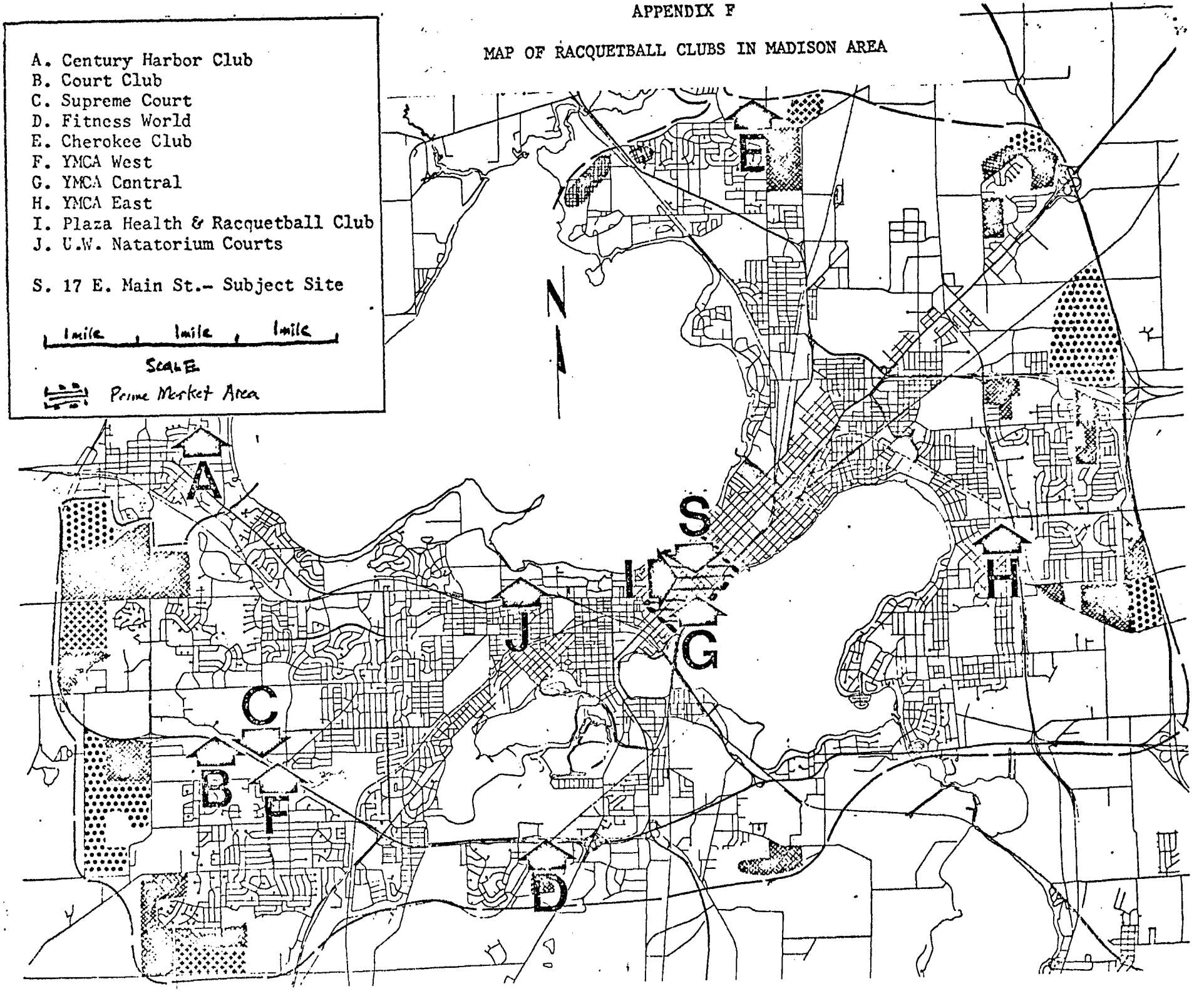
1. Taken from interviews with managers and National Racquetball Magazine Survey of Readers, January, 1978.

APPENDIX F

MAP OF RACQUETBALL CLUBS IN MADISON AREA



APPENDIX G

ESTIMATED EXPENSES AND CONSTRUCTION COSTS

A. Expenses[1]:		
Advertising and promotion		$ 2,500
Insurance		3,500
Laundry (in house)		1,500
Utilities		12,500
Telephone		1,000
Maint.-repairs		3,000
Legal-accounting		2,000
Dues, Subscript., Travel		1,000
Bad debt		800
Real Estate Tax ($350,000 x .026)		9,100
Miscellaneous		1,000
Salaries		
Manager/Pro	16,000	
Office/desk ($3.00/hr)	12,000	
Total salaries	28,000	
Employers tax (15%)	4,200	
Contract-maint.	5,000	
TOTAL SALARIES		37,200
TOTAL OPERATING EXPENSES		$75,100
B. Construction Costs:		
Land[2]		150,000
Existing structure[3]	90,000	
Court construction($15,000/court)[4]	60,000	
Locker room (sauna, whirlpool, showers)	60,000	
Buffet, bar, & Lounge bar ($20/ft x 2000 sq. ft.)	40,000	
Architect	15,000	
TOTAL BUILDING		415,000
Contingency @ 10%		40,000
		455,000
Construction interest ($455,000 x 10% x .80)		36,000
Taxes		3,500
Opening expenses[5]		
Advertising & promotion	8,000	
Inventory	1,000	
Manager-salary	1,500	
TOTAL OPENING EXPENSES		10,500
Organization costs		
Developers fee	40,000	
Legal & accounting	5,000	
TOTAL ORGANIZATION COSTS		45,000
		$550,000
TOTAL		$550,000

1. Mort Leve, Racquetball Consultant, Chicago, Illinois
2. Ibid.
3. Steve Rosenberg, Appraisal Report of 17-21 E. Main, December 1977.
4. Mortgage & Real Estate Executives Report, June 1, 1976.
5. Ibid.

APPENDIX H

CASH FLOW ANALYSIS FOR 17 E. MAIN STREET

NORMATIVE ASSUMPTIONS

CASH FLOW ANALYSIS

		1979	1980	1981	1982
1	GROSS RENT	121250.	127313.	133678.	140362.
2	LESS VACANCY	12125.	0.	0.	0.
3	LESS REAL ESTATE TAXES	9100.	9555.	10033.	10534.
4	LESS EXPENSES	67000.	69960.	74158.	78607.
5	NET INCOME	33025.	47798.	49488.	51221.
6	LESS DEPRECIATION	18636.	18636.	18636.	18636.
7	LESS INTEREST	40040.	39625.	39167.	38663.
8	TAXABLE INCOME	-25651.	-10464.	-8316.	-6079.
9	PLUS DEPRECIATION	18636.	18636.	18636.	18636.
10	LESS PRINCIPAL PAYMENTS	4071.	4487.	4944.	5448.
11	CASH THROW-OFF	-11086.	3686.	5376.	7109.
12	LESS TAXES	0.	0.	0.	0.
13	LESS RESERVES AT 0.000	0.	0.	0.	0.
14	CASH FROM OPERATIONS	-11086.	3686.	5376.	7109.
15	WORKING CAPITAL LOAN(CUM B)	11086.	8509.	3983.	0.
16	DISTRIBUTABLE CASH AFR TAX	0.	0.	0.	2728.
17	TAX SAVING ON OTHER INCOME	12826.	5232.	4158.	3039.
18	SPENDABLE CASH AFTER TAXES	12826.	5232.	4158.	5767.

COMPONENT SUMMARY

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
LAND	0.00	1	10.	0	$	150000.	0
BUILDING	0.95	1	33.	2	$	300000.	0
DEVELOP COST	1.00	1	10.	2	$	100000.	0

MORTGAGE SUMMARY

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
FIRST MORTG.	0.0975	1	10	25	$	412500.	0.750

YEAR OF ANALYSIS	1979	1980	1981	1982
BEFORE TAX RATIO ANALYSIS				
30 RETURN ON NET WORTH B/4 TAX	-0.2974	0.2160	0.2194	0.1999
31 CHANGE IN NET WORTH B/4 TAX	-40895.	17184.	19590.	19552.
32 CASH RTN ON ORIG CASH EQUIY	-0.0806	0.0268	0.0391	0.0517
33 PERCENT ORIG EQUITY PAYBACK	0.0000	0.0000	0.0000	0.0198
34 PRESENT VALUE OF PROJECT	486864.	491688.	496881.	500685.
AFTER TAX RATIO ANALYSIS				
35 RETURN ON NEW WORTH AFT TAX	-0.1903	0.1739	0.1500	0.1165
36 CHANGE IN NET WORTH AFT TAX	-38990.	11900.	12401.	12362.
37 CASH RTN ON ORIG CASH EQUIY	0.0933	0.0380	0.0302	0.0419
38 PERCENT ORIG EQUITY PAYBACK	0.0933	0.1313	0.1616	0.2035
39 PRESENT VALUE OF PROJECT	509314.	511095.	511093.	508738.
40 NET INCOME-MARKET VALUE RTO	0.0589	0.0836	0.0849	0.0862
41 LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000
42 DEFAULT RATIO	0.9914	1.0581	1.0234	0.9777
RETURN ANALYSIS WITHOUT SALE				
41 CUM. AFT TAX SPENDABLE CASH	12826.	18827.	24115.	31329.
44 MOD. I.R.R. ON ORIG EQUITY	-0.9067	-0.6300	-0.4403	-0.3091
45 MOD. I.R.R. ON CUM. EQUITY	-0.9067	-0.6300	-0.4403	-0.3091
RETURN ANALYSIS WITH SALE				
46 CUM. CASH LESS ORIG EQUITY	-28069.	-8262.	9426.	25175.
47 CUM. CASH LESS CUM. EQUITY	-28069.	-8262.	9426.	25175.
48 MOD I.R.R. ON ORIG EQUITY	-0.2041	-0.0305	0.0223	0.0429
49 MOD I.R.R. ON CUM. EQUITY	-0.2041	-0.0305	0.0223	0.0429

F R O N T D O O R A N A L Y S I S

C A S H F L O W

ANALYSIS YEAR IS 3 = 1981

	TEST AT 1.00	TEST AT 1.10	TEST AT 0.90
TOTAL REPLACEMENT COST =	550000.	605000.	495000.

REQUIRED CASH FLOW

	YR. #	YR. #	YR. #
GROSS RENT	163726.*******	180098.*******	147353.*******
LESS VACANCY	0. 0.00	0. 0.00	0. 0.00
LESS R.E. TAXES	12288.3071.96	13517.3379.16	11059.2764.77
LESS EXPENSES	90826.*******	99909.*******	81744.*******
NET INCOME	60611.*******	66672.*******	54550.*******
DEBT SERVICE	44111.*******	48522.*******	39700.9925.05
CASH THROW-OFF	16500.4125.00	18150.4537.50	14850.3712.50

B A C K D O O R A N A L Y S I S

C O M P O N E N T S

ANALYSIS YEAR IS 3 = 1981

	TEST AT 1.00	TEST AT 1.10	TEST AT 0.90
GROSS RENT PROJECTED	133678.	147046.	120310.

JUSTIFIED COMPONENTS

TOTAL REPLACEMENT COST	449062.	493969.	404156.
LAND	122472.-0.184	134719.-0.102	110224.-0.265
BUILDING	244943.-0.184	269437.-0.102	220449.-0.265
DEVELOP COST	81648.-0.184	89812.-0.102	73483.-0.265
FIRST MORTG.	336797.-0.184	370476.-0.102	303117.-0.265

OPTIMISTIC ASSUMPTIONS

CASH FLOW ANALYSIS

		1979	1980	1981	1982
1	GROSS RENT	135000.	141750.	148838.	156279.
2	LESS VACANCY	12125.	0.	0.	0.
3	LESS REAL ESTATE TAXES	9100.	9555.	10033.	10534.
4	LESS EXPENSES	67000.	69960.	74158.	78607.
5	NET INCOME	46775.	62235.	64647.	67138.
6	LESS DEPRECIATION	15417.	15417.	15417.	15417.
7	LESS INTEREST	36400.	36023.	35607.	35148.
8	TAXABLE INCOME	-5042.	10796.	13624.	16573.
9	PLUS DEPRECIATION	15417.	15417.	15417.	15417.
10	LESS PRINCIPAL PAYMENTS	3701.	4079.	4495.	4953.
11	CASH THROW-OFF	6674.	22134.	24546.	27037.
12	LESS TAXES	0.	5398.	6812.	8286.
13	LESS RESERVES AT 0.000	0.	0.	0.	0.
14	CASH FROM OPERATIONS	6674.	16736.	17734.	18750.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	6674.	16736.	17734.	18750.
17	TAX SAVING ON OTHER INCOME	2521.	0.	0.	0.
18	SPENDABLE CASH AFTER TAXES	9195.	16736.	17734.	18750.

YEAR OF ANALYSIS

		1979	1980	1981	1982

BEFORE TAX RATIO ANALYSIS

30	RETURN ON NET WORTH B/4 TAX	-0.1634	0.3617	0.3440	0.3298
31	CHANGE IN NET WORTH B/4 TAX	-27099.	13279.	13695.	14153.
32	CASH RTN ON ORIG CASH EQUIY	0.0534	0.1771	0.1964	0.2163
33	PERCENT ORIG EQUITY PAYBACK	0.0534	0.1873	0.3291	0.4792
34	PRESENT VALUE OF PROJECT	465935.	481608.	495786.	508627.
40	NET INCOME-MARKET VALUE RTO	0.0917	0.1197	0.1220	0.1243
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.8607	0.8439	0.8351	0.8270

RETURN ANALYSIS WITH SALE

46	CUM. CASH LESS ORIG EQUITY	-17904.	10354.	37217.	63829.
47	CUM. CASH LESS CUM. EQUITY	-17904.	10354.	37217.	63829.
48	MOD I.R.R. ON ORIG EQUITY	-0.1432	0.0406	0.0908	0.1086
49	MOD I.R.R. ON CUM. EQUITY	-0.1432	0.0406	0.0908	0.1086

Appendix I

LIST OF PERSONS AND ORGANIZATIONS CONTACTED

The authors gratefully acknowledge the information and assistance provided by the following individuals and organizations regarding their own operations and racquetball feasibility studies.

1. Steve Hearn, Manager and Developer, Avenue Club, 444 Michigan Ave., Chicago.
2. Mort Leve, National Racquetball Consultant and Officianado, Chicago.
3. Vaughn Loudenback, Manager, Century Harbor Racquetball Club, Middleton.
4. Wes Zulty, Attorney, Sporting Goods Store Operator, Madison.
5. Paul Ikier, Manager, Court (Racquetball) Club, Madison.
6. Supreme Court Racquetball Club, Madison.
7. Charlie Trainor, Carley Capital Group, Madison.
8. Jerry Darda, Manager, Plaza Health and Racquetball Club, Madison.
9. Tom Lander, O. E. Madsen and Son Co., Madison.

Lisa Graham
Scott Miller

PARKWOOD PLAZA SHOPPING CENTER
Discussion with John Flad

Typical with Middleton Springs Center:

Rent per square foot.

0 - 1,000 sqft.	$7.00
1,000 - 3,000 sqft.	$5.50 - 6.00
10,000 +	$3.00 - 4.00

* all triple net

Base rent for retail space is responsive to the size of the space leased and the term of the lease.

Tenant is responsible for his own operating and utility expenses, and a proportionate share of the three items below:

CAM	$.70/ sqft.
TAX	$.74/ sqft.
INSURANCE	$.09/ sqft.

ESCALATIONS:

Typically, tied to CPI, with a floor of 3% and a ceiling of 6%.

LEASE LENGTH:

A minimum of three, maximum of five years.
Anchor tenents locked into 15-20 year leases.
Options match original lease term.
(i.e. 4 year lease/ 4 year option)

DESCRIPTION OF SPACE:

-Store enclosure walls, drywall taped and ready for paint
-Concrete floor
-Storefront and entrance doors to predetermined schedule
-Heating and air conditioning system
-Acoustical ceiling
-Recessed fluorescent ceiling lights
-One toilet room to code

FOR WHAT IT'S WORTH:

-Flad said, the market was fairly soft due to the over abundance of strip centers. Therefore, no set rule for free rent.
-Tenants generally mom and pop combinations. Therefore, he likes flat rent verses percentage rent since one would probably not want to look over their books.
-Middleton Springs doesn't include the Sentry grocery store. Rent on Fauerbach's was $3.50-4.00/sqft plus 1% of every $1.00 above 5 million.
-Middleton Springs was one of Flad's first projects. He gave roughly $1.00/sqft. for the land, as opposed to approx. $4.00/sqft. for Fitchburg Ridge.

Student Review

"The Pines of Perinton," A Memo For Inland Steel Company, by Donald Samualson.

Week of February 24 Reading G Business 857

This article is an actual memo on creating a new marketing plan for a 508 unit apartment complex in Perinton, New York. I'm not sure why Chief left this in the mimeo readings; I wouldn't spend much time studying this for the exam.

The objective of the memo is to set out one of the principal's thoughts on marketing the 508 unit project. He is by no means a marketing or real estate expert.

The memo is divided into 3 parts: tentative marketing conclusions, elements of the marketing program and a marketing budget and timetable.

I. Tentative Marketing Conclusions

A. Areas to Improve

1. A new landscaping plan is needed to help the project stand out.
2. Pines of Perinton is the new name to add prestige and a rural atmosphere.
3. Increase efforts to rent the 256 market-rent units; the 236 subsidized units should be de-emphasized.
4. Prospective tenants should be young singles between 20 and 35.

B. Marketing Needs and Concerns

1. It is felt that prospective tenants are looking for low price, value, environment, location and amenities.
2. In order to be competitive the project needs air conditioning, disposals, a pool, a day care center, and tennis courts (minor details).
3. The units are smaller than the competition; however, the project is well located with respect to schools, shopping, employment centers and recreational facilities.

II. The Marketing Program

The general goal is to "sell the product with a country feel--quality living at a modest price." The rest of the section shows various logo designs, brochure ideas, sign layouts, model layouts, sales office layouts and personnel suggestions.

III. Budget

This section shows their budget allocations for the marketing program.

Obviously, there are no facts to memorize from this reading. I think Chief just wants us to be exposed to different factors to be considered in creating a marketing plan.

John DiVall

#5

Real Estate Dynamics, inc.

COUNSELING ECONOMIC ASSESSMENT FEASIBILITY LAND PLANNING MARKET ANALYSIS

December 24, 1987

Dr. James A. Graaskamp
University of Wisconsin
School of Business
110 Observatory Drive
Madison, WI 53703

Dear Chief:

A few weeks ago we discussed a feasibility project for Business 857 regarding the addition of two floors of residence housing and other remodeling to the University YMCA. The idea has been given approval by the Board of Directors and we would like to move ahead. In addition, with SRO housing being such a hot topic some market research relative to supply/demand is needed. Is this something that might interest Dowl Myers and his Business 757 class? Regardless, I have been informed that two very capable students, Mark Furman and Bob Lindholm, would be very interested in working on this feasibility problem. I hope this project can be included as part of your 857 class.

Sincerely,

Craig D. Hungerford

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